NIST Special Publication 955 Suppl.

Responding to National Needs: Supplement to Appendices 1994-2009

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May 2010

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FOREWORD

This *Supplement to Appendices* is a continuation of the data collected in the appendices of NIST Special Publication 955, *Responding to National Needs: The National Bureau of Standards Becomes the National Institute of Standards and Technology 1969-1993*, by James F. Schooley, November 2000. It incorporates, and therefore supersedes, the previous Supplement published July 2002. This current Supplement covers the period 1993-2009. The data will be used to support the research and compilation of the fourth volume of the NBS/NIST history series.

Since the publishing of the first Supplement, NIST has had several accomplishments worthy of noting. During this period, NIST had its third Nobel Prize winner in Physics. John L. (Jan) Hall of the NIST Physics Lab and the University of Colorado at Boulder, and Theodor W. Hänsch of the Max-Planck-Institute of Quantum Optics, Garching and Ludwig-Maximilians-Universität, Munich, Germany, were named winners of the 2005 Nobel Prize in Physics, sharing the honor with Roy J. Glauber of Harvard University. Hall shares the Nobel Prize with Hänsch, "for their contributions to the development of laser-based precision spectroscopy, including the optical frequency comb technique."

In 2004, NIST made big advances in a small area by building the world's smallest atomic clock. At 1.5 mm long and 4 mm tall, this clock is powered by less than 75 thousandths of a watt and is stable to one part in 10 billion, the equivalent to gaining or losing just one second every 300 years. This minuscule atomic clock with inner workings about the size of a grain of rice, opens the door to atomically precise timekeeping in portable, battery-powered devices for secure wireless communications, more precise navigation, and other applications.

In addition to working on new materials and devices, NIST also helped protect old materials by building a hermetically sealed glass and aluminum encasement to house the Waldseemüller map for the Library of Congress. This map, created in 1507, is known as "America's birth certificate" since it was the first map to label our continent "America". The NIST encasement also includes monitoring devices to constantly measure internal environmental conditions.

In 2006, NIST opened the Center for Nanoscale Science and Technology, a combined research lab and user facility, providing researchers from U.S. organizations with state-of-the-art tools and facilities to advance basic research in nanotechnology and nano-scale manufacturing. The Center houses a Nanofabrication Facility—a large "clean room"—equipped with a still-growing array of state-of-the-art tools for making, testing, and characterizing prototype nanoscale devices and materials. These instruments are available to collaborators and to outside users.

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APPENDIX A

LEGISLATION RELATING TO THE ORGANIZATION, FUNCTIONS, AND ACTIVITIES OF THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY 1993-2009

A review of legislation relating to the activities of NIST shows that Congress intended to involve NIST in pressing national and scientific concerns.

The problems with punch card ballots encountered in the 2000 presidential election led to calls for improved voting technology. The Help America Vote Act of 2002, Public Law 107-252, required NIST to evaluate and recommend for accreditation voting technology testing and certification laboratories. Another major event of this period, the terrorist attacks of September 11, 2001, brought about an increased focus on issues of national security. The USA Patriot Act, Public Law 107-56, directed NIST to develop an identity standard for persons seeking to enter the United States, and Public Law 109-347, the Safe Port Act, asked NIST to create standards for nonintrusive imaging and radiation detection equipment. NIST was also tasked by the Cyber Security Research and Development Act, Public Law 107-305, to recommend standardized minimum security settings for Federal Government computers.

Other legislative acts directed NIST to help protect the nation's infrastructure. Public Law 107-231, The National Construction Safety Team Act, created National Construction Safety Teams to investigate major building failures. Public Law 107-355, the Pipeline Safety Improvement Act of 2002, engaged NIST to perform materials research and assist in developing technical standards for pipelines. The America Competes Act, Public Law 110-69, ended the Advanced Technology Program while establishing the Technology Innovation Program to fund high-risk, high-reward research in areas of critical national need.

Congress also passed laws addressing NIST role in research and development. Public Law 108-153, the 21st Century Nanotechnology Research and Development Act, instructed NIST to conduct basic research leading to the development and manufacture of nanotechnology.

Those portions of Public Laws applicable to NIST are reproduced in this appendix.

October 27, 1993, 107 Stat. 1153 (Public Law 103-121—103rd Congress, 1st session) *Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act, 1994*.

Public Law 103-121

AN ACT

Making appropriations for the Department of Commerce, Justice, and State, the Judiciary, and related agencies for the fiscal year ending September 30, 1994, and for other purposes.

TITLE II—DEPARTMENT OF COMMERCE

National Institute of Standards and Technology (107 Stat. 1169-70)

Scientific and Technical Research and Services

For necessary expenses of the National Institute of Standards and Technology, $226,000,000, to remain available until expended, of which not to exceed $5,880,000 may be transferred to the "Working Capital Fund" and $1,500,000 may be transferred to the Department of Commerce "Working Capital Fund."

Industrial Technology Services

For necessary expenses of the Manufacturing Extension Partnership, the Advanced Technology Program and the Quality Outreach Program of the National Institute of Standards and Technology, $232,524,000, to remain available until expended, of which not to exceed $1,290,000 may be transferred to the "Working Capital Fund."

Construction of Research Facilities

For construction of new research facilities, including architectural and engineering design, not otherwise provided for the National Institute of Standards and Technology, as authorized by 15 U.S.C. 278c-278e, $61,686,000, to remain available until expended.

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August 26, 1994, 108 Stat. 1724 (Public Law 103-317—103rd Congress, 2nd session) *Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act, 1995*.

Public Law 103-317

AN ACT

Making appropriations for the Departments of Commerce, Justice, and State, the Judiciary, and related agencies programs for the fiscal year ending September 30, 1995, and making supplemental appropriations for these departments and agencies for the fiscal year ending September 30, 1994, and for other purposes.

TITLE II—DEPARTMENT OF COMMERCE

National Institute of Standards and Technology (108 Stat. 1740-41)

Scientific and Technical Research and Services

For necessary expenses of the National Institute of Standards and Technology, $265,000,000, to remain available until expended, of which not to exceed $8,500,000 may be transferred to the "Working Capital Fund."

Industrial Technology Services

For necessary expenses of the Manufacturing Extension Partnership, the Advanced Technology Program and the Quality Program of the National Institute of Standards and Technology, $525,000,000, to remain available until expended, of which not to exceed $1,710,000 may be transferred to the "Working Capital Fund": Provided, That notwithstanding the time limitations imposed by 15 U.S.C. 278k(c) (1) and (5) on the duration of Federal financial assistance that may be awarded by the Secretary of Commerce to Regional Centers for the Transfer of Manufacturing Technology ("Centers"), such Federal financial assistance for a Center may continue beyond six years and may be renewed for additional periods, not to exceed three years each, at a rate not to exceed one-third of the Center's total annual costs, subject before any such renewal to a positive evaluation of the Center and to a finding by the Secretary of Commerce that continuation of Federal funding to that Center is in the best interest of the Regional Centers for the Transfer of Manufacturing Technology Program.

Construction of Research Facilities

For construction of new research facilities, including architectural and engineering design, not otherwise provided for the National Institute of Standards and Technology, as authorized by 15 U.S.C. 278c-278e, $64,686,000, to remain available until expended.

*****

September 13, 1994, 108 Stat. 1796 (Public Law 103-322—103rd Congress, 2nd session) *Violent Crime Control and Law Enforcement Act of 1994*.

Public Law 103-322

AN ACT

To control and prevent crime.

TITLE XXI—STATE AND LOCAL LAW ENFORCEMENT

Subtitle C—DNA Identification

SEC. 210303. (108 Stat. 2068) Quality Assurance and Proficiency Testing Standards.
(a) Publication of Quality Assurance and Proficiency Testing Standards.—
(1) (A) Not later than 180 days after the date of enactment of this Act, the Director of the Federal Bureau of Investigation shall appoint an advisory board on DNA quality assurance methods from among nominations proposed by the head of the National Academy of Sciences and professional societies of crime laboratory officials.
(B) The advisory board shall include as members scientists from State, local, and private forensic laboratories, molecular geneticists and population geneticists not affiliated with a forensic laboratory, and a representative from the National Institute of Standards and Technology.
(C) The advisory board shall develop, and if appropriate, periodically revise, recommended standards for quality assurance, including standards for testing the proficiency of forensic laboratories, and forensic analysts, in conducting analyses of DNA.

*****

October 13, 1994, 108 Stat. 3243 (Public Law 103-355—103rd Congress, 2nd session) *Federal Acquisition Streamlining Act of 1994*.

Public Law 103-355

AN ACT

To revise and streamline the acquisition laws of the Federal Government, and for other purposes.

TITLE IX—FEDERAL ACQUISITION COMPUTER NETWORK

SEC. 9001. (108 Stat. 3399) Federal Acquisition Computer Network Architecture and Implementation.
(a) Federal Acquisition Computer Network Architecture.—The Office of Federal Procurement Policy Act (41 U.S.C. 401 et seq.) is amended by adding after section 29, as added by section 1093, the following new sections:

"SEC. 30. Federal Acquisition Computer Network (FACNET) Architecture.
"(a) In General.—

(1) The Administrator shall establish a program for the development and implementation of a Federal acquisition computer network architecture (hereafter in this section referred to as 'FACNET') that will be Government-wide and provide interoperability among users. The Administrator shall assign a program manager for FACNET and shall provide for overall direction of policy and leadership in the development, coordination, installation, operation, and completion of implementation of FACNET by executive agencies.

"(2) In carrying out paragraph (1), the Administrator shall consult with the heads of appropriate Federal agencies with applicable technical and functional expertise, including the Office of Information and Regulatory Affairs, the National Institute of Standards and Technology, the General Services Administration, and the Department of Defense.

*****

October 19, 1994, 108 Stat. 3492 (Public Law 103-374—103rd Congress, 2nd session) *Earthquake Hazards Reduction Act of 1977, Authorization and Amendment*.

Public Law 103-374

AN ACT

To authorize appropriations for carrying out the Earthquake Hazards Reduction Act of 1977 for fiscal years 1995 and 1996.

SEC. 1. (108 Stat. 3492) Authorization of Appropriations.

Section 12 of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7706) is amended—

(4) by adding at the end of subsection (d) the following new sentence: "There are authorized to be appropriated, out of funds otherwise authorized to be appropriated to the National Institute of Standards and Technology, $1,900,000 for the fiscal year ending September 30, 1995, and $1,957,000 for the fiscal year ending September 30,1996".

*****

April 10, 1995, 109 Stat. 73 (Public Law 104-6—104th Congress, 1st session) *Emergency Supplemental Appropriations and Rescissions for the Department of Defense to Preserve and Enhance Military Readiness Act of 1995; Mexican Debt Disclosure Act of 1995*.

Public Law 104-6

AN ACT

Making emergency supplemental appropriations and rescissions to preserve and enhance military readiness of the Department of Defense for the fiscal year ending September 30, 1995, and for other purposes.

TITLE II

Rescissions

DEPARTMENT OF COMMERCE

National Institute of Standards and Technology (109 Stat. 84)

Industrial Technology Services

Of the amounts made available under this heading in Public Law 103-317 for the Advanced Technology Program, $90,000,000 are rescinded.

*****

May 22, 1995, 109 Stat. 163 (Public Law 104-13—104th Congress, 1st session) *Paperwork Reduction Act of 1995*.

Public Law 104-13

AN ACT

To further the goals of the Paperwork Reduction Act to have Federal agencies become more responsible and publicly accountable for reducing the burden of Federal paperwork on the public, and for other purposes.

SEC. 2. Coordination of Federal Information Policy. Chapter 35 of title 44, United States Code is amended to read as follows:

"SEC. 3504. (109 Stat. 169) Authority and functions of Director

"(h) With respect to Federal information technology, the Director shall—

"(1) in consultation with the Director of the National Institute of Standards and Technology and the Administrator of General Services—

"(A) develop and oversee the implementation of policies, principles, standards, and guidelines for information technology functions and activities of the Federal Government, including periodic evaluations of major information systems; and

"(B) oversee the development and implementation of standards under section 111(d) of the Federal Property and Administration Services Act of 1949 (40 U.S.C. 759(d));

"(2) monitor the effectiveness of, and compliance with, directives issued under sections 110 and 111 of the Federal Property and Administrative Services Act of 1949 (40 U.S.C. 757 and 759);

"(3) coordinate the development and review by the Office of Information and Regulatory Affairs of policy associated with Federal procurement and acquisition of information technology with the Office of Federal Procurement Policy;

"(4) ensure, through the review of agency budget proposals, information resources management plans and other means—

"(A) agency integration of information resources management plans, program plans and budgets for acquisition and use of information technology; and

"(B) the efficiency and effectiveness of inter-agency information technology initiatives to improve agency performance and the accomplishment of agency missions; and

"(5) promote the use of information technology by the Federal Government to improve the productivity, efficiency, and effectiveness of Federal programs, including through dissemination of public information and the reduction of information collection burdens on the public.

"SEC. 3505. (109 Stat. 170) Assignment of tasks and deadlines

"(a) In carrying out the functions under this chapter, the Director shall—

"(3) in consultation with the Administrator of General Services, the Director of the National Institute of Standards and Technology, the Archivist of the United States, and the Director of the Office of Personnel Management, develop and maintain a Governmentwide strategic plan for Information resources management, that shall include—

"(A) a description of the objectives and the means by which the Federal Government shall apply information resources to improve agency and program performance;

"(B) plans for—

"(i) reducing information burdens on the public, including reducing such burdens through the elimination of duplication and meeting shared data needs with shared resources;

"(ii) enhancing public access to and dissemination of, information, using electronic and other formats; and

"(iii) meeting the information technology needs of the Federal Government in accordance with the purpose of this chapter; and

"(C) a description of progress in applying information resources management to improve agency performance and the accomplishment of missions.

"SEC. 3513. (109 Stat. 181) Director review of agency activities; reporting; agency response

"(a) In consultation with the Administrator of General Services, the Archivist of the United States, the Director of the National Institute of Standards and Technology, and the Director of the Office of Personnel Management, the Director shall periodically review selected agency information resources management activities to ascertain the efficiency and effectiveness of such activities to improve agency performance and the accomplishment of agency missions.

*****

July 27, 1995, 109 Stat. 194 (Public Law 104-19—104th Congress, 1st session) *Emergency Supplemental Appropriations for Additional Disaster Assistance, for Anti-Terrorism Initiatives, for Assistance in the Recovery from the Tragedy that Occurred at Oklahoma City, and Rescissions Act, 1995*.

Public Law 104-19

AN ACT

Making emergency supplemental appropriations for additional disaster assistance, for anti-terrorism initiatives, for assistance in the recovery from the tragedy that occurred at Oklahoma City, and making rescissions for the fiscal year ending September 30, 1995, and for other purposes.

TITLE I—SUPPLEMENTALS AND RESCISSIONS

DEPARTMENT OF COMMERCE

National Institute of Standards and Technology (109 Stat. 199)

Scientific and Technical Research and Services
(Rescission)

Of the funds made available under this heading in Public Law 103-317, $17,000,000 are rescinded.

Industrial Technology Services
(Rescission)

Of the funds made available under this heading in Public Law 103-317, $16,300,000 are rescinded.

Construction of Research Facilities
(Rescission)

Of the unobligated balances available under this heading, $30,000,000 are rescinded.

*****

January 26, 1996, 110 Stat. 26 (Public Law 104-99—104th Congress, 2nd session) *Balanced Budget Downpayment Act, 1996*.

Public Law 104-99

AN ACT

Making appropriations for fiscal year 1996 to make a downpayment toward a balanced budget, and for other purposes.

TITLE II—DEPARTMENTS OF COMMERCE, JUSTICE, AND STATE, THE JUDICIARY, AND RELATED AGENCIES APPROPRIATIONS (110 Stat. 35)

SEC. 201. (a) ... Provided, that, notwithstanding any other provision of this title of this Act, the rate for operations only for program administration and the continuation of grants awarded in for program administration and the continuation of grants awarded in fiscal year 1995 and prior years of the Advanced Technology Program of the National Institute of Standards and Technology, and the rate for operations for the Ounce of Prevention Council, Drug Courts, Global Learning and Observations to Benefit the Environment, and for the Cops on the Beat Program may be increased up to a level of 75 per centum of the final fiscal year 1995 appropriated amount:...

*****

February 10, 1996, 110 Stat. 186 (Public Law 104-106—104th Congress, 2nd session) *National Defense Authorization Act for Fiscal Year 1996*.

Public Law 104-106

AN ACT

To authorize appropriations for fiscal year 1996 for military activities of the Department of Defense, for military construction, and for defense activities of the Department of Energy, to prescribe personnel strengths for such fiscal year for the Armed Forces, to reform acquisition laws and information technology management of the Federal Government, and for other purposes.

TITLE LI—RESPONSIBILITY FOR ACQUISITIONS OF INFORMATION TECHNOLOGY

SEC. 5112. (110 Stat. 681) Capital Planning and Investment Control.

(d) Information Technology Standards. The Director shall oversee the development and implementation of standards and guidelines pertaining to Federal computer systems by the Secretary of Commerce through the National Institute of Standards and Technology under section 5131 and section 20 of the National Institute of Standards and Technology Act (15 U.S.C. 278g-3).

SEC. 5131. (110 Stat. 687) Responsibilities Regarding Efficiency, Security, and Privacy of Federal Computer Systems.

(a) Standards and Guidelines.—

(1) Authority.—The Secretary of Commerce shall, on the basis of standards and guidelines developed by the National Institute of Standards and Technology pursuant to paragraphs (2) and (3) of section 20(a) of the National Institute of Standards and Technology Act (15 U.S.C. 278g-3(a), promulgate standards and guidelines pertaining to Federal computer systems.

SEc. 5607. (110 Stat. 701) Other Laws.

(a) National Institute of Standards and Technology Act.—Section 20 of the National Institute of Standards and Technology Act (15 U.S.C. 278g-3) is amended—

(1) in subsection (a)—

(A) by striking out "section 3502(2) of title 44" each place it appears in paragraphs (2) and (3)(A) and inserting in lieu thereof "section 3502(9) of title 44"; and

(B) in paragraph (4), by striking out "section 111(d) of the Federal Property and Administrative Services Act of 1949" and inserting in lieu thereof section 5131 of the Information Technology Management Reform Act of 1996"

(2) in subsection (b)—

(A) by striking out paragraph (2);

(B) in paragraph (3), by striking out "section 111(d) of the Federal Property and Administrative Services Act of 1949" and inserting in lieu thereof "section 5131 of the Information Technology Management Reform Act of 1996"; and

(C) by redesignating paragraphs (3), (4), (5), and (6) as paragraphs (2), (3), (4), and (5); and (3) in subsection (d)—

(A) in paragraph (1)(B)(v), by striking out "as defined" and all that follows and inserting in lieu thereof a semicolon; and

(B) in paragraph (2)—

(i) by striking out "system"—and all that follows through "means" in subparagraph (A) and inserting in lieu thereof "system" "means"; and

(ii) by striking out "and" at the end of subparagraph (A) and all that follows through the end of subparagraph (B) and inserting in lieu thereof a semicolon.

*****

March 7, 1996, 110 Stat. 775 (Public Law 104-113—104th Congress, 2nd session) *National Technology Transfer and Advancement Act of 1995*.

Public Law 104-113

AN ACT

To amend the Stevenson-Wydler Technology Innovation Act of 1980 with respect to inventions made under cooperative research and development agreements, and for other purposes.

SEC. 1. SHORT TITLE.

This Act may be cited as the "National Technology Transfer and Advancement Act of 1995."

SEC. 2. FINDINGS.

The Congress finds the following:

(1) Bringing technology and industrial innovation to the marketplace is central to the economic, environmental, and social well-being of the people of the United States.

(2) The Federal Government can help United States business to speed the development of new products and processes by entering into cooperative research and development agreements which make available the assistance of Federal laboratories to the private sector, but the commercialization of technology and industrial innovation in the United States depends upon actions by business.

(3) The commercialization of technology and industrial innovation in the United States will be enhanced if companies, in return for reasonable compensation to the Federal Government, can more easily obtain exclusive licenses to inventions which develop as a result of cooperative research with scientists employed by Federal laboratories.

SEC. 3. USE OF FEDERAL TECHNOLOGY.

Subparagraph (B) of section 11(e)(7) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710(e)(7)(B)) is amended to read as follows:

"(B) A transfer shall be made by any Federal agency under subparagraph (A), for any fiscal year, only if the amount so transferred by that agency (as determined under such subparagraph) would exceed $10,000."

SEC. 4. TITLE TO INTELLECTUAL PROPERTY ARISING FROM COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS

Subsection (b) of section 12 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a(b)) is amended to read as follows:

"(b) Enumerated Authority.—

(1) Under an agreement entered into pursuant to subsection (a)(1), the laboratory may grant, or agree to grant in advance, to a collaborating party patent licenses or assignments, or options thereto, in any invention made in whole or in part by a laboratory employee under the agreement, for reasonable compensation when appropriate. The laboratory shall ensure, through such agreement, that the collaborating party has the option to choose an exclusive license for a pre-negotiated field of use for any such invention under the agreement or, if there is more than one collaborating party, that the collaborating parties are offered the option to hold licensing rights that collectively encompass the rights that would be held under such an exclusive license by one party. In consideration for the Government's contribution under the agreement, grants under this paragraph shall be subject to the following explicit conditions:

"(A) A nonexclusive, nontransferable, irrevocable, paid-up license from the collaborating party to the laboratory to practice the invention or have the invention practiced throughout the world by or on behalf of the Government. In the exercise of such license, the Government shall not publicly disclose trade secrets or commercial or financial information that is privileged or confidential within the meaning of section 552(b)(4) of title 5, United States Code, or which would be considered as such if it had been obtained from a non-Federal party.

"(B) If a laboratory assigns title or grants an exclusive license to such an invention, the Government shall retain the right—

"(i) to require the collaborating party to grant to a responsible applicant a nonexclusive, partially exclusive, or exclusive license to use the invention in the applicant's licensed field of use, on terms that are reasonable under the circumstances; or

"(ii) if the collaborating party fails to grant such a license, to grant the license itself.

"(C) The Government may exercise its right retained under subparagraph (B) only in exceptional circumstances and only if the Government determines that—

"(i) the action is necessary to meet health or safety needs that are not reasonably satisfied by the collaborating party;"

"(ii) the action is necessary to meet requirements for public use specified by Federal regulations, and such requirements are not reasonably satisfied by the collaborating party; or

"(iii) the collaborating party has failed to comply with an agreement containing provisions described in subsection (c)(4)(B).

This determination is subject to administrative appeal and judicial review under section 203(2) of title 35, United States Code.

"(2) Under agreements entered into pursuant to subsection (a)(1), the laboratory shall ensure that a collaborating party may retain title to any invention made solely by its employee in exchange for normally granting the Government a nonexclusive, nontransferable, irrevocable, paid-up license to practice the invention or have the invention practiced throughout the world by or on behalf of the Government for research or other Government purposes.

"(3) Under an agreement entered into pursuant to subsection (a)(1), a laboratory may—

"(A) accept, retain, and use funds, personnel, services, and property from a collaborating party and provide personnel, services, and property to a collaborating party;

"(B) use funds received from a collaborating party in accordance with subparagraph (A) to hire personnel to carry out the agreement who will not be subject to full-time-equivalent restrictions of the agency;

"(C) to the extent consistent with any applicable agency requirements or standards of conduct, permit an employee or former employee of the laboratory to participate in an effort to commercialize an invention made by the employee or former employee while in the employment or service of the Government; and

"(D) waive, subject to reservation by the Government of a nonexclusive, irrevocable, paid-up license to practice the invention or have the invention practiced throughout the world by or on behalf of the Government, in advance, in whole or in part, any right of ownership which the Federal Government may have to any subject invention made under the agreement by a collaborating party or employee of a collaborating party.

"(4) A collaborating party in an exclusive license in any invention made under an agreement entered into pursuant to subsection (a)(1) shall have the right of enforcement under chapter 29 of title 35, United States Code.

"(5) A Government-owned, contractor-operated laboratory that enters into a cooperative research and development agreement pursuant to subsection (a)(1) may use or obligate royalties or other income accruing to the laboratory under such agreement with respect to any invention only—

"(A) for payments to inventors;

"(B) for purposes described in clauses (i), (ii), (iii), and (iv) of section 14(a)(1)(B); and

"(C) for scientific research and development consistent with the research and development missions and objectives of the laboratory."

SEC. 5. DISTRIBUTION OF INCOME FROM INTELLECTUAL PROPERTY RECEIVED BY FEDERAL LABORATORIES

Section 14 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710c) is amended—

(1) by amending subsection (a)(1) to read as follows:

"(1) Except as provided in paragraphs (2) and (4), any royalties or other payments received by a Federal agency from the licensing and assignment of inventions under agreements entered into by Federal laboratories under section 12, and from the licensing of inventions of Federal laboratories under section 207 of title 35, United States Code, or under any other provision of law, shall be retained by the laboratory which produced the invention and shall be disposed of as follows:

"(A) (i) The head of the agency or laboratory, or such individual's designee, shall pay each year the first $2,000, and thereafter at least 15 percent, of the royalties or other payments to the inventor or coinventors.

"(ii) An agency or laboratory may provide appropriate incentives, from royalties, or other payments, to laboratory employees who are not an inventor of such inventions but who substantially increased the technical value of such inventions.

"(iii) The agency or laboratory shall retain the royalties and other payments received from an invention until the agency or laboratory makes payments to employees of a laboratory under clause (i) or (ii).

"(B) The balance of the royalties or other payments shall be transferred by the agency to its laboratories, with the majority share of the royalties or other payments from any invention going to the laboratory where the invention occurred. The royalties or other payments so transferred to any laboratory may be used or obligated by that laboratory during the fiscal year in which they are received or during the succeeding fiscal year—

"(i) to reward scientific, engineering, and technical employees of the laboratory, including developers of sensitive or classified technology, regardless of whether the technology has commercial applications;

"(ii) to further scientific exchange among the laboratories of the agency;

"(iii) for education and training of employees consistent with the research and development missions and objectives of the agency or laboratory, and for other activities that increase the potential for transfer of the technology of the laboratories of the agency;

"(iv) for payment of expenses incidental to the administration and licensing of intellectual property by the agency or laboratory with respect to inventions made at that laboratory, including the fees or other costs for the services of other agencies, persons, or organizations for intellectual property management and licensing services; or

"(v) for scientific research and development consistent with the research and development missions and objectives of the laboratory.

"(C) All royalties or other payments retained by the agency or laboratory after payments have been made pursuant to subparagraphs (A) and (B) that is unobligated and unexpended at the end of the second fiscal year succeeding the fiscal year in which the royalties and other payments were received shall be paid into the Treasury.";

(2) in subsection (a)(2)—

(A) by inserting "or other payments" after "royalties"; and

(B) by striking "for the purposes described in clauses (i) through (iv) of paragraph (1)(B) during that fiscal year or the succeeding fiscal year" and inserting in lieu thereof "under paragraph (1)(B)";

(3) in subsection (a)(3), by striking "$100,000" both places it appears and inserting "$150,000";

(4) in subsection (a)(4)—

(A) by striking "income" each place it appears and inserting in lieu thereof "payments";

(B) by striking "the payment of royalties to inventors" in the first sentence thereof and inserting in lieu thereof "payments to inventors";

(C) by striking "clause (i) of paragraph (1)(B)" and inserting in lieu thereof "clause (iv) of paragraph (1)(B)";

(D) by striking "payment of the royalties," in the second sentence thereof and inserting in lieu thereof "offsetting the payments to inventors"; and

(E) by striking "clauses (i) through (iv) of"; and (5) by amending paragraph (1) of subsection (b) to read as follows:"

"(1) by a contractor, grantee, or participant, or an employee of a contractor, grantee, or participant, in an agreement or other arrangement with the agency."

SEC. 6. EMPLOYEE ACTIVITIES.

Section 15(a) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710d(a)) is amended—

(1) by striking "the right of ownership to an invention under this Act" and inserting in lieu thereof "ownership of or the right of ownership to an invention made by a Federal employee"; and

(2) by inserting "obtain or" after "the Government, to".

SEC. 7. AMENDMENT TO BAYH-DOLE ACT.

Section 210(e) of title 35, United States Code, is amended by striking ", as amended by the Federal Technology Transfer Act of 1986".

SEC. 8. NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY ACT AMENDMENTS.

The National Institute of Standards and Technology Act (15 U.S.C. 271 et seq.) is amended—

(1) in section 10(a)—

(A) by striking "nine" and inserting in lieu thereof "15"; and

(B) by striking "five" and inserting in lieu thereof "10";

(2) in section 15—

(A) by striking "Pay Act of 1945; and" and inserting in lieu thereof "Pay Act of 1945;" and

(B) by inserting"; and (h) the provision of transportation services for employees of the Institute between the facilities of the Institute and nearby public transportation, notwithstanding section 1344 of title 31, United States Code" after "interests of the Government"; and

(3) in section 19—

(A) by inserting ", subject to the availability of appropriations," after "post-doctoral fellowship program"; and

(B) by striking "nor more than forty" and inserting in lieu thereof "nor more than 60".

SEC. 9. RESEARCH EQUIPMENT.

Section 11(i) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710(i)) is amended by inserting “loan, lease, or” before “give.”

SEC. 10. PERSONNEL.

The personnel management demonstration project established under section 10 of the National Bureau of Standards Authorization Act for Fiscal Year 1987 (15 U.S.C. 275 note) is extended indefinitely.

SEC. 11. FASTENER QUALITY ACT AMENDMENTS.

(a) Section 2 Amendments.—Section 2 of the Fastener Quality Act (15 U.S.C. 5401) is amended—
- (1) by striking subsection (a)(4), and redesignating paragraphs (5) through (9) as paragraphs (4) through (8), respectively;
- (2) in subsection (a)(7), as so redesignated by paragraph (1) of this subsection, by striking “by lot number”; and
- (3) in subsection (b), by striking “used in critical applications” and inserting in lieu thereof “in commerce”.

(b) Section 3 Amendments.—Section 3 of the Fastener Quality Act (15 U.S.C. 5402) is amended—
- (1) in paragraph (1)(B) by striking “having a minimum tensile strength of 150,000 pounds per square inch”;
- (2) in paragraph (2), by inserting “consensus” after “or any other”;
- (3) in paragraph (5)—
  - (A) by inserting “or” after “standard or specification,” in subparagraph (B);
  - (B) by “or” at the end of subparagraph (C);
  - (C) by striking subparagraph (D); and
  - (D) by inserting “or produced in accordance with ASTM F 432” after “307 Grade A”;
- (4) in paragraph (6) by striking “other person” and inserting in lieu thereof “government agency”;
- (5) in paragraph (8) by striking “Standard” and inserting in lieu thereof “Standards”;
- (6) by striking paragraph (11) and redesignating paragraphs (12) through (15) as paragraphs (11) through (14), respectively;
- (7) in paragraph (13), as so redesignated by paragraph (6) of this subsection, by striking “, a government agency” and all that follows through “markings of any fastener” and inserting in lieu thereof “or a government agency”; and
- (8) in paragraph (14), as so redesignated by paragraph (6) of this subsection, by inserting “for the purpose of achieving a uniform hardness” after quenching and tempering”.

(c) Section 4 Repeal.—Section 4 of the Fastener Quality Act (15 U.S.C. 5403) is repealed.

(d) Section 5 Amendments.—Section 5 of the Fastener Quality Act (15 U.S.C. 5404) is amended—
- (1) in subsection (a)(1)(B) and (2)(A)(i) by striking “subsections (b) and (c)” and inserting in lieu thereof “subsections (b), (c), and (d)”;
- (2) in subsection (c)(2) by striking “or, where applicable” and all that follows through “section 7(c)(1)”;
- (3) in subsection (c)(3) by striking “, such as the chemical, dimensional, physical, mechanical, and any other”;
- (4) in subsection (c)(4) by inserting “except as provided in subsection (d),” before “state whether”; and
- (5) by adding at the end the following new subsection: “(d) Alternative Procedure for Chemical Characteristics.—Notwithstanding the requirements of subsections (b) and (c), a manufacturer shall be deemed to have demonstrated, for purposes of subsection (a)(1), that the chemical characteristics of a lot conform to the standards and specifications to which the manufacturer represents such lot has been manufactured if the following requirements are met:

“(1) The coil or heat number of metal from which such lot was fabricated has been inspected and tested with respect to its chemical characteristics by a laboratory accredited in accordance with the procedures and conditions specified by the Secretary under section 6.

“(2) Such laboratory has provided to the manufacturer, either directly or through the metal manufacturer, a written inspection and testing report, which shall be in a form prescribed by the Secretary by regulation, listing the chemical characteristics of such coil or heat number.

“(3) The report described in paragraph (2) indicates that the chemical characteristics of such coil or heat number conform to those required by the standards and specifications to which the manufacturer represents such lot has been manufactured.

"(4) The manufacturer demonstrates that such lot has been fabricated from the coil or heat number of metal to which the report described in paragraphs (2) and (3) relates. In prescribing the form of report required by subsection (c), the Secretary shall provide for an alternative to the statement required by subsection (c)(4), insofar as such statement pertains to chemical characteristics, for cases in which a manufacturer elects to use the procedure permitted by this subsection."

(e) Section 6 Amendment.—Section 6(a)(1) of the Fastener Quality Act (15 U.S.C. 5405(a)(1)) is amended by striking "Within 180 days after the date of enactment of this Act, the" and inserting in lieu thereof "The".

(f) Section 7 Amendments.—Section 7 of the Fastener Quality Act (15 U.S.C. 5406) is amended—(1) by amending subsection (a) to read as follows:

"(a) Domestically Produced Fasteners.—It shall be unlawful for a manufacturer to sell any shipment of fasteners covered by this Act which are manufactured in the United States unless the fasteners—

"(1) have been manufactured according to the requirements of the applicable standards and specifications and have been inspected and tested by a laboratory accredited in accordance with the procedures and conditions specified by the Secretary under section 6; and

"(2) an original laboratory testing report described in section 5(c) and a manufacturer's certificate of conformance are on file with the manufacturer, or under such custody as may be prescribed by the Secretary, and available for inspection.";

(2) in subsection (c)(2) by inserting "to the same" after "in the same manner and";

(3) in subsection (d)(1) by striking "certificate" and inserting in lieu thereof "test report"; and

(4) by striking subsections (e), (f), and (g) and inserting in lieu thereof the following:

"(e) Commingling.—It shall be unlawful for any manufacturer, importer, or private label distributor to commingle like fasteners from different lots in the same container, except that such manufacturer, importer, or private label distributor may commingle like fasteners of the same type, grade, and dimension from not more than two tested and certified lots in the same container during repackaging and plating operations. Any container which contains fasteners from two lots shall be conspicuously marked with the lot identification numbers of both lots.

"(f) Subsequent Purchaser.—If a person who purchases fasteners for any purpose so requests either prior to the sale or at the time of sale, the seller shall conspicuously mark the container of the fasteners with the lot number from which such fasteners were taken."

(g) Section 9 Amendment.—Section 9 of the Fastener Quality Act (15 U.S.C. 5408) is amended by adding at the end the following new subsection:

"(d) Enforcement.—The Secretary may designate officers or employees of the Department of Commerce to conduct investigations pursuant to this Act. In conducting such investigations, those officers or employees may, to the extent necessary or appropriate to the enforcement of this Act, exercise such authorities as are conferred upon them by other laws of the United States, subject to policies and procedures approved by the Attorney General."

(h) Section 10 Amendments.—Section 10 of the Fastener Quality Act (15 U.S.C. 5409) is amended—

(1) in subsections (a) and (b), by striking "10 years" and inserting in lieu thereof "5 years"; and

(2) in subsection (b), by striking "any subsequent" and inserting in lieu thereof "the subsequent."

(i) Section 13 Amendment.—Section 13 of the Fastener Quality Act (15 U.S.C. 5412) is amended by striking "within 180 days after the date of enactment of this Act".

(j) Section 14 Repeal.—Section 14 of the Fastener Quality Act (15 U.S.C. 5413) is repealed.

SEC. 12. STANDARDS CONFORMITY.

(a) Use of Standards.—Section 2(b) of the National Institute of Standards and Technology Act (15 U.S.C. 272(b)) is amended—

(1) in paragraph (2), by striking ", including comparing standards" and all that follows through "Federal Government";

(2) by redesignating paragraphs (3) through (11) as paragraphs (4) through (12), respectively; and

(3) by inserting after paragraph (2) the following new paragraph:

"(3) to compare standards used in scientific investigations, engineering, manufacturing, commerce, industry, and educational institutions with the standards adopted or recognized by the Federal Government and to coordinate the use by Federal agencies of private sector standards, emphasizing where possible the use of standards developed by private, consensus organizations;"

(b) Conformity Assessment Activities.—Section 2(b) of the National Institute of Standards and Technology Act (15 U.S.C. 272(b)) is amended—

(1) by striking "and" at the end of paragraph (11), as so redesignated by subsection (a)(2) of this section;
(2) by striking the period at the end of paragraph (12), as so redesignated by subsection (a)(2) of this section, and inserting in lieu thereof; "and"; and
(3) by adding at the end the following new paragraph:
"(13) to coordinate Federal, State, and local technical standards activities and conformity assessment activities, with private sector technical standards activities and conformity assessment activities, with the goal of eliminating unnecessary duplication and complexity in the development and promulgation of conformity assessment requirements and measures.

"(c) Transmittal of Plan to Congress.—The National Institute of Standards and Technology shall, within 90 days after the date of enactment of this Act, transmit to the Congress a plan for implementing the amendments made by this section.

(d) Utilization of Consensus Technical Standards by Federal Agencies; Reports.—
(1) In general.—Except as provided in paragraph (3) of this subsection, all Federal agencies and departments shall use technical standards that are developed or adopted by voluntary consensus standards bodies, using such technical standards as a means to carry out policy objectives or activities determined by the agencies and departments.
(2) Consultation; participation.—In carrying out paragraph (1) of this subsection, Federal agencies and departments shall consult with voluntary, private sector, consensus standards bodies and shall, when such participation is in the public interest and is compatible with agency and departmental missions, authorities, priorities, and budget resources, participate with such bodies in the development of technical standards.
(3) Exception.—If compliance with paragraph (1) of this subsection is inconsistent with applicable law or otherwise impractical, a Federal agency or department may elect to use technical standards that are not developed or adopted by voluntary consensus standards bodies if the head of each such agency or department transmits to the Office of Management and Budget an explanation of the reasons for using such standards. Each year, beginning with fiscal year 1997, the Office of Management and Budget shall transmit to Congress and its committees a report summarizing all explanations received in the preceding year under this paragraph.
(4) Definition of technical standards.—As used in this subsection, the term "technical standards" means performance-based or design-specific technical specifications and related management systems practices.

SEC. 13. SENSE OF CONGRESS.

It is the sense of the Congress that the Malcolm Baldrige National Quality Award program offers substantial benefits to United States industry, and that all funds appropriated for such program should be spent in support of the goals of the program.

Approved March 7, 1996.

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April 26, 1996, 110 Stat. 1321 (Public Law 104-134—104th Congress, 2nd session) *Omnibus Consolidated Rescissions and Appropriations Act of 1996*.

Public Law 104-134

AN ACT

Making appropriations for fiscal year 1996 to make a further downpayment toward a balanced budget, and for other purposes.

TITLE II—DEPARTMENT OF COMMERCE AND RELATED AGENCIES

Science and Technology

National Institute of Standards and Technology (101 Stat. 1321-27)

Scientific and Technical Research and Services

For necessary expenses of the National Institute of Standards and Technology, $259,000,000, to remain available until expended, of which not to exceed $8,500,000 may be transferred to the "Working Capital Fund."

Industrial Technology Services

For necessary expenses of the Manufacturing Extension Partnership and the Advanced Technology Program of the National Institute of Standards and Technology, $301,000,000, to remain available until expended, of which $80,000,000 shall be for the Manufacturing Extension Partnership, and of which $221,000,000 shall be for the Advanced Technology Program: Provided, That not to exceed $500,000 may be transferred to the "Working Capital Fund."

Construction of Research Facilities

For construction of new research facilities, including architectural and engineering design, and for renovation of existing facilities, not otherwise provided for the National Institute of Standards and Technology, as authorized by 15 U.S.C. 278c-278e, $60,000,000, to remain available until expended.

National Institute of Standards and Technology (101 Stat. 1321-29)

Construction of Research Facilities
(Rescission)

Of the unobligated balances available under this heading, $75,000,000 are rescinded.

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September 30, 1996, 110 Stat. 3009 (Public Law 104-208—104th Congress, 2nd session) *Omnibus Consolidated Appropriations Act, 1997*.

Public Law 104-208

AN ACT

Making omnibus consolidated appropriations for the fiscal year ending September 30, 1997, and for other purposes.

TITLE II—DEPARTMENT OF COMMERCE AND RELATED AGENCIES

Science and Technology

National Institute of Standards and Technology (110 Stat. 3009-36-37)

Scientific and Technical Research and Services

For necessary expenses of the National Institute of Standards and Technology, $268,000,000, to remain available until expended, of which not to exceed $1,625,000 may be transferred to the "Working Capital Fund".

Industrial Technology Services

For necessary expenses of the Manufacturing Extension Partnership of the National Institute of Standards and Technology, $95,000,000, to remain available until expended, of which not to exceed $300,000 may be transferred

to the "Working Capital Fund": Provided, That notwithstanding the time limitations imposed by 15 U.S.C. 278k(c)(1) and (5) on the duration of Federal financial assistance that may be awarded by the Secretary of Commerce to Regional Centers for the transfer of Manufacturing Technology ("Centers"), such Federal financial assistance for a Center may continue beyond six years and may be renewed for additional periods, not to exceed one year, at a rate not to exceed one-third of the Center's total annual costs, subject before any such renewal to a positive evaluation of the Center and to a finding by the Secretary of Commerce that continuation of Federal funding to the Center is in the best interest of the Regional Centers for the transfer of Manufacturing Technology Program. In addition, for necessary expenses of the Advanced Technology Program of the National Institute of Standards and Technology, $225,000,000, to remain available until expended, of which not to exceed $500,000 may be transferred to the "Working Capital Fund."

National Institute of Standards and Technology (110 Stat. 3009-39)

Construction of Research Facilities
(Rescission)

Of the obligated and unobligated balances available under this heading, $16,000,000 are rescinded.

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October 11, 1996, 110 Stat. 3411 (Public Law 104-289—104th Congress, 2nd session) *Savings in Construction Act of 1996*.

Public Law 104-289

AN ACT

To provide for appropriate implementation of the Metric Conversion Act of 1975 in Federal construction projects, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SEC. 1. SHORT TITLE.

This Act may be cited as the "Savings in Construction Act of 1996".

SEC. 2. FINDINGS.

The Congress finds the following:

(1) The Metric Conversion Act of 1975 was enacted in order to set forth the policy of the United States to convert to the metric system. Section 3 of that Act requires that each Federal agency use the metric system of measurements in its procurement, grants, and other business-related activities, unless that use is likely to cause significant cost or loss of markets to United States firms, such as when foreign competitors are producing competing products in non-metric units.

(2) In accordance with that Act and Executive Order 12770, of July 25, 1991, Federal agencies increasingly construct new Federal buildings in round metric dimensions. As a result, companies that wish to bid on Federal construction projects increasingly are asked to supply materials or products in round metric dimensions.

(3) While the Metric Conversion Act of 1975 currently provides an exemption to metric usage when impractical or when such usage will cause economic inefficiencies, amendments are warranted to ensure that the use of specific metric components in metric construction projects do not increase the cost of Federal buildings to the taxpayers.

SEC. 3. DEFINITIONS.

Section 4 of the Metric Conversion Act of 1975 (15 U.S.C. 205c) is amended—

(1) by striking "and" at the end of paragraph (3);

(2) by striking "Commerce." in paragraph (4) and inserting "Commerce;"; and

(3) by inserting after paragraph (4) the following:

"(5) 'full and open competition' has the same meaning as defined in section 403(6) of title 41, United States Code;

"(6) 'total installed price' means the price of purchasing a product or material, trimming or otherwise altering some or all of that product or material, if necessary to fit with other building components, and then installing that product or material into a Federal facility;

"(7) 'hard-metric' means measurement, design, and manufacture using the metric system of measurement, but does not include measurement, design, and manufacture using English system measurement units which are subsequently reexpressed in the metric system of measurement;

"(8) 'cost or pricing data or price analysis' has the meaning given such terms in section 304A of the Federal Property and Administrative Services Act of 1949 (41 U.S.C. 254b); and

"(9) 'Federal facility' means any public building (as defined under section 13 of the Public Buildings Act of 1959 (40 U.S.C. 612) and shall include any Federal building or construction project—

"(A) on lands in the public main;

"(B) on lands used in connection with Federal programs for agriculture research, recreation, and conservation programs;

"(C) on or used in connection with river, harbor, flood control, reclamation, or power projects;

"(D) on or used in connection with housing and residential projects;

"(E) on military installations (including any fort, camp, post, naval training station, airfield, proving ground, military supply depot, military school, or any similar facility of the Department of Defense);

"(F) on installations of the Department of Veteran Affairs used for hospital or domiciliary purposes; or

"(G) on lands used in connection with Federal prisons, but does not include (i) any Federal building or construction project the exclusion of which the President deems to be justified in the public interest, or (ii) any construction project or building owned or controlled by a State government, local government, Indian tribe, or any private entity."

SEC. 4. IMPLEMENTATION IN ACQUISITION OF FEDERAL FACILITIES.

(a) The Metric Conversion Act of 1975 (15 U.S.C. 205 et seq.) is amended by inserting after section 13 the following new section:

"SEC. 14. IMPLEMENTATION IN ACQUISITION OF CONSTRUCTION SERVICES AND MATERIALS FOR FEDERAL FACILITIES.

"(a) In General.—Construction services and materials for Federal facilities shall be procured in accordance with the policies and procedures set forth in chapter 137 of title 10, United States Code, section 2377 of title 10, United States Code, title III of the Federal Property and Administrative Services Act of 1949 (41 U.S.C. 251 et seq.), and section 3(2) of this Act. Determination of a design method shall be based upon preliminary market research as required under section 2377(c) of title 10, United States Code, and section 314B(c) of the Federal Property and Administrative Services Act of 1949 (41 U.S.C. 264b(c)). If the requirements of this Act conflict with the provisions of section 2377 of title 10, United States Code, or section 314B of the Federal Property and Administrative Services Act of 1949, then the provisions of 2377 or 314B shall take precedence.

"(b) Concrete Masonry Units.—In carrying out the policy set forth in section 3 (with particular emphasis on the policy set forth in paragraph (2) of that section) a Federal agency may require that specifications for the acquisition of structures or systems of concrete masonry be expressed under the metric system of measurement, but may not incorporate specifications, that can only be satisfied by hard-metric versions of concrete masonry units, in a solicitation for design or construction of a Federal facility within the United States or its territories, or a portion of said Federal facility, unless the head of the agency determines in writing that—

"(1) hard-metric specifications are necessary in a contract for the repair or replacement of parts of Federal facilities in existence or under construction upon the effective date of the Savings in Construction Act of 1996; or

"(2) the following 2 criteria are met:

"(A) the application requires hard-metric concrete masonry units to coordinate dimensionally into 100 millimeter building modules; and

"(B) the total installed price of hard-metric concrete masonry units is estimated to be equal to or less than the total installed price of using non-hard- metric concrete masonry units. Total installed price estimates shall be based, to the extent available, on cost or pricing data or price analysis, using actual hard -metric and non-hard-metric offers received for comparable existing projects. The head of the agency shall include in the writing required in this subsection an explanation of the factors used to develop the price estimates.

"(c) Recessed Lighting Fixtures.—In carrying out the policy set forth in section 3 (with particular emphasis on the policy set forth in paragraph (2) of that section) a Federal agency may require that specifications for the acquisition of structures or systems of recessed lighting fixtures be expressed under the metric system of measurement, but may not incorporate specifications, that can only be satisfied by hard-metric versions of recessed lighting fixtures, in a solicitation for design or construction of a Federal facility within the United States or its territories unless the head of the agency determines in writing that—

"(1) the redominant voluntary industry consensus standards include the use of hard-metric for the items specified; or

"(2) hard-metric specifications are necessary in a contract for the repair or replacement of parts of Federal facilities in existence or under construction upon the effective date of the Savings in Construction Act of 1996; or

"(3) the following 2 criteria are met:

"(A) the application requires hard-metric recessed lighting fixtures to coordinate dimensionally into 100 millimeter building modules; and

"(B) the total installed price of hard-metric recessed lighting fixtures is estimated to be equal to or less than the total installed price of using non-hard-metric recessed lighting fixtures. Total installed price estimates shall be based, to the extent available, on cost or pricing data or price analysis, using actual hard-metric and non-hard-metric offers received for comparable existing projects. The head of the agency shall include in the writing required in this subsection an explanation of the factors used to develop the price estimates.

"(d) Limitation.—The provisions of subsections (b) and (c) of this section shall not apply to Federal contracts to acquire construction products for the construction of facilities outside of the United States and its territories.

"(e) Expiration.—The provisions contained in subsections (b) and (c) of this section shall expire 10 years from the effective date of the Savings in Construction Act of 1996."

SEC. 5. OMBUDSMAN.

Section 14 of the Metric Conversion Act of 1975, as added by section 4 of this Act, is further amended by adding at the end the following new subsection:

"(f) Agency Ombudsman.—(1) The head of each executive agency that awards construction contracts within the United States and its territories shall designate a senior agency official to serve as a construction metrication ombudsman who shall be responsible for reviewing and responding to complaints from prospective bidders, subcontractors, suppliers, or their designated representatives related to—

"(A) guidance or regulations issued by the agency on the use of the metric system of measurement in contracts for the construction of Federal buildings; and

"(B) the use of the metric system of measurement for services and materials required for incorporation in individual projects to construct Federal buildings. The construction metrication ombudsman shall be independent of the contracting officer for construction contracts.

"(2) The ombudsman shall be responsible for ensuring that the agency is not implementing the metric system of measurement in a manner that is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms in violation of the policy stated in section 3(2), or is otherwise inconsistent with guidance issued by the Secretary of Commerce in consultation with the Interagency Council on Metric Policy while ensuring that the goals of the Metric Conversion Act of 1975 are observed.

"(3) The ombudsman shall respond to each complaint in writing within 60 days and make a recommendation to the head of the executive agency for an appropriate resolution thereto. In such a recommendation, the ombudsman shall consider—
"(A) whether the agency is adequately applying the policies and procedures in this section;
"(B) whether the availability of hard-metric products and services from United States firms is sufficient to ensure full and open competition; and
"(C) the total installed price to the Federal Government.
"(4) After the head of the agency has rendered a decision regarding a recommendation of the ombudsman, the ombudsman shall be responsible for communicating the decision to all appropriate policy, design, planning, procurement, and notifying personnel in the agency. The ombudsman shall conduct appropriate monitoring as required to ensure the decision is implemented, and may submit further recommendations, as needed. The head of the agency's decision on the ombudsman's recommendations, and any supporting documentation, shall be provided to affected parties and made available to the public in a timely manner.
"(5) Nothing in this section shall be construed to supersede the bid protest process established under subchapter V of chapter 35 of title 31, United States Code."

SEC. 6. EFFECTIVE DATE AND MISCELLANEOUS PROVISIONS.

(a) Effective Date.—This Act and the amendments made by this Act shall take effect 90 days after the date of enactment of this Act.

(b) Savings Provisions.—This Act shall not apply to contracts awarded and solicitations issued on or before the effective date of this Act, unless the head of a Federal agency makes a written determination in his or her sole discretion that it would be in the public interest to apply one or more provisions of this Act or its amendments to these existing contracts or solicitations.

Approved October 11, 1996.

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June 12, 1997, 111 Stat. 158 (Public Law 105-18—105th Congress, 1st session) 1997 *Emergency Supplemental Appropriations Act for Recovery From Natural Disasters, and for Overseas Peacekeeping Efforts, Including those in Bosnia*.

Public Law 105-18

AN ACT

Making emergency supplemental appropriations for recovery from natural disasters, and for overseas peacekeeping efforts, including those in Bosnia, for the fiscal year ending September 30, 1997, and for other purposes.

TITLE II—EMERGENCY SUPPLEMENTAL APPROPRIATIONS FOR RECOVERY FROM NATURAL DISASTERS

Chapter 2. DEPARTMENT OF COMMERCE

National Institute of Standards and Technology (111 Stat. 173)

Industrial Technology Services

Of the amount provided under this heading in Public Law 104-208 for the Advanced Technology Program, not to exceed $35,000,000 shall be available for the award of new grants.

National Institute of Standards and Technology (111 Stat. 203)

Industrial Technology Services
(Rescission)

Of the unobligated balances available under this heading for the Advanced Technology Program, $7,000,000 are rescinded.

*****

October 1, 1997, 111 Stat. 1159 (Public Law 105-47—-105th Congress, 1st session) *Authorization of Appropriations for Carrying Out the Earthquake Hazards Reduction Act of 1977*.

Public Law 105-47

AN ACT

To authorize appropriations for carrying out the Earthquake Hazards Reduction Act of 1977 for fiscal years 1998 and 1999, and for other purposes.

SEC. 3. COMPREHENSIVE ENGINEERING RESEARCH PLAN. (111 Stat. 1162-63)

(a) National Science Foundation.—Section 5(b)(4) of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7704(b)(4)) is amended—

(1) by striking "and" at the end of subparagraph (D);

(2) by striking the period at the end of subparagraph (E) and inserting; "and"; and

(3) by adding at the end the following:

"(F) develop, in conjunction with the Federal Emergency Management Agency, the National Institute of Standards and Technology, and the United States Geological Survey, a comprehensive plan for earthquake engineering research to effectively use existing testing facilities and laboratories (in existence at the time of the development of the plan), upgrade facilities and equipment as needed, and integrate new, innovative testing approaches to the research infrastructure in a systematic manner."

(b) Federal Emergency Management Agency.—Section 5(b)(1) of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7704(b)(1)) is amended—

(1) by striking "and" at the end of subparagraph (D);

(2) by striking the period at the end of subparagraph (E) and inserting; "and"; and

(3) by adding at the end the following:

"(F) work with the National Science Foundation, the National Institute of Standards and Technology, and the United States Geological Survey, to develop a comprehensive plan for earthquake engineering research to effectively use existing testing facilities and laboratories (existing at the time of the development of the plan), upgrade facilities and equipment as needed, and integrate new, innovative testing approaches to the research infrastructure in a systematic manner."

(c) United States Geological Survey.—Section 5(b)(3) of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7704(b)(3)) is amended—

(1) by striking "and" at the end of subparagraph (E);

(2) by striking the period at the end of subparagraph (G) and inserting; "and"; and

(3) by adding at the end the following:

"(H) work with the National Science Foundation, the Federal Emergency Management Agency, and the National Institute of Standards and Technology to develop a comprehensive plan for earthquake engineering research to effectively use existing testing facilities and laboratories (in existence at the time of the development of the plan), upgrade facilities and equipment as needed, and integrate new, innovative testing approaches to the research infrastructure in a systematic manner."

(d) National Institute of Standards and Technology.—Section 5(b)(5) of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7704(b)(5)) is amended—

(1) by striking "and" at the end of subparagraph (B);

(2) by striking the period at the end of subparagraph (C) and inserting; "and"; and

(3) by adding at the end the following:

"(D) work with the National Science Foundation, the Federal Emergency Management Agency, and the United States Geological Survey to develop a comprehensive plan for earthquake engineering research to effectively use existing testing facilities and laboratories (in existence at the time of the development of the plan), upgrade facilities and equipment as needed, and integrate new, innovative testing approaches to the research infrastructure in a systematic manner."

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November 18, 1997, 111 Stat. 1629 (Public Law 105-85—105th Congress, 1st session) *National Defense Authorization Act, 1998*.

Public Law 105-85

AN ACT

To authorize appropriations for fiscal year 1998 for military activities of the Department of Defense, for military construction, and for defense activities of the Department of Energy, to prescribe personnel strengths for such fiscal year for the Armed Forces, and for other purposes.

SEC. 850. Use of Electronic Commerce in Federal Procurement. (111 Stat. 1847-48)

"SEC. 30. Use of Electronic Commerce in Federal Procurement

"(d) Implementation.—The Administrator shall, in carrying out the requirements of this section—

"(3) consult with the heads of appropriate Federal agencies with applicable technical and functional expertise, including the Office of Information and Regulatory Affairs, the National Institute of Standards and Technology, the General Services Administration, and the Department of Defense.

SEC. 1073. Technical and Clerical Amendments. (111 Stat. 1906-07)

(h) Amendments to Conform Change in short Title of Information Technology Management Reform Act of 1996.—

(1) Section 20 of the National Institute of Standards and Technology Act (15 U.S.C. 278g-3) is amended in subsections (a)(4) and (b)(2) by striking out "Information Technology Management Reform Act of 1996" and inserting in lieu thereof "Clinger-Cohen Act of 1996 (40 U.S.C. 1441)".

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November 26, 1997, 111 Stat. 2440 (Public Law 105-119—105th Congress, 1st session) *Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act, 1998*.

Public Law 105-119

AN ACT

Making appropriations for the Department of Commerce, Justice, and State, the Judiciary, and related agencies for the fiscal year ending September 30, 1998, and for other purposes.

TITLE II—DEPARTMENT OF COMMERCE AND RELATED AGENCIES

National Institute of Standards and Technology (111 Stat. 2476-77)

For necessary expenses of the National Institute of Standards and Technology, $276,852,000, to remain available until expended, of which not to exceed $3,800,000 shall be used to fund a cooperative agreement with Texas Tech

University for wind research; and of which not to exceed $5,000,000 of the amount above $268,000,000 shall be used to fund a cooperative agreement with Montana State University for a research program on green buildings; and of which not to exceed $1,625,000 may be transferred to the "Working Capital Fund". Industrial Technology Services. For necessary expenses of the Manufacturing Extension Partnership of the National Institute of Standards and Technology, $113,500,000, to remain available until expended, of which not to exceed $300,000 may be transferred to the "Working Capital Fund": Provided, That notwithstanding the time limitations imposed by 15 U.S.C. 278k(c)(1) and (5) on the duration of Federal financial assistance that may be awarded by the Secretary of Commerce to Regional Centers for the transfer of Manufacturing Technology ("Centers"), such Federal financial assistance for a Center may continue beyond six years and may be renewed for additional periods, not to exceed one year, at a rate not to exceed one-third of the Center's total annual costs, subject before any such renewal to a positive evaluation of the Center and to a finding by the Secretary of Commerce that continuation of Federal funding to the Center is in the best interest of the Regional Centers for the transfer of Manufacturing Technology Program: Provided further, That the Center's most recent performance evaluation is positive, and the Center has submitted a reapplication which has successfully passed merit review. In addition, for necessary expenses of the Advanced Technology Program of the National Institute of Standards and Technology, $192,500,000, to remain available until expended, of which not to exceed $82,000,000 shall be available for the award of new grants, and of which not to exceed $500,000 may be transferred to the "Working Capital Fund."

Construction of Research Facilities

For construction of new research facilities, including architectural and engineering design, and for renovation of existing facilities, not otherwise provided for the National Institute of Standards and Technology, as authorized by 15 U.S.C. 278c-278e, $95,000,000, to remain available until expended: Provided, That of the amounts provided under this heading, $78,308,000 shall be available for obligation and expenditure only after submission of a plan for the expenditure of these funds, in accordance with section 605 of this Act.

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June 9, 1998, 112 Stat. 107 (Public Law 105-178—105th Congress, 2nd session) *Transportation Equity Act For the 21st Century*.

Public Law 105-178

AN ACT

To authorize funds for Federal-aid highways, highway safety programs, and transit programs, and for other purposes.

SEC. 5012. (112 Stat. 425) Surface Transportation Research.

Chapter 5 of title 23, United States Code (as added by section 5101 of this title), is amended by adding at the end of the following:

"SEC. 502 (c) Contents of Research Program.—The Secretary shall include in surface transportation research, technology development, and technology transfer programs carried out under this title coordinated activities in the following areas:

"(9) Standardized estimates, to be developed in conjunction with the National Institute of Standards and Technology and other appropriate organizations, of useful life under various conditions for advanced materials of use in surface transportation."

*****

August 14, 1998, 112 Stat. 1536 (Public Law 105-234—105th Congress, 2nd session) *Fastener Quality Act Amendment*.

Public Law 105-234

AN ACT

Amending the Fastener Quality Act to exempt from its coverage certain fasteners approved by the Federal Aviation Administration for use in aircraft.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SEC. 1. AMENDMENT.

Section 15 of the Fastener Quality Act (15 U.S.C. 5414) is amended—

(1) by inserting "(a) Transitional Rule.—" before "The requirements of this Act"; and

(2) by adding at the end the following new subsection:

"(b) Aircraft Exemption.—

"(1) In general.—The requirements of this Act shall not apply to fasteners specifically manufactured or altered for use on an aircraft if the quality and suitability of those fasteners for that use has been approved by the Federal Aviation Administration, except as provided in paragraph (2)

"(2) Exception.—Paragraph (1) shall not apply to fasteners represented by the fastener manufacturer as having been manufactured in conformance with standards or specifications established by a consensus standards organization or a Federal agency other than the Federal Aviation Administration."

SEC. 2. DELAYED IMPLEMENTATION OF REGULATIONS.

The regulations issued under the Fastener Quality Act by the National Institute of Standards and Technology on April 14, 1998, and any other regulations issued by the National Institute of Standards and Technology pursuant to the Fastener Quality Act, shall not take effect until after the later of June 1, 1999, or the expiration of 120 days after the Secretary of Commerce transmits to the Committee on Science and the Committee on Commerce of the House of Representatives, and to the Committee on Commerce, Science, and Transportation of the Senate, a report on—

(1) changes in fastener manufacturing processes that have occurred since the enactment of the Fastener Quality Act;

(2) a comparison of the Fastener Quality Act to other regulatory programs that regulate the various categories of fasteners, and an analysis of any duplication that exists among programs; and

(3) any changes in that Act that may be warranted because of the changes reported under paragraphs (1) and (2).

The report required by this section shall be transmitted to the Committee on Science and the Committee on Commerce of the House of Representatives, and to the Committee on Commerce, Science, and Transportation of the Senate, by February 1, 1999.

Approved August 14, 1998.

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October 9, 1998, 112 Stat. 1870 (Public Law 105-251—-105th Congress, 2nd session) *Criminal Identification Technology*.

Public Law 105-251

AN ACT

To provide for the improvement of interstate criminal justice identification, information, communications.

SEC. 102(b) (112 Stat. 1871) State Grant Program for Criminal Justice Identification, Information, and Communication.

(b) Use of Grant Amounts.—Grants under this section may be used for programs to establish, develop, update, or upgrade—

(1) State centralized, automated, adult and juvenile criminal history record information systems, including arrest and disposition reporting;
(2) automated fingerprint identification systems that are compatible with standards established by the National Institute of Standards and Technology and interoperable with the Integrated Automated Fingerprint Identification System (IAFIS) of the Federal Bureau of Investigation;
(3) finger imaging, live scan, and other automated systems to digitize fingerprints and to communicate prints in a manner that is compatible with standards established by the National Institute of Standards and Technology and interoperable with systems operated by States and by the Federal Bureau of Investigation.

*****

October 19, 1998, 112 Stat. 2386 (Public Law 105-271—105th Congress, 2nd session) *Year 2000 Information and Readiness Disclosure Act*.

Public Law 105-271

AN ACT

To encourage the disclosure and exchange of information about computer processing problems, solutions, test practices and test results, and related matters in connection with the transition to the year 2000.

SEC. 9. (112 Stat. 2394) NATIONAL INFORMATION CLEARINGHOUSE AND WEBSITE.

(a) National Website.—

(1) In general.—The Administrator of General Services shall create and maintain until July 14, 2002, a national year 2000 website, and promote its availability, designed to assist consumers, small business, and local governments in obtaining information from other governmental websites, hotlines, or information clearinghouses about year 2000 processing of computers, systems, products, and services, including websites maintained by independent agencies and other departments.
(2) Consultation.—In creating the national year 2000 website, the Administrator of General Services shall consult with—
  (A) the Director of the Office of Management and Budget;
  (B) the Administrator of the Small Business Administration;
  (C) the Consumer Product Safety Commission;
  (D) officials of State and local governments;

(E) the Director of the National Institute of Standards and Technology;
(F) representatives of consumer and industry groups; and
(G) representatives of other entities, as determined appropriate.

*****

October 21, 1998, 112 Stat. 2681 (Public Law 105-277—105th Congress, 2nd session) *Omnibus Consolidated and Emergency Supplemental Appropriations Act, 1999*.

Public Law 105-277

AN ACT

Making omnibus consolidated and emergency appropriations for fiscal year ending September 30, 1999, and for other purposes.

TITLE II—DEPARTMENT OF COMMERCE AND RELATED AGENCIES

National Institute of Standards and Technology (112 Stat. 2681-82-83)

Scientific and Technical Research and Services

For necessary expenses of the National Institute of Standards and Technology, $280,136,000, to remain available until expended, of which not to exceed $1,625,000 may be transferred to the "Working Capital Fund". Industrial Technology Services. For necessary expenses of the Manufacturing Extension Partnership of the National Institute of Standards and Technology, $106,800,000, to remain available until expended: Provided, That notwithstanding the time limitations imposed by 15 U.S.C. 278k(c) (1) and (5) on the duration of Federal financial assistance that may be awarded by the Secretary of Commerce to Regional Centers for the transfer of Manufacturing Technology ("Centers"), such Federal financial assistance for a Center may continue beyond six years and may be renewed for additional periods, not to exceed one year, at a rate not to exceed one-third of the Center's total annual costs or the level of funding in the sixth year, whichever is less, subject before any such renewal to a positive evaluation of the Center and to a finding by the Secretary of Commerce that continuation of Federal funding to the Center is in the best interest of the Regional Centers for the transfer of Manufacturing Technology Program: Provided further, That the Center's most recent performance evaluation is positive, and the Center has submitted a reapplication which has successfully passed merit review.

In addition, for necessary expenses of the Advanced Technology Program of the National Institute of Standards and Technology, $203,500,000, to remain available until expended, of which not to exceed $66,000,000 shall be available for the award of new grants, and of which not to exceed $500,000 may be transferred to the "Working Capital Fund."

Construction of Research Facilities

For construction of new research facilities, including architectural and engineering design, and for renovation of existing facilities, not otherwise provided for the National Institute of Standards and Technology, as authorized by 15 U.S.C. 278c-278e, $56,714,000, to remain available until expended: Provided, That of the amounts provided under this heading, $40,000,000 shall be available for obligation and expenditure only after submission of a plan for the expenditure of these funds, in accordance with section 605 of this Act.

National Institute of Standards and Technology (112 Stat. 2681-118)

Industrial Technology Services
(Rescission)

Of the unobligated balances available under this heading for the Advanced Technology Program, $6,000,000 are rescinded.

*****

October 28, 1998, 112 Stat. 2919 (Public Law 105-305—105th Congress, 2nd session) *Next Generation Internet Research Act of 1998*.

Public Law 105-305

AN ACT

To amend the High-Performance Computing Act of 1991 to authorize appropriations for fiscal years 1999 and 2000 for the Next Generation Internet program, to require the President's Information Technology Advisory Committee to monitor and give advice concerning the development and implementation of the Next Generation Internet program and report to the President and the Congress on its activities, and for other purposes.

SEC. 5. (112 Stat. 2921) NEXT GENERATION INTERNET.

Title I of the High-Performance Computing Act of 1991 (15 U.S.C. 5511 et seq.) is amended by adding at the end the following new section:

"SEC. 103. NEXT GENERATION INTERNET.

"(a) Establishment.—The National Science Foundation, the Department of Energy, the National Institutes of Health, the National Aeronautics and Space Administration, and the National Institute of Standards and Technology may support the Next Generation Internet program. The objectives of the Next Generation Internet program shall be to—

"(1) support research, development, and demonstration of advanced networking technologies to increase the capabilities and improve the performance of the Internet;

"(2) develop an advanced testbed network connecting a significant number of research sites, including universities, Federal research institutions, and other appropriate research partner institutions, to support networking research and to demonstrate new networking technologies; and

"(3) develop and demonstrate advanced Internet applications that meet important national goals or agency mission needs, and that are supported by the activities described in paragraphs (1) and (2).

"(b) Duties of Advisory Committee.—The President's Information Technology Advisory Committee (established pursuant to section 101(b) by Executive Order No. 13035 of February 11, 1997 (62 F.R. 7131), as amended by Executive Order No. 13092 of July 24, 1998), in addition to its functions under section 101(b), shall—

"(1) assess the extent to which the Next Generation Internet program—

"(A) carries out the purposes of this Act; and

"(B) addresses concerns relating to, among other matters—

"(i) geographic penalties (as defined in section 7(1) of the Next Generation Internet Research Act of 1998);

"(ii) the adequacy of access to the Internet by Historically Black Colleges and Universities, Hispanic Serving Institutions, and small colleges and universities (whose enrollment is less than 5,000) and the degree of participation of those institutions in activities described in subsection (a); and

"(iii) technology transfer to and from the private sector;

"(2) review the extent to which the role of each Federal agency and department involved in implementing the Next Generation Internet program is clear and complementary to, and non-duplicative of, the roles of other participating agencies and departments;

"(3) assess the extent to which Federal support of fundamental research in computing is sufficient to maintain the Nation's critical leadership in this field; and

"(4) make recommendations relating to its findings under paragraphs (1), (2), and (3).

"(c) Reports.—The Advisory Committee shall review implementation of the Next Generation Internet program and shall report, not less frequently than annually, to the President, the Committee on Commerce, Science, and Transportation, the Committee on Appropriations, and the Committee on Armed Services of the Senate, and the Committee on Science, the Committee on Appropriations, and the Committee on National Security of the House of Representatives on its findings and recommendations for the preceding fiscal year. The first such report shall be submitted 6 months after the date of the enactment of the Next Generation Internet Research Act of 1998 and the last report shall be submitted by September 30, 2000.

"(d) Authorization of Appropriations.—There are authorized to be appropriated for the purposes of this section—

"(1) for the Department of Energy, $22,000,000 for fiscal year 1999 and $25,000,000 for fiscal year 2000;

"(2) for the National Science Foundation, $25,000,000 for fiscal year 1999 and $25,000,000 for fiscal year 2000, as authorized in the National Science Foundation Authorization Act of 1998;

"(3) for the National Institutes of Health, $5,000,000 for fiscal year 1999 and $7,500,000 for fiscal year 2000;

"(4) for the National Aeronautics and Space Administration, $10,000,000 for fiscal year 1999 and $10,000,000 for fiscal year 2000; and

"(5) for the National Institute of Standards and Technology, $5,000,000 for fiscal year 1999 and $7,500,000 for fiscal year 2000. Such funds may not be used for routine upgrades to existing federally funded communication networks.

*****

October 30, 1998, 112 Stat. 2935 (Public Law 105-309—105th Congress, 2nd session) *Technology Administration Act of 1998*.

Public Law 105-309

AN ACT

To authorize appropriations for the National Institute of Standards and Technology for fiscal years 1998 and 1999, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SEC. 1. SHORT TITLE.

This Act may be cited as the "Technology Administration Act of 1998".

SEC. 2. MANUFACTURING EXTENSION PARTNERSHIP PROGRAM CENTER EXTENSION.

Section 25(c)(5) of the National Institute of Standards and Technology Act (15 U.S.C. 278k(c)(5)) is amended by striking, "which are designed" and all that follows through "operation of a Center." and inserting in lieu thereof". After the sixth year, a Center may receive additional financial support under this section if it has received a positive evaluation through an independent review, under procedures established by the Institute. Such an independent review shall be required at least every two years after the sixth year of operation. Funding received for a fiscal year under this section after the sixth year of operation shall not exceed one third of the capital and annual operating and maintenance costs of the Center under the program."

SEC. 3. MALCOLM BALDRIGE QUALITY AWARD.

(a) Additional Awards.—Section 17(c)(3) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3711a(c)(3)) is amended by inserting ", unless the Secretary determines that a third award is merited and can be given at no additional cost to the Federal Government" after "in any year".

(b) Categories.—Section 17(c)(1) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3711a(c)(1)) is amended by adding at the end the following:

"(D) Health care providers.

"(E) Education providers."

SEC. 4. NOTICE.

(a) Redesignation.—Section 31 of the National Institute of Standards and Technology Act as section 32.

(b) Notice.—The National Institute of Standards and Technology Act (15 U.S.C. 271 et seq.) is amended by inserting after section 30 the following new section:

"NOTICE

"SEC. 31. (a) Notice of Reprogramming.—If any funds authorized for carrying out this Act are subject to a reprogramming action that requires notice to be provided to the Appropriations Committees of the House of Representatives and the Senate, notice of such action shall concurrently be provided to the Committee on Science of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.

"(b) Notice of Reorganization.—

"(1) Requirement.—The Secretary shall provide notice to the Committees on Science and Appropriations of the House of Representatives, and the Committees on Commerce, Science, and Transportation and Appropriations of the Senate, not later than 15 days before any major reorganization of any program, project, or activity of the Institute.

"(2) Definition.—For purposes of this subsection, the term 'major reorganization' means any reorganization of the Institute that involves the reassignment of more than 25 percent of the employees of the Institute."

SEC. 5. SENSE OF THE CONGRESS ON THE YEAR 2000 PROBLEM.

With the year 2000 fast approaching, it is the sense of the Congress that the National Institute of Standards and Technology should—

(1) give high priority to correcting all 2-digit date-related problems in its computer systems to ensure that those systems continue to operate effectively in the year 2000 and beyond; and

(2) develop contingency plans for those systems that the Institute is unable to correct in time.

SEC. 6. ENHANCEMENT OF SCIENCE AND MATHEMATICS PROGRAMS.

(a) Definitions.—In this section—

(1) Educationally useful federal equipment.—The term "educationally useful Federal equipment" means computers and related peripheral tools and research equipment that is appropriate for use in schools.

(2) School.—The term "school" means a public or private educational institution that serves any of the grades of kindergarten through grade 12.

(b) Sense of the Congress.—

(1) In general.—It is the sense of the Congress that the Director of the National Institute of Standards and Technology should, to the greatest extent practicable and in a manner consistent with applicable Federal law (including Executive Order No. 12999), donate educationally useful Federal equipment to schools in order to enhance the science and mathematics programs of those schools.

(2) Reports.—

(A) In general.—Not later than 1 year after the date of the enactment of this Act, and annually thereafter, the Director of the National Institute of Standards and Technology shall prepare and submit to the President a report. The President shall submit the report to Congress at the same time as the President submits a budget request to Congress under section 1105(a) of title 31, United States Code.

(B) Contents of report.—The report prepared by the Director under this paragraph shall describe any donations of educationally useful Federal equipment to schools made during the period covered by the report.

SEC. 7. TEACHER SCIENCE AND TECHNOLOGY ENHANCEMENT INSTITUTE PROGRAM.

The National Institute of Standards and Technology Act (15 U.S.C. 271 et seq.) is amended by inserting after section 19 the following:

"SEC. 19A. (a) The Director shall establish within the Institute a teacher science and technology enhancement program to provide for professional development of mathematics and science teachers of elementary, middle, and secondary schools (as those terms are defined by the Director), including providing for the improvement of those teachers with respect to the understanding of science and the impacts of science on commerce.

"(b) In carrying out the program under this section, the Director shall focus on the areas of—

"(1) scientific measurements;

"(2) tests and standards development;

"(3) industrial competitiveness and quality;

"(4) manufacturing;

"(5) technology transfer; and

"(6) any other area of expertise of the Institute that the Director determines to be appropriate.

"(c) The Director shall develop and issue procedures and selection criteria for participants in the program.

"(d) The program under this section shall be conducted on an annual basis during the summer months, during the period of time when a majority of elementary, middle, and secondary schools have not commenced a school year.

"(e) The program shall provide for teachers' participation in activities at the laboratory facilities of the Institute, or shall utilize other means of accomplishing the goals of the program as determined by the Director, which may include the Internet, video conferencing and recording, and workshops and conferences."

SEC. 8. OFFICE OF SPACE COMMERCIALIZATION.

(a) Establishment.—There is established within the Department of Commerce an Office of Space Commercialization (referred to in this section as the "Office").

(b) Director.—The Office shall be headed by a Director, who shall be a senior executive and shall be compensated at a level in the Senior Executive Service under section 5382 of title 5, United States Code, as determined by the Secretary of Commerce.

(c) Functions of the Office; Duties of the Director.—The Office shall be the principal unit for the coordination of space-related issues, programs, and initiatives within the Department of Commerce. The primary responsibilities of the Director, in carrying out the functions of the Office, shall include—

(1) promoting commercial provider investment in space activities by collecting, analyzing, and disseminating information on space markets, and conducting workshops and seminars to increase awareness of commercial space opportunities;

(2) assisting United States commercial providers in the efforts of those providers to conduct business with the United States Government;

(3) acting as an industry advocate within the executive branch of the Federal Government to ensure that the Federal Government meets the space-related requirements of the Federal Government, to the fullest extent feasible, using commercially available space goods and services;

(4) ensuring that the United States Government does not compete with United States commercial providers in the provision of space hardware and services otherwise available from United States commercial providers;

(5) promoting the export of space-related goods and services;

(6) representing the Department of Commerce in the development of United States policies and in negotiations with foreign countries to ensure free and fair trade internationally in the area of space commerce; and

(7) seeking the removal of legal, policy, and institutional impediments to space commerce.

SEC. 9. EXPERIMENTAL PROGRAM TO STIMULATE COMPETITIVE TECHNOLOGY.

Section 5 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3704) is amended by adding at the end the following:

"(f) Experimental Program To Stimulate Competitive Technology.—

"(1) In general.—The Secretary, acting through the Under Secretary, shall establish for fiscal year 1999 a program to be known as the Experimental Program to Stimulate Competitive Technology (referred to in this subsection as the 'program'). The purpose of the program shall be to strengthen the technological competitiveness of those States that have historically received less Federal research and development funds than those received by a majority of the States.

"(2) Arrangements.—In carrying out the program, the Secretary, acting through the Under Secretary, shall—

"(A) enter into such arrangements as may be necessary to provide for the coordination of the program through the State committees established under the Experimental Program to Stimulate Competitive Research of the National Science Foundation; and

"(B) cooperate with—

"(i) any State science and technology council established under the program under subparagraph (A); and

"(ii) representatives of small business firms and other appropriate technology-based businesses.

(3) Grants and cooperative agreements.—In carrying out the program, the Secretary, acting through the Under Secretary, may make grants or enter into cooperative agreements to provide for—

"(A) technology research and development;

"(B) technology transfer from university research;

"(C) technology deployment and diffusion; and

"(D) the strengthening of technological capabilities through consortia comprised of—

"(i) technology-based small business firms;

"(ii) industries and emerging companies;

"(iii) universities; and

"(iv) State and local development agencies and entities.

"(4) Requirements for making awards.—

"(A) In general.—In making awards under this subsection, the Secretary, acting through the Under Secretary, shall ensure that the awards are awarded on a competitive basis that includes a review of the merits of the activities that are the subject of the award.

"(B) Matching requirement.—The non-Federal share of the activities (other than planning activities) carried out under an award under this subsection shall be not less than 25 percent of the cost of those activities.

"(5) Criteria for states.—The Secretary, acting through the Under Secretary, shall establish criteria for achievement by each State that participates in the program. Upon the achievement of all such criteria, a State shall cease to be eligible to participate in the program.

"(6) Coordination.—To the extent practicable, in carrying out this subsection, the Secretary, acting through the Under Secretary, shall coordinate the program with other programs of the Department of Commerce.

"(7) Report.—

"(A) In general.—Not later than 90 days after the date of the enactment of the Technology Administration Act of 1998, the Under Secretary shall prepare and submit a report that meets the requirements of this paragraph to the Secretary. Upon receipt of the report, the Secretary shall transmit a copy of the report to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives.

"(B) Requirements for report.—The report prepared under this paragraph shall contain with respect to the program—

"(i) a description of the structure and procedures of the program;

"(ii) a management plan for the program;

"(iii) a description of the merit-based review process to be used in the program;

"(iv) milestones for the evaluation of activities to be assisted under the program in fiscal year 1999;

"(v) an assessment of the eligibility of each State that participates in the Experimental Program to Stimulate Competitive Research of the National Science Foundation to participate in the program under this subsection; and

"(vi) the evaluation criteria with respect to which the overall management and effectiveness of the program will be evaluated."

SEC. 10. NATIONAL TECHNOLOGY MEDAL FOR ENVIRONMENTAL TECHNOLOGY.

In the administration of section 16 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3711), Environmental Technology shall be established as a separate nomination category with appropriate unique criteria for that category.

SEC. 11. INTERNATIONAL ARCTIC RESEARCH CENTER.

The Congress finds that the International Arctic Research Center is an internationally-supported effort to conduct important weather and climate studies, and other research projects of benefit to the United States. It is, therefore, the sense of the Congress that, as with similar research conducted in the Antarctic, the United States should provide similar support for this important effort.

Approved October 30, 1998.

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June 8, 1999, 113 Stat. 118 (Public Law 106-34—106th Congress, 1st session) *Fastener Quality Act Amendments Act of 1999*.

Public Law 106-34

AN ACT

To amend the Fastener Quality Act to strengthen the protection against the sale of mismarked, misrepresented, and counterfeit fasteners and eliminate unnecessary requirements, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SEC. 1. SHORT TITLE.

This Act may be cited as the "Fastener Quality Act Amendments Act of 1999".

SEC. 2. FINDINGS AND PURPOSE.

Section 2 of the Fastener Quality Act (15 U.S.C. 5401) is amended to read as follows:

"SEC. 2. FINDINGS.

"The Congress finds that—

"(1) the United States fastener industry is a significant contributor to the global economy, employing thousands of workers in hundreds of communities;

"(2) the American economy uses billions of fasteners each year;

"(3) state-of-the-art manufacturing and improved quality assurance systems have dramatically improved fastener quality, so virtually all fasteners sold in commerce meet or exceed the consensus standards for the uses to which they are applied;

"(4) a small number of mismarked, misrepresented, and counterfeit fasteners do enter commerce in the United States; and

"(5) multiple criteria for the identification of fasteners exist, including grade identification markings and manufacturer's insignia, to enable purchasers and users of fasteners to accurately evaluate the characteristics of individual fasteners."

SEC. 3. DEFINITIONS.

Section 3 of the Fastener Quality Act (15 U.S.C. 5402) is amended to read as follows:

"SEC. 3. DEFINITIONS.

"As used in this Act, the term—

"(1) 'accredited laboratory' means a fastener testing facility used to perform end-of-line testing required by a consensus standard or standards to verify that a lot of fasteners conforms to the grade identification marking called for in the consensus standard or standards to which the lot of fasteners has been manufactured, and which—

"(A) meets the requirements of ISO/IEC Guide 25 (or another document approved by the Director under section 10(c)), including revisions from time-to-time; and

"(B) has been accredited by a laboratory accreditation body that meets the requirements of ISO/IEC Guide 58 (or another document approved by the Director under section 10(d)), including revisions from time-to-time;

"(2) 'consensus standard' means the provisions of a document that describes fastener characteristics published by a consensus standards organization or a Federal agency, and does not include a proprietary standard;

"(3) 'consensus standards organization' means the American Society for Testing and Materials, the American National Standards Institute, the American Society of Mechanical Engineers, the Society of Automotive Engineers, the International Organization for Standardization, any other organization identified as a United States consensus standards organization or a foreign and international consensus standards organization in the Federal Register at 61 Fed. Reg. 50582-83 (September 26, 1996), and any successor organizations thereto;

"(4) 'Director' means the Director of the National Institute of Standards and Technology;

"(5) 'distributor' means a person who purchases fasteners for the purpose of reselling them at wholesale to unaffiliated persons within the United States (an original equipment manufacturer and its dealers shall be considered affiliated persons for purposes of this Act);

"(6) 'fastener' means a metallic screw, nut, bolt, or stud having internal or external threads, with a nominal diameter of 6 millimeters or greater, in the case of such items described in metric terms, or 1/4 inch or greater, in the case of such items described in terms of the English system of measurement, or a load-indicating washer, that is through-hardened or represented as meeting a consensus standard that calls for through-hardening, and that is grade identification marked or represented as meeting a consensus standard that requires grade identification marking, except that such term does not include any screw, nut, bolt, stud, or load-indicating washer that is—

"(A) part of an assembly;

"(B) a part that is ordered for use as a spare, substitute, service, or replacement part, unless that part is in a package containing more than 75 of any such part at the time of sale, or a part that is contained in an assembly kit;

"(C) produced and marked as ASTM A 307 Grade A, or a successor standard thereto;

"(D) produced in accordance with ASTM F 432, or a successor standard thereto;

"(E) specifically manufactured for use on an aircraft if the quality and suitability of those fasteners for that use has been approved—

"(i) by the Federal Aviation Administration; or

"(ii) by a foreign airworthiness authority as described in part 21.29, 21.500, 21.502, or 21.617 of title 14 of the Code of Federal Regulations;

"(F) manufactured in accordance with a fastener quality assurance system; or

"(G) manufactured to a proprietary standard, whether or not such proprietary standard directly or indirectly references a consensus standard or any portion thereof;

"(7) 'fastener quality assurance system' means—

"(A) a system that meets the requirements, including revisions from time-to-time, of—

"(i) International Organization for Standardization (ISO) Standard 9000, 9001, 9002, or TS16949;

"(ii) Quality System (QS) 9000 Standard;

"(iii) Verband der Automobilindustrie e. V. (VDA) 6.1 Standard; or

"(iv) Aerospace Basic Quality System Standard AS9000; or

"(B) any fastener manufacturing system—

"(i) that has as a stated goal the prevention of defects through continuous improvement;
"(ii) that seeks to attain the goal stated in clause (i) by incorporating—
"(I) advanced quality planning;
"(II) monitoring and control of the manufacturing process;
"(III) product verification embodied in a comprehensive written control plan for product and process characteristics, and process controls (including process influence factors and statistical process control), tests, and measurement systems to be used in production; and
"(IV) the creation, maintenance, and retention of electronic, photographic, or paper records required by the control plan regarding the inspections, tests, and measurements performed pursuant to the control plan; and
"(iii) that—
"(I) is subject to certification in accordance with the requirements of ISO/IEC Guide 62 (or another document approved by the Director under section 10(a)), including revisions from time-to-time, by a third party who is accredited by an accreditation body in accordance with the requirements of ISO/IEC Guide 61 (or another document approved by the Director under section 10(b)), including revisions from time-to-time; or
"(II) undergoes regular or random evaluation and assessment by the end user or end users of the screws, nuts, bolts, studs, or load-indicating washers produced under such fastener manufacturing system to ensure that such system meets the requirements of clauses (i) and (ii);

"(8) 'grade identification marking' means any grade-mark or property class symbol appearing on a fastener purporting to indicate that the lot of fasteners conforms to a specific consensus standard, but such term does not include a manufacturer's insignia or part number;
"(9) 'importer' means a distributor located within the United States who contracts for the initial purchase of fasteners manufactured outside the United States;
"(10) 'lot' means a quantity of fasteners of one part number fabricated by the same production process from the same coil or heat number of metal as provided by the metal manufacturer;
"(11) 'manufacturer' means a person who fabricates fasteners for sale in commerce;
"(12) 'proprietary standard' means the provisions of a document that describes characteristics of a screw, nut, bolt, stud, or load-indicating washer and is issued by a person who—
"(A) uses screws, nuts, bolts, studs, or load-indicating washers in the manufacture, assembly, or servicing of its products; and
"(B) with respect to such screws, nuts, bolts, studs, or washers, is a developer and issuer of descriptions that have characteristics similar to consensus standards and that bear such user's identification;
"(13) 'record of conformance' means a record or records for each lot of fasteners sold or offered for sale that contains—
"(A) the name and address of the manufacturer;
"(B) a description of the type of fastener;
"(C) the lot number;
"(D) the nominal dimensions of the fastener (including diameter and length of bolts or screws), thread form, and class of fit;
"(E) the consensus standard or specifications to which the lot of fasteners has been manufactured, including the date, number, revision, and other information sufficient to identify the particular consensus standard or specifications being referenced;
"(F) the chemistry and grade of material;
"(G) the coating material and characteristics and the applicable consensus standard or specifications for such coating; and
"(H) the results or a summary of results of any tests performed for the purpose of verifying that a lot of fasteners conforms to its grade identification marking or to the grade identification marking the lot of fasteners is represented to meet;
"(14) 'represent' means to describe one or more of a fastener's purported characteristics in a document or statement that is transmitted to a purchaser through any medium;
"(15) 'Secretary' means the Secretary of Commerce;

"(16) 'specifications' means the required characteristics identified in the contractual agreement with the manufacturer or to which a fastener is otherwise produced, except that the term does not include proprietary standards; and

"(17) 'through-harden' means heating above the transformation temperature followed by quenching and tempering for the purpose of achieving uniform hardness."

SEC. 4. SALE OF FASTENERS.

(a) Amendment.—Sections 5 through 7 of the Fastener Quality Act (15 U.S.C. 5404-6) are repealed, and the following new section is inserted after section 3 of such Act:

"SEC. 4. SALE OF FASTENERS.

"(a) General Rule.—It shall be unlawful for a manufacturer or distributor, in conjunction with the sale or offer for sale of fasteners from a single lot, to knowingly misrepresent or falsify—

"(1) the record of conformance for the lot of fasteners;

"(2) the identification, characteristics, properties, mechanical or performance marks, chemistry, or strength of the lot of fasteners; or

"(3) the manufacturer's insignia.

"(b) Representations.—A direct or indirect reference to a consensus standard to represent that a fastener conforms to particular requirements of the consensus standard shall not be construed as a representation that the fastener meets all the requirements of the consensus standard.

"(c) Specifications.—A direct or indirect contractual reference to a consensus standard for the purpose of identifying particular requirements of the consensus standard that serve as specifications shall not be construed to require that the fastener meet all the requirements of the consensus standard.

"(d) Use of Accredited Laboratories.—In the case of fasteners manufactured solely to a consensus standard or standards, end-of-line testing required by the consensus standard or standards, if any, for the purpose of verifying that a lot of fasteners conforms with the grade identification marking called for in the consensus standard or standards to which the lot of fasteners has been manufactured shall be conducted by an accredited laboratory."

(b) Effective Date.—Subsection (d) of section 4 of the Fastener Quality Act, as added by subsection (a) of this section, shall take effect 2 years after the date of the enactment of this Act.

SEC. 5. MANUFACTURERS' INSIGNIAS.

Section 8 of the Fastener Quality Act (15 U.S.C. 5407) is redesignated as section 5 and is amended—

(1) by amending subsection (a) to read as follows:

"(a) General Rule.—Unless the specifications provide otherwise, fasteners that are required by the applicable consensus standard or standards to bear an insignia identifying their manufacturer shall not be offered for sale or sold in commerce unless—

"(1) the fasteners bear such insignia; and

"(2) the manufacturer has complied with the insignia recordation requirements established under subsection (b)."; and

(2) in subsection (b), by striking "and private label" and all that follows and inserting "described in subsection (a)."

SEC. 6. REMEDIES AND PENALTIES.

Section 9 of the Fastener Quality Act (15 U.S.C. 5408) is redesignated as section 6 and is amended—

(1) in subsection (b)(3), by striking "of this section" and inserting "of this subsection";

(2) in subsection (b)(4), by inserting "arbitrate," after "Secretary may"; and

(3) in subsection (d)—

(A) by inserting "(1)" after "Enforcement.—"; and

(B) by adding at the end the following new paragraph:

"(2) The Secretary shall establish and maintain a hotline system to facilitate the reporting of alleged violations of this Act, and the Secretary shall evaluate allegations reported through that system and report any credible allegations to the Attorney General."

SEC. 7. RECORDKEEPING REQUIREMENTS.

Section 10 of the Fastener Quality Act (15 U.S.C. 5409) is redesignated as section 7 and is amended by striking subsections (a) and (b) and inserting the following:

"Manufacturers and importers shall retain the record of conformance for fasteners for 5 years, on paper or in photographic or electronic format in a manner that allows for verification of authenticity. Upon request of a distributor who has purchased a fastener, or a person who has purchased a fastener for use in the production of a commercial product, the manufacturer or importer of the fastener shall make available information in the record of conformance to the requester."

SEC. 8. RELATIONSHIP TO STATE LAWS.

Section 11 of the Fastener Quality Act (15 U.S.C. 5410) is redesignated as section 8.

SEC. 9. CONSTRUCTION.

Section 12 of the Fastener Quality Act (15 U.S.C. 5411) is redesignated as section 9 and is amended by striking "in effect on the date of enactment of this Act".

SEC. 10. CERTIFICATION AND ACCREDITATION.

Sections 13 and 15 of the Fastener Quality Act (15 U.S.C. 5412 and 14) are repealed, and the following new section is inserted at the end of that Act

"SEC. 10. CERTIFICATION AND ACCREDITATION.

"(a) Certification.—A person publishing a document setting forth guidance or requirements for the certification of manufacturing systems as fastener quality assurance systems by an accredited third party may petition the Director to approve such document for use as described in section 3(7)(B)(iii)(I). The Director shall act upon a petition within 180 days after its filing, and shall approve such petition if the document provides equal or greater rigor and reliability as compared to ISO/IEC Guide 62.

"(b) Accreditation.—A person publishing a document setting forth guidance or requirements for the approval of accreditation bodies to accredit third parties described in subsection (a) may petition the Director to approve such document for use as described in section 3(7)(B)(iii)(I). The Director shall act upon a petition within 180 days after its filing, and shall approve such petition if the document provides equal or greater rigor and reliability as compared to ISO/IEC Guide 61.

"(c) Laboratory Accreditation.—A person publishing a document setting forth guidance or requirements for the accreditation of laboratories may petition the Director to approve such document for use as described in section 3(1)(A). The Director shall act upon a petition within 180 days after its filing, and shall approve such petition if the document provides equal or greater rigor and reliability as compared to ISO/IEC Guide 25.

"(d) Approval of Accreditation Bodies.—A person publishing a document setting forth guidance or requirements for the approval of accreditation bodies to accredit laboratories may petition the Director to approve such document for use as described in section 3(1)(B). The Director shall act upon a petition within 180 days after its filing, and shall approve such petition if the document provides equal or greater rigor and reliability as compared to ISO/IEC Guide 58. In addition to any other voluntary laboratory accreditation programs that may be established by private sector persons, the Director shall establish a National Voluntary Laboratory Accreditation Program, for the accreditation of laboratories as described in section 3(1)(B), that meets the requirements of ISO/IEC Guide 58 (or another document approved by the Director under this subsection), including revisions from time-to-time.

"(e) Affirmation.—

(1) An accreditation body accrediting third parties who certify manufacturing systems as fastener quality assurance systems as described in section (7)(B)(iii)(I) shall affirm to the Director that it meets the

requirements of ISO/IEC Guide 61 (or another document approved by the Director under subsection (b)), including revisions from time-to-time.

"(2) An accreditation body accrediting laboratories as described in section 3(1)(B) shall affirm to the Director that it meets the requirements of ISO/IEC Guide 58 (or another document approved by the Director under subsection (d)), including revisions from time-to-time.

"(3) An affirmation required under paragraph (1) or (2) shall take the form of a self-declaration that the accreditation body meets the requirements of the applicable Guide, signed by an authorized representative of the accreditation body, without requirement for accompanying documentation. Any such information shall be considered to be a continuous affirmation that the accreditation body meets the requirements of the applicable Guide, unless and until the affirmation is withdrawn by the accreditation body."

SEC. 11. APPLICABILITY.

At the end of the Fastener Quality Act, insert the following new section:

"SEC. 11. APPLICABILITY.

"The requirements of this Act shall be applicable only to fasteners fabricated 180 days or more after the date of the enactment of the Fastener Quality Act Amendments Act of 1999, except that if a manufacturer or distributor of fasteners fabricated before that date prepares a record of conformance for such fasteners, representations about such fasteners shall be subject to the requirements of this Act."

SEC. 12. COMPTROLLER GENERAL REPORT.

Not later than 2 years after the date of the enactment of this Act, the Comptroller General shall transmit to the Congress a report describing any changes in industry practice resulting from or apparently resulting from the enactment of section 3(6)(B) of the Fastener Quality Act, as added by section 3 of this Act.

Approved June 8, 1999.

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November 29, 1999, 113 Stat. 1501 (Public Law 106-113—106th Congress, 1st session) *Consolidated Appropriations Act, 2000*.

Public Law 106-113

AN ACT

Making consolidated appropriations for the fiscal year ending September 30, 2000, and for other purposes.

TITLE—DEPARTMENT OF COMMERCE AND RELATED AGENCIES

National Institute of Standards and Technology (113 Stat. 1501A-28-29)

Scientific and Technical Research and Services

For necessary expenses of the National Institute of Standards and Technology, $283,132,000, to remain available until expended, of which not to exceed $282,000 may be transferred to the "Working Capital Fund."

Industrial Technology Services

For necessary expenses of the Manufacturing Extension Partnership of the National Institute of Standards and Technology, $104,836,000, to remain available until expended. In addition, for necessary expenses of the Advanced Technology Program of the National Institute of Standards and Technology, $142,600,000, to remain available until expended, of which not to exceed $50,700,000 shall be available for the award of new grants, and of which not to exceed $500,000 may be transferred to the "Working Capital Fund."

Construction of Research Facilities

For construction of new research facilities, including architectural and engineering design, and for renovation of existing facilities, not otherwise provided for the National Institute of Standards and Technology, as authorized by 15 U.S.C. 278c-278e, $108,414,000, to remain available until expended: Provided, That of the amounts provided under this heading, $84,916,000 shall be available for obligation and expenditure only after submission of a plan for the expenditure of these funds, in accordance with section 605 of this Act.

SEC. 1252. (113 Stat. 1501A-506) MANDATORY USE OF THE AUTOMATED EXPORT SYSTEM FOR FILING CERTAIN SHIPPERS' EXPORT DECLARATIONS.

(a) Authority.—Section 301 of title 13, United States Code, is amended by adding at the end the following new subsection:

"(h) The Secretary is authorized to require by regulation the filing of Shippers' Export Declarations under this chapter through an automated and electronic system for the filing of export information established by the Department of the Treasury."

(b) Implementing Regulations.—

(1) In general.—The Secretary of Commerce, with the concurrence of the Secretary of State, shall publish regulations in the Federal Register to require that, upon the effective date of those regulations, exporters (or their agents) who are required to file Shippers' Export Declarations under chapter 9 of title 13, United States Code, file such Declarations through the Automated Export System with respect to exports of items on the United States Munitions List or the Commerce Control List.

(2) Elements of the regulations.—The regulations referred to in paragraph (1) shall include at a minimum—

(A) provision by the Department of Commerce for the establishment of on-line assistance services to be available for those individuals who must use the Automated Export System;

(B) provision by the Department of Commerce for ensuring that an individual who is required to use the Automated Export System is able to print out from the System a validated record of the individual's submission, including the date of the submission and a serial number or other unique identifier, where appropriate, for the export transaction; and

(C) a requirement that the Department of Commerce print out and maintain on file a paper copy or other acceptable back-up record of the individual's submission at a location selected by the Secretary of Commerce.

(c) Effective Date.—The amendment made by subsection (a) shall take effect 270 days after the Secretary of Commerce, the Secretary of the Treasury, and the Director of the National Institute of Standards and Technology jointly provide a certification to the Committee on Foreign Relations of the Senate and the Committee on International Relations of the House of Representatives that a secure Automated Export System available through the Internet that is capable of handling the expected volume of information required to be filed under subsection (b), plus the anticipated volume from voluntary use of the Automated Export System, has been successfully implemented and tested and is fully functional with respect to reporting all items on the United States Munitions List, including their quantities and destinations.

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October 30, 2000, 114 Stat. 1654 (Public Law 106-398—104th Congress, 2nd session) *Department of Defense and Energy—-Appropriations*.

Public Law 106-398

AN ACT

To authorize appropriations for fiscal year 2001 for military activities of the Department of Defense, for military construction, and for defense activities of the Department of Energy, to prescribe personnel strengths for such fiscal year for the Armed Forces, and for other purposes.

TITLE X—GENERAL PROVISIONS

Subtitle G—Government Information Security Reform

SEC. 1061. Coordination of Federal Information Policy.

Chapter 35 of title 44, United States Code, is amended by inserting at the end the following new subchapter:

"SUBCHAPTER II—INFORMATION SECURITY

"SEC. 3533. Authority and functions of the Director.

"(4) oversee the development and implementation of standards and guidelines relating to security controls for Federal computer systems by the Secretary of Commerce through the National Institute of Standards and Technology under section 5131 of the Clinger-Cohen Act of 1996 (40 U.S.C. 1441) and section 20 of the National Institute of Standards and Technology Act (15 U.S.C. 278g-3);

"(5) oversee and coordinate compliance with this section in a manner consistent with—

"(A) sections 552 and 552a of title 5;

"(B) sections 20 and 21 of the National Institute of Standards and Technology Act (15 U.S.C. 278g-3 and 278g-4);

SEC. 1062. RESPONSIBILITIES OF CERTAIN AGENCIES.

(a) Department of Commerce.—Notwithstanding section 20 of the National Institute of Standards and Technology Act (15 U.S.C. 278g-3) and except as provided under subsection (b), the Secretary of Commerce, through the National Institute of Standards and Technology and with technical assistance from the National Security Agency, as required or when requested, shall—

(1) develop, issue, review, and update standards and guidance for the security of Federal information systems, including development of methods and techniques for security systems and validation programs;

(2) develop, issue, review, and update guidelines for training in computer security awareness and accepted computer security practices, with assistance from the Office of Personnel Management;

(3) provide agencies with guidance for security planning to assist in the development of applications and system security plans for such agencies;

(4) provide guidance and assistance to agencies concerning cost-effective controls when interconnecting with other systems; and

(5) evaluate information technologies to assess security vulnerabilities and alert Federal agencies of such vulnerabilities as soon as those vulnerabilities are known.

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November 1, 2000, 114 Stat. 1742 (Public Law 106-404—104th Congress, 2nd session) *Technology Transfer Commercialization Act of 2000*.

Public Law 106-404

AN ACT

To improve the ability of Federal agencies to license federally owned inventions.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SEC. 1. SHORT TITLE.

This Act may be cited as the "Technology Transfer Commercialization Act of 2000".

SEC. 2. FINDINGS.

The Congress finds that—

(1) the importance of linking our unparalleled network of over 700 Federal laboratories and our Nation's universities with United States industry continues to hold great promise for our future economic prosperity;

(2) the enactment of the Bayh-Dole Act in 1980 was a landmark change in United States technology policy, and its success provides a framework for removing bureaucratic barriers and for simplifying the granting of licenses for inventions that are now in the Federal Government's patent portfolio;

(3) Congress has demonstrated a commitment over the past 2 decades to fostering technology transfer from our Federal laboratories and to promoting public/private sector partnerships to enhance our international competitiveness;

(4) Federal technology transfer activities have strengthened the ability of United States industry to compete in the global marketplace; developed a new paradigm for greater collaboration among the scientific enterprises that conduct our Nation's research and development—government, industry, and universities; and improved the quality of life for the American people, from medicine to materials;

(5) the technology transfer process must be made "industry friendly" for companies to be willing to invest the significant time and resources needed to develop new products, processes, and jobs using federally funded inventions; and

(6) Federal technology licensing procedures should balance the public policy needs of adequately protecting the rights of the public, encouraging companies to develop existing government inventions, and making the entire system of licensing government technologies more consistent and simple.

SEC. 3. COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS.

Section 12(b)(1) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a(b)(1)) is amended by inserting "or, subject to section 209 of title 35, United States Code, may grant a license to an invention which is federally owned, for which a patent application was filed before the signing of the agreement, and directly within the scope of the work under the agreement," after "under the agreement,".

SEC. 4. LICENSING FEDERALLY OWNED INVENTIONS.

(a) Amendment.—Section 209 of title 35, United States Code, is amended to read as follows:

"SEC. 209. Licensing federally owned inventions

"(a) Authority.—A Federal agency may grant an exclusive or partially exclusive license on a federally owned invention under section 207(a)(2) only if—

"(1) granting the license is a reasonable and necessary incentive to—

"(A) call forth the investment capital and expenditures needed to bring the invention to practical application; or

"(B) otherwise promote the invention's utilization by the public;

"(2) the Federal agency finds that the public will be served by the granting of the license, as indicated by the applicant's intentions, plans, and ability to bring the invention to practical application or otherwise promote the invention's utilization by the public, and that the proposed scope of exclusivity is not greater than reasonably necessary to provide the incentive for bringing the invention to practical application, as proposed by the applicant, or otherwise to promote the invention's utilization by the public;

"(3) the applicant makes a commitment to achieve practical application of the invention within a reasonable time, which time may be extended by the agency upon the applicant's request and the applicant's demonstration that the refusal of such extension would be unreasonable;

"(4) granting the license will not tend to substantially lessen competition or create or maintain a violation of the Federal antitrust laws; and

"(5) in the case of an invention covered by a foreign patent application or patent, the interests of the Federal Government or United States industry in foreign commerce will be enhanced.

"(b) Manufacture in United States.—A Federal agency shall normally grant a license under section 207(a)(2) to use or sell any federally owned invention in the United States only to a licensee who agrees that any products embodying the invention or produced through the use of the invention will be manufactured substantially in the United States.

"(c) Small business.—First preference for the granting of any exclusive or partially exclusive licenses under section 207(a)(2) shall be given to small business firms having equal or greater likelihood as other applicants to bring the invention to practical application within a reasonable time.

"(d) Terms and Conditions.—Any licenses granted under section 207(a)(2) shall contain such terms and conditions as the granting agency considers appropriate, and shall include provisions—

"(1) retaining a nontransferable, irrevocable, paid-up license for any Federal agency to practice the invention or have the invention practiced throughout the world by or on behalf of the Government of the United States;

"(2) requiring periodic reporting on utilization of the invention, and utilization efforts, by the licensee, but only to the extent necessary to enable the Federal agency to determine whether the terms of the license are being complied with, except that any such report shall be treated by the Federal agency as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of title 5 of the United States Code; and

"(3) empowering the Federal agency to terminate the license in whole or in part if the agency determines that—

"(A) the licensee is not executing its commitment to achieve practical application of the invention, including commitments contained in any plan submitted in support of its request for a license, and the licensee cannot otherwise demonstrate to the satisfaction of the Federal agency that it has taken, or can be expected to take within a reasonable time, effective steps to achieve practical application of the invention;

"(B) the licensee is in breach of an agreement described in subsection (b);

"(C) termination is necessary to meet requirements for public use specified by Federal regulations issued after the date of the license, and such requirements are not reasonably satisfied by the licensee; or

"(D) the licensee has been found by a court of competent jurisdiction to have violated the Federal antitrust laws in connection with its performance under the license agreement.

"(e) Public Notice.—No exclusive or partially exclusive license may be granted under section 207(a)(2) unless public notice of the intention to grant an exclusive or partially exclusive license on a federally owned invention has been provided in an appropriate manner at least 15 days before the license is granted, and the Federal agency has considered all comments received before the end of the comment period in response to that public notice. This subsection shall not apply to the licensing of inventions made under a cooperative research and development agreement entered into under section 12 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a).

"(f) Plan.—No Federal agency shall grant any license under a patent or patent application on a federally owned invention unless the person requesting the license has supplied the agency with a plan for development or marketing of the invention, except that any such plan shall be treated by the Federal agency as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of title 5 of the United States Code."

(b) Conforming Amendment.—The item relating to section 209 in the table of sections for chapter 18 of title 35, United States Code, is amended to read as follows: "209. Licensing federally owned inventions."

SEC. 5. MODIFICATION OF STATEMENT OF POLICY AND OBJECTIVES FOR CHAPTER 18 OF TITLE 35, UNITED STATES CODE.

Section 200 of title 35, United States Code, is amended by striking "enterprise;" and inserting "enterprise without unduly encumbering future research and discovery;"

SEC. 6. TECHNICAL AMENDMENTS TO BAYH-DOLE ACT.

Chapter 18 of title 35, United States Code (popularly known as the "Bayh-Dole Act"), is amended—

(1) by amending section 202(e) to read as follows:

"(e) In any case when a Federal employee is a coinventor of any invention made with a nonprofit organization, a small business firm, or a non-Federal inventor, the Federal agency employing such coinventor may, for the purpose of consolidating rights in the invention and if it finds that it would expedite the development of the invention—

"(1) license or assign whatever rights it may acquire in the subject invention to the nonprofit organization, small business firm, or non-Federal inventor in accordance with the provisions of this chapter; or

"(2) acquire any rights in the subject invention from the nonprofit organization, small business firm, or non-Federal inventor, but only to the extent the party from whom the rights are acquired voluntarily enters into the transaction and no other transaction under this chapter is conditioned on such acquisition."; and

(2) in section 207(a)—

(A) by striking "patent applications, patents, or other forms of protection obtained" and inserting "inventions" in paragraph (2); and

(B) by inserting", including acquiring rights for and administering royalties to the Federal Government in any invention, but only to the extent the party from whom the rights are acquired voluntarily enters into the transaction, to facilitate the licensing of a federally owned invention" after "or through contract" in paragraph (3).

SEC. 7. TECHNICAL AMENDMENTS TO THE STEVENSON-WYDLER TECHNOLOGY INNOVATION ACT OF 1980.

The Stevenson-Wydler Technology Innovation Act of 1980 is amended—

(1) in section 4(4) (15 U.S.C. 3703(4)), by striking "section 6 or section 8" and inserting "section 7 or 9";

(2) in section 4(6) (15 U.S.C. 3703(6)), by striking "section 6 or section 8" and inserting "section 7 or 9";

(3) in section 5(c)(11) (15 U.S.C. 3704(c)(11)), by striking "State of local governments" and inserting "state or local governments";

(4) in section 9 (15 U.S.C. 3707), by—

(A) striking "section 6(a)" and inserting "section 7(a)";

(B) striking "section 6(b)" and inserting "section 7(b)"; and

(C) striking "section 6(c)(3)" and inserting "section 7(c)(3)";

(5) in section 11(e)(1) (15 U.S.C. 3710(e)(1)), by striking "in cooperation with Federal Laboratories" and inserting "in cooperation with Federal laboratories";

(6) in section 11(i) (15 U.S.C. 3710(i)), by striking "a gift under the section" and inserting "a gift under this section";

(7) in section 14 (15 U.S.C. 3710c)—

(A) in subsection (a)(1)(A)(i), by inserting ", other than payments of patent costs as delineated by a license or assignment agreement," after "or other payments";

(B) in subsection (a)(1)(A)(i), by inserting ", if the inventor's or coinventor's rights are assigned to the United States" after "inventor or coinventors";

(C) in subsection (a)(1)(B), by striking "succeeding fiscal year" and inserting "2 succeeding fiscal years";

(D) in subsection (a)(2), by striking "Government-operated laboratories of the"; and

(E) in subsection (b)(2), by striking "inventon" and inserting "invention"; and (8) in section 22 (15 U.S.C. 3714), by striking "sections 11, 12, and 13" and inserting "sections 12, 13, and 14."

(8) section 22 (15 U.S.C. 3714), by striking "sectios 11, 12, and 13" and inserting "sections 12, 13, and 14".

SEC. 8. REVIEW OF COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT PROCEDURES.

(a) Review.—Within 90 days after the date of the enactment of this Act, each Federal agency with a federally funded laboratory that has in effect on that date of the enactment one or more cooperative research and development agreements under section 12 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a) shall report to the Committee on National Security of the National Science and Technology Council and the Congress on the general policies and procedures used by that agency to gather and consider the views of other agencies on—

(1) joint work statements under section 12(c)(5)(C) or (D) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a(c)(5)(C) or (D)); or

(2) in the case of laboratories described in section 12(d)(2)(A) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a(d)(2)(A)), cooperative research and development agreements under such section 12, with respect to major proposed cooperative research and development agreements that involve critical national security technology or may have a significant impact on domestic or international competitiveness.

(b) Procedures.—Within 1 year after the date of the enactment of this Act, the Committee on National Security of the National Science and Technology Council, in conjunction with relevant Federal agencies and national laboratories, shall—

(1) determine the adequacy of existing procedures and methods for interagency coordination and awareness with respect to cooperative research and development agreements described in subsection (a); and

(2) establish and distribute to appropriate Federal agencies—

(A) specific criteria to indicate the necessity for gathering and considering the views of other agencies on joint work statements or cooperative research and development agreements as described in subsection (a); and

(B) additional procedures, if any, for carrying out such gathering and considering of agency views with respect to cooperative research and development agreements described in subsection (a).

Procedures established under this subsection shall be designed to the extent possible to use or modify existing procedures, to minimize burdens on Federal agencies, to encourage industrial partnerships with national laboratories, and to minimize delay in the approval or disapproval of joint work statements and cooperative research and development agreements.

(c) Limitation.—Nothing in this Act, nor any procedures established under this section shall provide to the Office of Science and Technology Policy, the National Science and Technology Council, or any Federal agency the authority to disapprove a cooperative research and development agreement or joint work statement, under section 12 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a), of another Federal agency.

SEC. 9. INCREASED FLEXIBILITY FOR FEDERAL LABORATORY PARTNERSHIP INTERMEDIARIES.

Section 23 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3715) is amended—

(1) in subsection (a)(1) by inserting ", institutions of higher education as defined in section 1201(a) of the Higher Education Act of 1965 (20 U.S.C. 1141(a)), or educational institutions within the meaning of section 2194 of title 10, United States Code" after "small business firms"; and

(2) in subsection (c) by inserting ", institutions of higher education as defined in section 1201(a) of the Higher Education Act of 1965 (20 U.S.C. 1141(a)), or educational institutions within the meaning of section 2194 of title 10, United States Code," after "small business firms."

SEC. 10. REPORTS ON UTILIZATION OF FEDERAL TECHNOLOGY.

(a) Agency Activities.—Section 11 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710) is amended—

(1) by striking the last sentence of subsection (b);

(2) by inserting after subsection (e) the following:

"(f) Agency Reports on Utilization.—

"(1) In general.—Each Federal agency which operates or directs one or more Federal laboratories or which conducts activities under sections 207 and 209 of title 35, United States Code, shall report annually to the Office of Management and Budget, as part of the agency's annual budget submission, on the activities performed by that agency and its Federal laboratories under the provisions of this section and of sections 207 and 209 of title 35, United States Code.

"(2) Contents.—The report shall include—

"(A) an explanation of the agency's technology transfer program for the preceding fiscal year and agency's plans for conducting its technology transfer function, including its plans for securing intellectual property rights in laboratory innovations with commercial promise and plans for managing its intellectual property so as to advance the agency's mission and benefit the competitiveness of United States industry; and

"(B) information on technology transfer activities for the preceding fiscal year, including—

"(i) the number of patent applications filed;

"(ii) the number of patents received;

"(iii) the number of fully-executed licenses which received royalty income in the preceding fiscal year, categorized by whether they are exclusive, partially-exclusive, or non-exclusive, and the time elapsed from the date on which the license was requested by the licensee in writing to the date the license was executed;

"(iv) the total earned royalty income including such statistical information as the total earned royalty income, of the top 1 percent, 5 percent, and 20 percent of the licenses, the range of royalty income, and the median, except where disclosure of such information would reveal the amount of royalty income associated with an individual license or licensee;

"(v) what disposition was made of the income described in clause (iv); "(vi) the number of licenses terminated for cause; and

"(vii) any other parameters or discussion that the agency deems relevant or unique to its practice of technology transfer.

"(3) Copy to secretary; attorney general; congress.—The agency shall transmit a copy of the report to the Secretary of Commerce and the Attorney General for inclusion in the annual report to Congress and the President required by subsection (g)(2).

"(4) Public availability.—Each Federal agency reporting under this subsection is also strongly encouraged to make the information contained in such report available to the public through Internet sites or other electronic means.";

(3) by striking subsection (g)(2) and inserting the following:

"(2) Reports.—

"(A) Annual report required.—The Secretary, in consultation with the Attorney General and the Commissioner of Patents and Trademarks, shall submit each fiscal year, beginning 1 year after the enactment of the Technology Transfer Commercialization Act of 2000, a summary report to the President, the United States Trade Representative, and the Congress on the use by Federal agencies and the Secretary of the technology transfer authorities specified in this Act and in sections 207 and 209 of title 35, United States Code.

"(B) Content.—The report shall—

"(i) draw upon the reports prepared by the agencies under subsection (f);

"(ii) discuss technology transfer best practices and effective approaches in the licensing and transfer of technology in the context of the agencies' missions; and

"(iii) discuss the progress made toward development of additional useful measures of the outcomes of technology transfer programs of Federal agencies.

"(C) Public availability.—The Secretary shall make the report available to the public through Internet sites or other electronic means."; and

(4) by inserting after subsection (g) the following:

"(h) Duplication of Reporting.—The reporting obligations imposed by this section—

"(1) are not intended to impose requirements that duplicate requirements imposed by the Government Performance and Results Act of 1993 (31 U.S.C. 1101 note);

"(2) are to be implemented in coordination with the implementation of that Act; and

"(3) are satisfied if an agency provided the information concerning technology transfer activities described in this section in its annual submission under the Government Performance and Results Act of 1993 (31 U.S.C. 1101 note)."

(b) Royalties.—Section 14(c) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710c(c)) is amended to read as follows:

"(c) Reports.—The Comptroller General shall transmit a report to the appropriate committees of the Senate and House of Representatives on the effectiveness of Federal technology transfer programs, including findings, conclusions, and recommendations for improvements in such programs. The report shall be integrated with, and submitted at the same time as, the report required by section 202(b)(3) of title 35, United States Code."

SEC. 11. TECHNOLOGY PARTNERSHIPS OMBUDSMAN.

(a) Appointment of Ombudsman.—The Secretary of Energy shall direct the director of each national laboratory of the Department of Energy, and may direct the director of each facility under the jurisdiction of the Department of Energy, to appoint a technology partnership ombudsman to hear and help resolve complaints from outside organizations regarding the policies and actions of each such laboratory or facility with respect to technology partnerships (including cooperative research and development agreements), patents, and technology licensing.

(b) Qualifications.—An ombudsman appointed under subsection (a) shall be a senior official of the national laboratory or facility who is not involved in day-to-day technology partnerships, patents, or technology licensing, or, if appointed from outside the laboratory or facility, function as such a senior official.

(c) Duties.—Each ombudsman appointed under subsection (a) shall—

(1) serve as the focal point for assisting the public and industry in resolving complaints and disputes with the national laboratory or facility regarding technology partnerships, patents, and technology licensing;

(2) promote the use of collaborative alternative dispute resolution techniques such as mediation to facilitate the speedy and low-cost resolution of complaints and disputes, when appropriate; and

(3) report quarterly on the number and nature of complaints and disputes raised, along with the ombudsman's assessment of their resolution, consistent with the protection of confidential and sensitive information, to—

(A) the Secretary;

(B) the Administrator for Nuclear Security;

(C) the Director of the Office of Dispute Resolution of the Department of Energy; and

(D) the employees of the Department responsible for the administration of the contract for the operation of each national laboratory or facility that is a subject of the report, for consideration in the administration and review of that contract.

Approved November 1, 2000.

*****

November 13, 2000, 114 Stat. 2298 (Public Law 106-503—106th Congress, 2nd session) *Fire Administration Authorization Act of 2000*.

Public Law 106-503

AN ACT

To authorize appropriations for the U.S. Fire Administration, and for carrying out the Earthquake Reduction Act of 1977, for fiscal years 2001, 2002, and 2003, and for other purposes.

SEC. 103. STRATEGIC PLAN. (114 Stat. 2299)

(b) Contents of Plan.—The plan required by subsection (a) shall include—

(5) an identification of the fire-related activities of the National Institute of Standards and Technology, the Department of Defense, and other Federal agencies, and a discussion of how those activities can be

coordinated with and contribute to the achievement of the goals and objectives identified under paragraph (2);

SEC. 104. (114 Stat. 2300) RESEARCH AGENDA.

(a) Requirement.—Not later than 120 days after the date of the enactment of this Act, the Administrator of the United States Fire Administration, in consultation with the Director of the Federal Emergency Management Agency, the Director of the National Institute of Standards and Technology, representatives of trade, professional, and non-profit associations, State and local firefighting services, and other appropriate entities, shall prepare and transmit to the Committee on Science of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report describing the United States Fire Administration's research agenda and including a plan for implementing that agenda.

(b) Contents of Report.—The report required by subsection (a) shall—

(1) identify research priorities;

(2) describe how the proposed research agenda will be coordinated and integrated with the programs and capabilities of the National Institute of Standards and Technology, the Department of Defense, and other Federal agencies;

SEC. 202. (114 Stat. 2305) AUTHORIZATION OF APPROPRIATIONS.

(e) National Institute of Standards and Technology.—Section 12(d) of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7706(d)) is amended—

(1) by striking "1998 and" inserting "1998,"; and

(2) by striking "1999." and inserting "1999, $2,332,000 for fiscal year 2001, $2,431,000 for fiscal year 2002, and $2,534,300 for fiscal year 2003."

*****

December 21, 2000, 114 Stat. 2762 (Public Law 106-553—106th Congress, 2nd session) *D.C. Appropriations-FY 2001*.

Public Law 106-553

AN ACT

Making appropriations for the government of the District of Columbia and other activities chargeable in whole or in part against the revenues of said District for the fiscal year ending September 30, 2001, and for other purposes.

TITLE II—DEPARTMENT OF COMMERCE AND RELATED AGENCIES

National Institute of Standards and Technology (114 Stat. 2762A-176-177)

Scientific and Technical Research and Services

For necessary expenses of the National Institute of Standards and Technology, $312,617,000, to remain available until expended, of which not to exceed $282,000 may be transferred to the "Working Capital Fund."

Industrial Technology Services

For necessary expenses of the Manufacturing Extension Partnership of the National Institute of Standards and Technology, $105,137,000, to remain available until expended.

In addition, for necessary expenses of the Advanced Technology Program of the National Institute of Standards and Technology, $145,700,000, to remain available until expended, of which not to exceed $60,700,000 shall be available for the award of new grants.

Construction of Research Facilities

For construction of new research facilities, including architectural and engineering design, and for renovation of existing facilities, not otherwise provided for the National Institute of Standards and Technology, as authorized by 15 U.S.C. 278c-278e, $34,879,000, to remain available until expended.

*****

December 21, 2000, 114 Stat. 2763 (Public Law 106-554—104th Congress, 2nd session) *Consolidated Appropriations—FY2001*.

Public Law 106-554

AN ACT

Making consolidated appropriations for the fiscal year ending September 30, 2001, and for other purposes.

Appendix D-H.R. 5666

Division A

Chapter 9

LIBRARY OF CONGRESS (114 Stat. 2763A-195)

Salaries and Expenses

For the Library of Congress, $25,000,000, to remain available until expended, for necessary salaries and expenses of the National Digital Information Infrastructure and Preservation Program; and an additional $75,000,000, to remain available until expended, for such purposes: Provided, That the portion of such additional $75,000,000, which may be expended shall not exceed an amount equal to the matching contributions (including contributions other than money) for such purposes that:

(1) are received by the Librarian of Congress for the program from non-Federal sources; and

(2) are received before March 31, 2003: Provided further, That such program shall be carried out in accordance with a plan or plans approved by the Committee on House Administration of the House of Representatives, the Committee on Rules and Administration of the Senate, the Committee on Appropriations of the House of Representatives, and the Committee on Appropriations of the Senate: Provided further, That of the total amount appropriated, $5,000,000 may be expended before the approval of a plan to develop such a plan, and to collect or preserve essential digital information which otherwise would be uncollectible: Provided further, That the balance in excess of such $5,000,000 shall not be expended without approval in advance by the Committee on Appropriations of the House of Representatives and the Committee on Appropriations of the Senate: Provided further, That the plan under this heading shall be developed by the Librarian of Congress jointly with entities of the Federal Government with expertise in telecommunications technology and electronic commerce policy (including the Secretary of Commerce and the Director of the White House Office of Science and Technology Policy) and the National Archives and Records Administration, and with the participation of representatives of other Federal, research, and private libraries and institutions with expertise in the collection and maintenance of archives of digital materials (including the National Library of Medicine, the National Agricultural Library, the National Institute of Standards and Technology, the Research Libraries Group, the Online Computer Library Center, and the Council on Library and Information Resources) and representatives of private business organizations which are involved in efforts to preserve, collect, and disseminate information in digital formats (including the Open e-Book Forum): Provided further, That notwithstanding any other provision of law, effective with the One Hundred Seventh Congress and each succeeding Congress the chair of the Subcommittee on the Legislative Branch of the Committee on

Appropriations of the House of Representatives shall serve as a member of the Joint Committee on the Library with respect to the Library's financial management, organization, budget development and implementation, and program development and administration, as well as any other element of the mission of the Library of Congress which is subject to the requirements of Federal law.

*****

December 29, 2000, 114 Stat. 3088 (Public Law 106-580—106th Congress, 2nd session) *National Institute of Biomedical Imaging and Bioengineering Establishment Act*.

Public Law 106-580

AN ACT

To amend the Public Health Service Act to establish the National Institute of Biomedical Imaging and Bioengineering.

SEC.3. Establishment of National Institute of Biomedical Imaging and Bioengineering. (114 Stat. 3089-90)

(a) In General.—Part C of title IV of the Public Health Service Act (42 U.S.C. 285 et seq.) is amended by adding at the end the following subpart:

"Subpart 18—National Institute of Biomedical Imaging and Bioengineering. "Purpose of the Institute

"SEC. 464z(c)(3) (114 Stat. 3090) In addition to the ex officio members specified in section 406(b)(2), the ex officio members of the advisory council shall include the Director of the Centers for Disease Control and Prevention, the Director of the National Science Foundation, and the Director of the National Institute of Standards and Technology (or the designees of such officers).

*****

October 26, 2001, 115 Stat. 272 (Public Law 107-56—107th Congress, 1st session) *Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act*

Public Law 107-56

AN ACT

To Unite and Strengthen America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism (USA Patriot Act) Act of 2001.

SEC. 403. (c) Technology Standard to Confirm Identity.

(1) In General.—The Attorney General and the Secretary of State jointly, through the National Institute of Standards and Technology (NIST), and in consultation with the Secretary of the Treasury and other Federal law enforcement and intelligence agencies the Attorney General or Secretary of State deems appropriate and in consultation with Congress, shall within 2 years after the date of the enactment of this section, develop and certify a technology standard that can be used to verify and identify of persons applying for a United States visa or such persons seeking to enter the United States pursuant to a visa for the purposes of conducting background checks, confirming identify, and ensuring that a person has not received a visa under a different name or such person seeking to enter the United States pursuant to a visa.
(2) Integrated.—The Technology standard developed pursuant to paragraph (1), shall be the technological basis for a cross-agency, cross-platform electronic system that is a cost-effective, efficient, fully integrated means to share law enforcement and intelligence information necessary to confirm the identify of

such persons applying for a United States visa or such person seeking to enter the United States pursuant to a visa.

(3) Accessible.—The electronic system described in paragraph (2), once implemented, shall be readily and easily accessible to–

(A) all consular officers responsible for the issuance of visas;

(B) all Federal inspection agents at all United States border inspection points; and

(C) all law enforcement and intelligence officers as determined by regulation to be responsible for investigation or identification of aliens admitted to the United States pursuant to a visa.

(4) Report.—Not later than 18 months after the date of the enactment of this Act, and every 2 years thereafter, the Attorney General and the Secretary of State shall jointly, in consultation with the Secretary of Treasury, report to Congress describing the development, implementation, efficacy, and privacy implications of the technology standard and electronic database system described in this subsection.

(5) Funding.—There is authorized to be appropriated to the Secretary of State, the Attorney General, and the Director of the National Institute of Standards and Technology such sums as may be necessary to carry out the provisions of this subsection.

*****

November 28, 2001, 115 Stat. 748 (Public Law 107-77—107th Congress, 1st session) *Departments of Commerce, Justice, and State, the Judiciary and Related Agencies Appropriations Act, 2002*.

Public Law 107-77

AN ACT

Making appropriations for the Departments of Commerce, Justice, and State, the Judiciary, and related agencies for the fiscal year ending September 30, 2002, and for other purposes.

TITLE II—DEPARTMENTS OF COMMERCE AND RELATED AGENCIES

National Institute of Standards and Technology (115 Stat. 774)

For necessary expenses of the National Institute of Standards and Technology, $321,111,000, to remain available until expended, of which not to exceed $282,000 may be transferred to the "Working Capital Fund." Industrial Technology Services. For necessary expenses of the Manufacturing Extension Partnership of the National Institute of Standards and Technology, $106,522,000, to remain available until expended: Provided, That the Secretary of Commerce is authorized to enter into agreements with one or more nonprofit organizations for the purpose of carrying out collective research and development initiatives pertaining to 15 U.S.C. 278k paragraph (a), and is authorized to seek and accept contributions from public and private sources to support these efforts as necessary. In addition, for necessary expenses of the Advanced Technology Program of the National Institute of Standards and Technology, $184,500,000, to remain available until expended, of which not to exceed $60,700,000 shall be available for the award of new grants.

For construction of new research facilities, including architectural and engineering design, and for renovation of existing facilities, not otherwise provided for the National Institute of Standards and Technology, as authorized by 15 U.S.C. 278c-278e, $62,393,000, to remain available until expended.

*****

January 10, 2002, 115 Stat. 2230 (Public Law 107-117—107th Congress, 1st session) *Department of Defense and Emergency Supplemental Appropriations for Recovery from and Response to Terrorist Attacks on the U.S. Act, 2002.*

Public Law 107-117

AN ACT

Making appropriations for the Department of Defense for the fiscal year ending September 30, 2002, and for other purposes.

National Institute of Standards and Technology

Scientific and Technical Research and Services

For emergency expenses to respond to the September 11, 2001, terrorist attacks on the United States, for "Scientific and Technical Research and Services", $5,000,000 for a cyber security initiative, to remain available until expended, to be obligated from amounts made available in Public Law 107-38.

Construction of Research Facilities

For emergency expenses to respond to the September 11, 2001, terrorist attacks on the United States, for "Construction of Research Facilities", $1,225,000, to remain available until expended, to be obligated from amounts made available in Public Law 107-38.

*****

May 13, 2002, 116 Stat. 134 (Public Law 107-171—107th Congress, 2nd session) *Farm Security and Rural Investment Act of 2002.*

Public Law 107-171

AN ACT

To provide for the continuation of agricultural programs through fiscal year 2007, and for other purposes.

SEC. 9002. FEDERAL PROCUREMENT OF BIOBASED PRODUCTS.

"(c) CONSULTATION.—In carrying out this section, the Secretary shall consult with the Administrator of the United States Fire Administration, the Director of the National Institute of Standards and Technology, and the heads of other Federal agencies, as necessary.

(e) GUIDELINES.—

(1) IN GENERAL.—The Secretary, after consultation with the Administrator, the Administrator of General Services, and the Secretary of Commerce (acting through the Director of the National Institute of Standards and Technology), shall prepare, and from time to time revise, guidelines for the use of procuring agencies in complying with the requirements of this section. Such guidelines shall—

(A) designate those items which are or can be produced with biobased products and whose procurement by procuring agencies will carry out the objectives of this section;

(B) set forth recommended practices with respect to the procurement of biobased products and items containing such materials and with respect to certification by vendors of the percentage of biobased products used; and

(C) provide information as to the availability, relative price, performance, and environmental and public health benefits, of such materials and items and where appropriate shall recommend the level of biobased material to be contained in the procured product.

*****

May 14, 2002, 116 Stat. 543 (Public Law 107-173—107th Congress, 2nd session) *Enhanced Border Security and Visa Entry Reform Act of 2002.*

Public Law 107-173

AN ACT

To enhance the border security of the United States, and for other purposes.

SEC. 202. INTEROPERABLE LAW ENFORCEMENT AND INTELLIGENCE DATA SYSTEM WITH NAME-MATCHING CAPACITY AND TRAINING.

(3) CONSULTATION REQUIREMENT.—In the development and implementation of the data system under this subsection, the President shall consult with the Director of the National Institute of Standards and Technology (NIST) and any such other agency as may be deemed appropriate.

SEC. 303. MACHINE-READABLE, TAMPER-RESISTANT ENTRY AND EXIT DOCUMENTS.

(a) REPORT.—
(1) IN GENERAL.—Not later than 180 days after the date of enactment of this Act, the Attorney General, the Secretary of State, and the National Institute of Standards and Technology (NIST), acting jointly, shall submit to the appropriate committees of Congress a comprehensive report assessing the actions that will be necessary, and the considerations to be taken into account, to achieve fully, not later than October 26, 2004—
(A) implementation of the requirements of subsections (b) and (c); and
(B) deployment of the equipment and software to allow biometric comparison and authentication of the documents described in subsections (b) and (c).
(2) ESTIMATES.—In addition to the assessment required by paragraph (1), the report required by that paragraph shall include an estimate of the costs to be incurred, and the personnel, man-hours, and other support required, by the Department of Justice, the Department of State, and NIST to achieve the objectives of subparagraphs (A) and (B) of paragraph (1).

*****

August 2, 2002, 116 Stat. 820 (Public Law 107-206—107th Congress, 2nd session) *2002 Supplemental Appropriations Act for Further Recovery from and Response to Terrorist Attacks on the U.S.*

Public Law 107-206

AN ACT

Making supplemental appropriations for further recovery from and response to terrorist attacks on the United States for the fiscal year ending September 30, 2002, and for other purposes.

National Institute of Standards and Technology

Scientific and Technical Research and Services

For an additional amount for "Scientific and Technical Research and Services" for emergency expenses resulting from new homeland security activities and increased security requirements, $37,100,000, of which $20,000,000 is for a cyber-security initiative: Provided, That the entire amount is designated by the Congress as an emergency requirement pursuant to section 251(b)(2)(A) of the Balanced Budget and Emergency Deficit Control Act of 1985, as amended: Provided further, That $33,100,000 shall be available only to the extent an official budget request that includes designation of the $33,100,000 as an emergency requirement as defined in the Balanced Budget and Emergency Deficit Control Act of 1985, as amended, is transmitted by the President to the Congress.

SEC. 204. Title II of Public Law 107-77 is amended in the second undesignated paragraph under the heading "Department of Commerce, National Institute of Standards and Technology, Industrial Technology Services" by striking "not to exceed $60,700,000 shall be available for the award of new grants" and inserting "not less than $60,700,000 shall be used before October 1, 2002 for the award of new grants".

*****

August 21, 2002, 116 Stat. 1062 (Public Law 107-217—107th Congress, 2nd session) *Public Buildings, Property, and Works Laws Codification.*

Public Law 107-217

To revise, codify, and enact without substantive change certain general and permanent laws, related to public buildings, property, and works, as title 40, United States Code, "Public Buildings, Property, and Works".

SEC. 582. Management of buildings by Administrator of General Services.

(6) EXCEPTION FOR CERTAIN GOVERNMENT BUILDINGS.—A transfer of functions shall not be made under this subsection for the Treasury Building, the Bureau of Engraving and Printing Building, the buildings occupied by the National Institute of Standards and Technology, and the buildings under the jurisdiction of the regents of the Smithsonian Institution.

SEC. 11302. Capital planning and investment control.

(d) INFORMATION TECHNOLOGY STANDARDS—The Director shall oversee the development and implementation of standards and guidelines pertaining to federal computer systems by the Secretary of Commerce through the National Institute of Standards and Technology under section 11331 of this title and section 20 of the National Institute of Standards and Technology Act (15 U.S.C. 278g-3).

SEC. 11331. Responsibilities regarding efficiency, security, and privacy of federal computer systems.

(a) DEFINITIONS.—In this section, the terms "federal computer system" and "operator of a federal computer system" have the meanings given those terms in section 20(d) of the National Institute of Standards and Technology Act (15 U.S.C. 278g-3(d)).

(b) STANDARDS AND GUIDELINES.—

(1) AUTHORITY TO PRESCRIBE AND DISAPPROVE OR MODIFY.—

(A) AUTHORITY TO PRESCRIBE.—On the basis of standards and guidelines developed by the National Institute of Standards and Technology pursuant to paragraphs (2) and (3) of section 20(a) of the Act (15 U.S.C. 278g-3(a)(2), (3)), the Secretary of Commerce shall prescribe standards and guidelines pertaining to federal computer systems. The Secretary shall make those standards compulsory and binding to the extent the Secretary determines necessary to improve the efficiency of operation or security and privacy of federal computer systems.

*****

October 1, 2002, 116 Stat. 1471 (Public Law 107-231—107th Congress, 2nd session) *National Construction Safety Team Act.*

Public Law 107-231

AN ACT

To provide for the establishment of investigative teams to assess building performance and emergency response and evacuation procedures in the wake of any building failure that has resulted in substantial loss of life or that posed significant potential of substantial loss of life.

SEC. 2. NATIONAL CONSTRUCTION SAFETY TEAMS.

(a) Establishment.—The Director of the National Institute of Standards and Technology (in this Act referred to as the "Director") is authorized to establish National Construction Safety Teams (in this Act referred to as a "Team") for deployment after events causing the failure of a building or buildings that has resulted in substantial loss of life or that posed significant potential for substantial loss of life. To the maximum extent practicable, the Director shall establish and deploy a Team within 48 hours after such an event. <<NOTE: Federal Register, publication. The Director shall promptly publish in the Federal Register notice of the establishment of each Team.

*****

October 29, 2002, 116 Stat. 1666 (Public Law 107-252—107th Congress, 2nd session) *Help America Vote Act of 2002.*

Public Law 107-252

AN ACT

To establish a program to provide funds to States to replace punch card voting systems, to establish the Election Assistance Commission to assist in the administration of Federal elections and to otherwise provide assistance with the administration of certain Federal election laws and programs, to establish minimum election administration standards for States and units of local government with responsibility for the administration of Federal elections, and for other purposes.

SEC. 221. TECHNICAL GUIDELINES DEVELOPMENT COMMITTEE.

(c) MEMBERSHIP.—

(1) IN GENERAL.—The Development Committee shall be composed of the Director of the National Institute of Standards and Technology (who shall serve as its chair), together with a group of 14 other individuals appointed jointly by the Commission and the Director of the National Institute of Standards and Technology.

(e) TECHNICAL SUPPORT FROM NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—

(1) IN GENERAL.—At the request of the Development Committee, the Director of the National Institute of Standards and Technology shall provide the Development Committee with technical support necessary for the Development Committee to carry out its duties under this subtitle.

(b) LABORATORY ACCREDITATION.—

(1) RECOMMENDATIONS BY NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—Not later than 6 months after the Commission first adopts voluntary voting system guidelines under part 3 of subtitle A, the Director of the National Institute of Standards and Technology shall conduct an evaluation of independent, non-Federal laboratories and shall submit to the Commission a list of those laboratories the Director proposes to be accredited to carry out the testing, certification, decertification, and recertification provided for under this section.

(c) CONTINUING REVIEW BY NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—

(1) IN GENERAL.—In cooperation with the Commission and in consultation with the Standards Board and the Board of Advisors, the Director of the National Institute of Standards and Technology shall monitor and review, on an ongoing basis, the performance of the laboratories accredited by the Commission under this section, and shall make such recommendations to the Commission as it considers appropriate with respect to the continuing accreditation of such laboratories, including recommendations to revoke the accreditation of any such laboratory.

PART 3—GRANTS FOR RESEARCH ON VOTING TECHNOLOGY IMPROVEMENTS

SEC. 271. GRANTS FOR RESEARCH ON VOTING TECHNOLOGY IMPROVEMENTS.

(d) RECOMMENDATION OF TOPICS FOR RESEARCH.—

(1) IN GENERAL.—The Director of the National Institute of Standards and Technology (hereafter in this section referred to as the "Director") shall submit to the Commission an annual list of the Director's suggestions for issues which may be the subject of research funded with grants awarded under this part during the year.

PART 4—PILOT PROGRAM FOR TESTING OF EQUIPMENT AND TECHNOLOGY

SEC. 281. PILOT PROGRAM.

(c) RECOMMENDATION OF TOPICS FOR PILOT PROGRAMS.—

(1) IN GENERAL.—The Director of the National Institute of Standards and Technology (hereafter in this section referred to as the "Director") shall submit to the Commission an annual list of the Director's suggestions for issues which may be the subject of pilot programs funded with grants awarded under this part during the year.

*****

November 5, 2002, 116 Stat. 1936 (Public Law 107-277—107th Congress, 2nd session) *Enterprise Integration Act of 2002.*

Public Law 107-277

AN ACT

To authorize the National Institute of Standards and Technology to work with major manufacturing industries on an initiative of standards development and implementation for electronic enterprise integration.

*****

November 25, 2002, 116 Stat. 2135 (Public Law 107-296—107th Congress, 2nd session) *Homeland Security Act of 2002.*

Public Law 107-296

AN ACT

To establish the Department of Homeland Security, and for other purposes.

SEC. 11331. Responsibilities for Federal information systems Standards.

"(b) REQUIREMENT TO PRESCRIBE STANDARDS.—

"(1) IN GENERAL.—

"(A) REQUIREMENT.—Except as provided under paragraph (2), the Director of the Office of Management and Budget shall, on the basis of proposed standards developed by the National Institute of Standards and Technology pursuant to paragraphs (2) and (3) of section 20(a) of the National Institute of Standards and Technology Act (15 U.S.C. 278g-3(a)) and in consultation with the Secretary of Homeland Security, promulgate information security standards pertaining to Federal information systems.

SEC. 1003. NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.

Section 20 of the National Institute of Standards and Technology Act (15 U.S.C. 278g-3), is amended by striking the text and inserting the following:

"(a) The Institute shall—

"(1) have the mission of developing standards, guidelines, and associated methods and techniques for information systems;

"(2) develop standards and guidelines, including minimum requirements, for information systems used or operated by an agency or by a contractor of an agency or other organization on behalf of an agency, other than national security systems (as defined in section 3532(b)(2) of title 44, United States Code);

"(3) develop standards and guidelines, including minimum requirements, for providing adequate information security for all agency operations and assets, but such standards and guidelines shall not apply to national security systems; and

"(4) carry out the responsibilities described in paragraph (3) through the Computer Security Division.

"(b) The standards and guidelines required by subsection (a) shall include, at a minimum—

"(1) (A) standards to be used by all agencies to categorize all information and information systems collected or maintained by or on behalf of each agency based on the objectives of providing appropriate levels of information security according to a range of risk levels;

"(B) guidelines recommending the types of information and information systems to be included in each such category; and

"(C) minimum information security requirements for information and information systems in each such category;

"(2) a definition of and guidelines concerning detection and handling of information security incidents; and

"(3) guidelines developed in coordination with the National Security Agency for identifying an information system as a national security system consistent with applicable requirements for national security systems, issued in accordance with law and as directed by the President.

*****

November 27, 2002, 116 Stat. 2367 (Public Law 107-305—107th Congress, 2nd session) *Cyber Security Research and Development Act.*

Public Law 107-305

AN ACT

To authorize funding for computer and network security research and development and research fellowship programs, and for other purposes.

(c) CHECKLISTS FOR GOVERNMENT SYSTEMS.—

(1) IN GENERAL.—The Director of the National Institute of Standards and Technology shall develop, and revise as necessary, a checklist setting forth settings and option selections that minimize the security risks associated with each computer hardware or software system that is, or is likely to become, widely used within the Federal Government.

*****

December 17, 2002, 116 Stat. 2899 (Public Law 107-347—107th Congress, 2nd session) *E-Government Act of 2002.*

Public Law 107-347

AN ACT

To enhance the management and promotion of electronic Government services and processes by establishing a Federal Chief Information Officer within the Office of Management and Budget, and by establishing a broad framework of measures that require using Internet-based information technology to enhance citizen access to Government information and services, and for other purposes.

TITLE III—INFORMATION SECURITY

SEC. 303. NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.

Section 20 of the National Institute of Standards and Technology Act (15 U.S.C. 278g-3), is amended by striking the text and inserting the following:

"(a) IN GENERAL.—The Institute shall—

"(1) have the mission of developing standards, guidelines, and associated methods and techniques for information systems;

"(2) develop standards and guidelines, including minimum requirements, for information systems used or operated by an agency or by a contractor of an agency or other organization on behalf of an agency, other than national security systems (as defined in section 3542(b)(2) of title 44, United States Code); and

"(3) develop standards and guidelines, including minimum requirements, for providing adequate information security for all agency operations and assets, but such standards and guidelines shall not apply to national security systems.

*****

December 17, 2002, 116 Stat. 2985 (Public Law 107-355—107th Congress, 2nd session) *Pipeline Safety Improvement Act of 2002.*

Public Law 107-355

AN ACT

To amend title 49, United States Code, to enhance the security and safety of pipelines.

SEC. 12. PIPELINE INTEGRITY, SAFETY, AND RELIABILITY RESEARCH AND DEVELOPMENT.

(2) AREAS OF EXPERTISE.—Under the memorandum of understanding, each of the participating agencies shall have the primary responsibility for ensuring that the elements of the program within its expertise are implemented in accordance with this section. The Department of Transportation's responsibilities shall reflect its lead role in pipeline safety and expertise in pipeline inspection, integrity management, and damage prevention. The Department of Energy's responsibilities shall reflect its expertise in system reliability, low-volume gas leak detection, and surveillance technologies. The National Institute of Standards and Technology's responsibilities shall reflect its expertise in materials research and assisting in the development of consensus technical standards, as that term is used in section 12(d)(4) of Public Law 104-13 (15 U.S.C. 272 note).

*****

February 20, 2003, 117 Stat. 11 (Public Law 108-7—108th Congress, 1st session) *Consolidated Appropriations Resolution, 2003.*

Public Law 108-7

Joint Resolution

Making consolidated appropriations for the fiscal year ending September 30, 2003, and for other purposes.

Science and Technology

Technology Administration

Salaries and Expenses

For necessary expenses for the Under Secretary for Technology/Office of Technology Policy, $9,886,000.

National Institute of Standards and Technology

Scientific and Technical Research and Services

For necessary expenses of the National Institute of Standards and Technology, $359,411,000, to remain available until expended, of which not to exceed $282,000 may be transferred to the "Working Capital Fund".

Industrial Technology Services

For necessary expenses of the Manufacturing Extension Partnership of the National Institute of Standards and Technology, $106,623,000, to remain available until expended: Provided, That hereafter the Secretary of Commerce is authorized to enter into agreements with one or more nonprofit organizations for the purpose of carrying out collective research and development initiatives pertaining to 15 U.S.C. 278k paragraph (a), and is authorized to seek and accept contributions from public and private sources to support these efforts as necessary. In addition, for necessary expenses of the Advanced Technology Program of the National Institute of Standards and Technology, $180,000,000, to remain available until expended, of which $60,700,000 shall be expended for the award of new grants before October 1, 2003.

Construction of Research Facilities

For construction of new research facilities, including architectural and engineering design, and for renovation and maintenance of existing facilities, not otherwise provided for the National Institute of Standards and Technology, as authorized by 15 U.S.C. 278c-278e, $66,100,000, to remain available until expended.

*****

December 3, 2003, 117 Stat. 1923 (Public Law 108-153—108th Congress, 1st session) *21st Century Nanotechnology Research and Development Act.*

Public Law 108-153

AN ACT

To authorize appropriations for nanoscience, nanoengineering, and nanotechnology research, and for other purposes.

SEC. 7. DEPARTMENT OF COMMERCE PROGRAMS.

(a) NIST PROGRAMS.—The Director of the National Institute of Standards and Technology shall—

(1) as part of the Program activities under section 2(b)(7), establish a program to conduct basic research on issues related to the development and manufacture of nanotechnology, including metrology; reliability and quality assurance; processes control; and manufacturing best practices; and

(2) utilize the Manufacturing Extension Partnership program to the extent possible to ensure that the research conducted under paragraph (1) reaches small- and medium-sized manufacturing companies.

*****

January 23, 2004, 118 Stat. 3 (Public Law 108-199—108th Congress, 1st session) *Consolidated Appropriations Act, 2004.*

Public Law 108-199

AN ACT

Making appropriations for Agriculture, Rural Development, Food and Drug Administration, and Related Agencies for the fiscal year ending September 30, 2004, and for other purposes.

Science and Technology

Technology Administration

Salaries and Expenses

For necessary expenses for the Under Secretary for Technology Office of Technology Policy, $6,411,000.

National Institute of Standards and Technology

Scientific and Technical Research and Services

For necessary expenses of the National Institute of Standards and Technology, $344,366,000, to remain available until expended, of which not to exceed $282,000 may be transferred to the "Working Capital Fund".

Industrial Technology Services

For necessary expenses of the Manufacturing Extension Partnership of the National Institute of Standards and Technology, $39,607,000, to remain available until expended. In addition, for necessary expenses of the Advanced Technology Program of the National Institute of Standards and Technology, $179,175,000, to remain available until expended, of which $60,700,000 shall be expended for the award of new grants before September 30, 2004.

Construction of Research Facilities

For construction of new research facilities, including architectural and engineering design, and for renovation and maintenance of existing facilities, not otherwise provided for the National Institute of Standards and Technology, as authorized by 15 U.S.C. 278c-278e, $64,954,000, to remain available until expended.

*****

August 5, 2004, 118 Stat. 951 (Public Law 108-287—108th Congress, 2nd session) *Department of Defense Appropriations Act, 2005.*

Public Law 108-287

AN ACT

Making appropriations for the Department of Defense for the fiscal year ending September 30, 2005, and for other purposes.

GENERAL PROVISIONS, THIS CHAPTER

SEC. 11001. For the purposes of applying sections 204 and 605 of the Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act, 2004 (division B of Public Law 108-199) to matters in title II of such Act under the heading "National Institute of Standards and Technology" (118 Stat. 69), in the account under the heading "Industrial Technology Services", the Secretary of Commerce shall make all determinations based on the Industrial Technology Services funding level of $218,782,000 for reprogramming and transferring of funds for the Manufacturing Extension Partnership program and may submit such a reprogramming or transfer, as the case may be, to the appropriate committees within 30 days after the date of the enactment of this Act.

*****

October 25, 2004, 118 Stat. 1668 (Public Law 108-360—108th Congress, 2nd session) *National Earthquake Hazards Reduction Program Reauthorization.*

Public Law 108-360

AN ACT

To reauthorize the National Earthquake Hazards Reduction Program, and for other purposes.

"(A) IN GENERAL.—There is established an Interagency Coordinating Committee on Earthquake Hazards Reduction chaired by the Director of the National Institute of Standards and Technology (i) by striking "Federal Emergency Management Agency" and all that follows through "of the Agency" and inserting "National Institute of Standards and Technology shall have the primary responsibility for planning and coordinating the Program.

*****

October 28, 2004, 118 Stat. 1811 (Public Law 108-375—108th Congress, 2nd session) *Ronald W. Reagan National Defense Authorization Act for FY2005.*

Public Law 108-375

AN ACT

To authorize appropriations for fiscal year 2005 for military activities of the Department of Defense, for military construction, and for defense activities of the Department of Energy, to prescribe personnel strengths for such fiscal year for the Armed Forces, and for other purposes.

SEC. 1008. CLARIFICATION OF FISCAL YEAR 2004 FUNDING LEVEL FOR A NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY ACCOUNT.

For the purposes of applying sections 204 and 605 of the Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act, 2004 (division B of Public Law 108-199) to matters in title II of such Act under the heading "NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY" (118 Stat. 69), in the account under the heading "INDUSTRIAL TECHNOLOGY SERVICES", the Secretary of Commerce shall make all determinations based on the Industrial Technology Services funding level of $218,782,000 for reprogramming and transferring of funds for the Manufacturing Extension Partnership program and may submit such a reprogramming or transfer, as the case may be, to the appropriate committees within 30 days after the date of the enactment of this Act.

*****

December 8, 2004, 118 Stat. 2809 (Public Law 108-447—108th Congress, 2nd session) *Consolidated Appropriations Act, 2005.*

Public Law 108-447

AN ACT

Making appropriations for foreign operations, export financing, and related programs for the fiscal year ending September 30, 2005, and for other purposes.

Science and Technology

Technology Administration

Salaries and Expenses

National Institute of Standards and Technology

Scientific and Technical Research and Services

For necessary expenses of the National Institute of Standards and Technology, $383,892,000, to remain available until expended, of which not to exceed $2,900,000 may be transferred to the "Working Capital Fund."

For necessary expenses of the Manufacturing Extension Partnership of the National Institute of Standards and Technology, $109,000,000, to remain available until expended: Provided, That the Secretary of Commerce shall not recompete any existing Manufacturing Extension Partnership Center prior to 2007: Provided further, That hereafter the Manufacturing Extension Partnership Program authorized under 15 U.S.C. 278k shall be renamed the Hollings Manufacturing Partnership Program and the centers established and receiving funding under 15 U.S.C. 278k paragraph (a) shall be named the Hollings Manufacturing Extension Centers. In addition, for necessary expenses of the Advanced Technology Program of the National Institute of Standards and Technology, $142,300,000, to remain available until expended.

Construction of Research Facilities

For construction of new research facilities, including architectural and engineering design, and for renovation and maintenance of existing facilities, not otherwise provided for the National Institute of Standards and Technology, as authorized by 15 U.S.C. 278c-278e, $73,500,000, to remain available until expended.

*****

December 17, 2004, 118 Stat. 3638 (Public Law 108-458—108th Congress, 2nd session) I*ntelligence Reform and Terrorism Prevention Act of 2004.*

Public Law 108-458

AN ACT

To reform the intelligence community and the intelligence and intelligence-related activities of the United States Government, and for other purposes.

Subtitle B—Aviation Security

SEC. 4011. PROVISION FOR THE USE OF BIOMETRIC OR OTHER TECHNOLOGY.

"(5) USE OF BIOMETRIC TECHNOLOGY IN AIRPORT ACCESS CONTROL SYSTEMS.—In issuing guidance under paragraph (4)(E), the Assistant Secretary of Homeland Security (Transportation Security Administration) in consultation with representatives of the aviation industry, the biometric identifier industry, and the National Institute of Standards and Technology, shall establish, at a minimum—

"(A) comprehensive technical and operational system requirements and performance standards for the use of biometric identifier technology in airport access control systems (including airport perimeter access control systems) to ensure that the biometric identifier systems are effective, reliable, and secure;

"(B) a list of products and vendors that meet the requirements and standards set forth in subparagraph (A);

"(C) procedures for implementing biometric identifier systems—

"(i) to ensure that individuals do not use an assumed identity to enroll in a biometric identifier system; and

"(ii) to resolve failures to enroll, false matches, and false non-matches; and

"(D) best practices for incorporating biometric identifier technology into airport access control systems in the most effective manner, including a process to best utilize existing airport access control systems, facilities, and equipment and existing data networks connecting airports.

*****

August 8, 2005, 119 Stat. 594 (Public Law 109-58—109th Congress, 1st session) *Energy Policy Act of 2005.*

Public Law 109-58

AN ACT

To ensure jobs for our future with secure, affordable, and reliable energy.

"(2) All Federal agencies are encouraged to take actions to maximize the efficiency of air conditioning and refrigeration equipment, including appropriate cleaning and maintenance, including the use of any system treatment or additive that will reduce the electricity consumed by air conditioning and refrigeration equipment. Any such treatment or additive must be—

"(C) shown to increase seasonal energy efficiency ratio (SEER) or energy efficiency ratio (EER) when tested by the National Institute of Standards and Technology according to Department of Energy test procedures without causing any adverse impact on the system, system components, the refrigerant or lubricant, or other materials in the system. Results of testing described in subparagraph (C) shall be published in the Federal Register for public review and comment. For purposes of this section, a hardware device or primary refrigerant shall not be considered an additive.

SEC. 806. HYDROGEN AND FUEL CELL TECHNICAL TASK FORCE.

(a) ESTABLISHMENT.—Not later than 120 days after the date of enactment of this Act, the President shall establish an interagency task force chaired by the Secretary with representatives from each of the following:

(1) The Office of Science and Technology Policy within the Executive Office of the President.
(2) The Department of Transportation.
(3) The Department of Defense.
(4) The Department of Commerce (including the National Institute of Standards and Technology).
(5) The Department of State.
(6) The Environmental Protection Agency.
(7) The National Aeronautics and Space Administration.
(8) Other Federal agencies as the Secretary determines appropriate.

"(h) PROCEDURES FOR CALCULATING, MONITORING, AND ANALYZING GREENHOUSE GAS INTENSITY.—The Secretary, in collaboration with the Committee and the National Institute of Standards and Technology, and after public notice and opportunity for comment, shall develop standards and best practices for calculating, monitoring, and analyzing greenhouse gas intensity.

*****

August 10, 2005, 119 Stat. 1144 (Public Law 109-59—109th Congress, 1st session) *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users or Safetea-Lu.*

Public Law 109-59

AN ACT

To authorize funds for Federal-aid highways, highway safety programs, and transit programs, and for other purposes.

"CHAPTER 5—RESEARCH, TECHNOLOGY, AND EDUCATION."

"(g) SEISMIC RESEARCH.—The Secretary shall-coordination of the research is consistent with—

"(A) planning and coordination activities of the National Institute of Standards and Technology under section 5(b)(1) of that Act (42 U.S.C. 7704(b)(1)); and
"(B) the plan developed by the Director of the National Institute of Standards and Technology under section 8(b) of that Act (42 U.S.C. 7705b(b)

*****

November 22, 2005, 119 Stat. 2290 (Public Law 109-108—109th Congress, 1st session) *Science, State, Justice, Commerce, and Related Agencies Appropriations Act, 2006.*

Public Law 109-108

AN ACT

Making appropriations for Science, the Departments of State, Justice, and Commerce, and related agencies for the fiscal year ending September 30, 2006, and for other purposes.

COMMUNITY ORIENTED POLICING SERVICES (INCLUDING TRANSFERS OF FUNDS)

For activities authorized by the Violent Crime Control and Law Enforcement Act of 1994 (Public Law 103-322) (including administrative costs), $478,300,000, to remain available until expended: Provided, That of the funds under this heading, not to exceed $2,575,000 shall be available for the Office of Justice Programs for reimbursable services associated with programs administered by the Community Oriented Policing Services Office: Provided further, That section 1703(b) and (c) of the Omnibus Crime Control and Safe Streets Act of 1968 ("the 1968 Act")

shall not apply to non-hiring grants made pursuant to part Q of title I thereof (42 U.S.C. 3796dd et seq.): Provided further, That up to $34,000,000 of balances made available as a result of prior year deobligations may be obligated for program management and administration, of which $5,000,000 shall be available for transfer to the National Institute of Standards and Technology: Provided further, That any balances made available as a result of prior year deobligations in excess of $34,000,000 shall only be obligated in accordance with section 605 of this Act.

Science and Technology

Technology Administration

Salaries and Expenses

For necessary expenses for the Under Secretary for Technology Office of Technology Policy, $6,000,000.

National Institute of Standards and Technology

Scientific and Technical Research and Services

For necessary expenses of the National Institute of Standards and Technology, $399,869,000, to remain available until expended, of which not to exceed $1,300,000 may be transferred to the "Working Capital Fund."

Industrial Technology Services

For necessary expenses of the Hollings Manufacturing Extension Partnership of the National Institute of Standards and Technology, $106,000,000, to remain available until expended. In addition, for necessary expenses of the Advanced Technology Program of the National Institute of Standards and Technology, $80,000,000, to remain available until expended.

Construction of Research Facilities

For construction of new research facilities, including architectural and engineering design, and for renovation and maintenance of existing facilities, not otherwise provided for the National Institute of Standards and Technology, as authorized by 15 U.S.C. 278c-278e, $175,898,000, to remain available until expended: Provided, That beginning in fiscal year 2007 and for each fiscal year thereafter, the Secretary of Commerce shall include in the budget justification materials that the Secretary submits to Congress in support of the Department of Commerce budget (as submitted with the budget of the President under section 1105(a) of title 31, United States Code) an estimate for each National Institute of Standards and Technology construction project having a total multiyear program cost of more than $5,000,000 and simultaneously the budget justification materials shall include an estimate of the budgetary requirements for each such project for each of the five subsequent fiscal years.

*****

November 30, 2005, 119 Stat. 2396 (Public Law 109-115—109th Congress, 1st session) *Transportation, Treasury, Housing and Urban Development, the Judiciary, the District of Columbia, and Independent Agencies Appropriations Act, 2006.*

Public Law 109-115

AN ACT

Making appropriations for the Departments of Transportation, Treasury, and Housing and Urban Development, the Judiciary, District of Columbia, and independent agencies for the fiscal year ending September 30, 2006, and for other purposes

Election Assistance Commission

Salaries and Expenses (Including Transfer of Funds)

For necessary expenses to carry out the Help America Vote Act of 2002, $14,200,000, of which $2,800,000 shall be transferred to the National Institute of Standards and Technology for election reform activities authorized under the Help America Vote Act of 2002.

*****

December 30, 2005, 119 Stat. 2680 (Public Law 109-148—109th Congress, 1st session) *Department of Defense, Emergency Supplemental Appropriations to Address Hurricanes in the Gulf of Mexico, and Pandemic Influenza Act, 2006.*

Public Law 109-148

AN ACT

Making appropriations for the Department of Defense for the fiscal year ending September 30, 2006, and for other purposes.

SEC. 801. Of the unobligated balances available under "National Institute of Standards and Technology, Industrial Technology Services" for the Hollings Manufacturing Extension Partnership Program, $4,500,000 shall be used to assist manufacturers recovering from hurricanes in the Gulf of Mexico in calendar year 2005: Provided, That only Manufacturing Extension Centers in States affected by hurricanes in the Gulf of Mexico in calendar year 2005 shall be eligible for hurricane recovery assistance funds: Provided further, That these funds shall be allocated to the Manufacturing Extension Centers in these States based on an assessment of the needs of manufacturers in the counties declared a disaster by the Federal Emergency Management Agency: Provided further, That employment and productivity shall be among the metric used in developing the needs assessment: Provided further, That the matching provisions of 15 U.S.C. 278(k) paragraph (c) shall not apply to amounts provided by this Act or by Public Law 109-108 to Manufacturing Extension Centers serving areas affected by hurricanes in the Gulf of Mexico in calendar year 2005.

*****

July 11, 2006, 120 Stat. 516 (Public Law 109-241—109th Congress, 2nd session) *Coast Guard and Maritime Transportation Act of 2006.*

Public Law 109-241

AN ACT

To authorize appropriations for the Coast Guard for fiscal year 2006, to make technical corrections to various laws administered by the Coast Guard, and for other purposes.

(l) OIL POLLUTION.—The Oil Pollution Act of 1990 (33 U.S.C. 2701 et seq.) is amended—

"(3) MEMBERSHIP.—The Interagency Committee shall include representatives from the Coast Guard, the Department of Commerce (including the National Oceanic and Atmospheric Administration and the National Institute of Standards and Technology), the Department of Energy, the Department of the Interior (including the Minerals Management Service and the United States Fish and Wildlife Service), the Department of Transportation (including the Maritime Administration and the Pipeline and Hazardous Materials Safety Administration), the Department of Defense (including the Army Corps of Engineers and the Navy), the Department of Homeland Security (including the United States Fire Administration in the Federal Emergency Management Agency), the Environmental Protection Agency,

the National Aeronautics and Space Administration, and such other Federal agencies the President may designate.

*****

October 4, 2006, 120 Stat. 1355 (Public Law 109-295—109th Congress, 2nd session) *Department of Homeland Security Appropriations Act, 2007.*

Public Law 109-295

AN ACT

Making appropriations for the Department of Homeland Security for the fiscal year ending September 30, 2007, and for other purposes.

"(B) The Secretary of Homeland Security and the Secretary of State shall jointly certify to the Committees on Appropriations of the Senate and the House of Representatives that the following criteria have been met prior to implementation of section 7209(b)(1)(A)—

"(i) the National Institute of Standards and Technology certifies that the Departments of Homeland Security and State have selected a card architecture that meets or exceeds International Organization for Standardization (ISO) security standards and meets or exceeds best available practices for protection of personal identification documents: Provided, That the National Institute of Standards and Technology shall also assist the Departments of Homeland Security and State to incorporate into the architecture of the card the best available practices to prevent the unauthorized use of information on the card: Provided further, That to facilitate efficient cross-border travel, the Departments of Homeland Security and State shall, to the maximum extent possible, develop an architecture that is compatible with information technology systems and infrastructure used by United States Customs and Border Protection.

SEC. 555. Not later than 90 days after the date of enactment of this Act, the Director of the Federal Emergency Management Agency in conjunction with the Director of the National Institute of Standards and Technology shall submit a report to the Committees on Appropriations of the Senate and the House of Representatives outlining Federal earthquake response plans for high-risk earthquake regions in the United States as determined by the United States Geological Survey.

"(c) CONTENTS.—The National Emergency Communications Plan shall—

"(1) include recommendations developed in consultation with the Federal Communications Commission and the National Institute of Standards and Technology for a process for expediting national voluntary consensus standards for emergency communications equipment for the purchase and use by public safety agencies of interoperable emergency communications equipment and technologies.

"(2) STANDARDS.—The Secretary, in coordination with the Federal Communications Commission, the National Institute of Standards and Technology, and other Federal departments and agencies with responsibility for standards, shall support the development, promulgation, and updating as necessary of national voluntary consensus standards for interoperable emergency communications.

*****

October 13, 2006, 120 Stat. 1884 (Public Law 109-347—109th Congress, 2nd session) *Security and Accountability for Every Port Act or Safe Port Act.*

Public Law 109-347

AN ACT

To improve maritime and cargo security through enhanced layered defenses, and for other purposes.

(f) STANDARDS.—The Secretary, acting through the Director National Institute of Standards and Technology, shall publish technical capability standards and recommended standard operating procedures for the use of nonintrusive imaging and radiation detection equipment in the United States. Such standards and procedures—

(1) should take into account relevant standards and procedures utilized by other Federal departments or agencies as well as those developed by international bodies; and

(2) shall not be designed so as to endorse specific companies or create sovereignty conflicts with participating countries.

*****

December 22, 2006, 120 Stat. 3403 (Public Law 109-461—109th Congress, 2nd session) *Veterans Benefits, Health Care, and Information Technology Act of 2006.*

Public Law 109-461

AN ACT

To amend title 38, United States Code, to repeal certain limitations on attorney representation of claimants for benefits under laws administered by the Secretary of Veterans Affairs, to expand eligibility for the Survivors' and Dependents' Educational Assistance Program, to otherwise improve veterans' benefits, memorial affairs, and health-care programs, to enhance information security programs of the Department of Veterans Affairs, and for other purposes.

"(c) COMPLIANCE WITH CERTAIN REQUIREMENTS.—The Secretary shall comply with the provisions of subchapter III of chapter 35 of title 44 and other related information security requirements promulgated by the National Institute of Standards and Technology and the Office of Management and Budget that define Department information system mandates.

*****

February 15, 2007, 121 Stat. 8 (Public Law 110-5—110th Congress, 1st session) *Full-Year Continuing Appropriations.*

Public Law 110-5

Joint Resolution

Making further continuing appropriations for the fiscal year 2007, and for other purposes.

"SEC. 20913. Notwithstanding section 101, the level for the following accounts of the National Institute of Standards and Technology shall be as follows: 'Scientific and Technical Research and Services', $432,762,000; and 'Construction of Research Facilities', $58,651,000.

"SEC. 21060. Notwithstanding section 101, the level for 'Election Assistance Commission, Salaries and Expenses' shall be $16,236,000, of which $4,950,000 shall be transferred to the National Institute of Standards and Technology for election reform activities authorized under the Help America Vote Act of 2002.

*****

Public Law 110-69

AN ACT

To invest in innovation through research and development, and to improve the competitiveness of the United States.

TITLE III—NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

SEC. 3001. AUTHORIZATION OF APPROPRIATIONS.

(a) SCIENTIFIC AND TECHNICAL RESEARCH AND SERVICES.—

(1) LABORATORY ACTIVITIES.—There are authorized to be appropriated to the Secretary of Commerce for the scientific and technical research and services laboratory activities of the National Institute of Standards and Technology—

(A) $502,100,000 for fiscal year 2008;

(B) $541,900,000 for fiscal year 2009; and

(C) $584,800,000 for fiscal year 2010.

(2) CONSTRUCTION AND MAINTENANCE.—There are authorized to be appropriated to the Secretary of Commerce for construction and maintenance of facilities of the National Institute of Standards and Technology—

(A) $150,900,000 for fiscal year 2008;

(B) $86,400,000 for fiscal year 2009; and

(C) $49,700,000 for fiscal year 2010.

(b) INDUSTRIAL TECHNOLOGY SERVICES.—There are authorized to be appropriated to the Secretary of Commerce for Industrial Technology Services activities of the National Institute of Standards and Technology—

(1) $210,000,000 for fiscal year 2008, of which—

(A) $100,000,000 shall be for the Technology Innovation Program under section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n), of which at least $40,000,000 shall be for new awards; and

(B) $110,000,000 shall be for the Manufacturing Extension Partnership program under sections 25 and 26 of the National Institute of Standards and Technology Act (15 U.S.C. 278k and 278l), of which not more than $1,000,000 shall be for the competitive grant program under section 25(f) of such Act;

(2) $253,500,000 for fiscal year 2009, of which—

(A) $131,500,000 shall be for the Technology Innovation Program under section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n), of which at least $40,000,000 shall be for new awards; and

(B) $122,000,000 shall be for the Manufacturing Extension Partnership Program under sections 25 and 26 of the National Institute of Standards and Technology Act (15 U.S.C. 278k and 278l), of which not more than $4,000,000 shall be for the competitive grant program under section 25(f) of such Act; and

(3) $272,300,000 for fiscal year 2010, of which—

(A) $140,500,000 shall be for the Technology Innovation Program under section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n), of which at least $40,000,000 shall be for new awards; and

(B) $131,800,000 shall be for the Manufacturing Extension Partnership Program under sections 25 and 26 of the National Institute of Standards and Technology Act (15 U.S.C. 278k and 278l), of which not more than $4,000,000 shall be for the competitive grant program under section 25(f) of such Act.

SEC. 3012. TECHNOLOGY INNOVATION PROGRAM.

(a) Repeal of Advanced Technology Program.—Section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n) is repealed.

(b) Establishment of Technology Innovation Program.—The National Institute of Standards and Technology Act (15 U.S.C. 271 et seq.) is amended by inserting after section 27 the following:

"SEC. 28. <<NOTE: 15 USC 278n.>> TECHNOLOGY INNOVATION PROGRAM.

"(a) Establishment.—There is established within the Institute a program linked to the purpose and functions of the Institute, to be known as the 'Technology Innovation Program' for the purpose of assisting United States businesses and institutions of higher education or other organizations, such as national laboratories and nonprofit research institutions, to support, promote, and accelerate innovation in the United States through high-risk, high-reward research in areas of critical national need.

*****

September 27, 2007, 121 Stat. 823 (Public Law 110-85—110th Congress, 1st session) *Food and Drug Administration Amendments Act of 2007.*

Public Law 110-85

AN ACT

To amend the Federal Food, Drug, and Cosmetic Act to revise and extend the user-fee programs for prescription drugs and for medical devices, to enhance the postmarket authorities of the Food and Drug Administration with respect to the safety of drugs, and for other purposes.

(c) USE OF FUNDS.—A nonprofit consortium that receives a grant or contract under this section shall facilitate the development, production, and distribution of pediatric medical devices by—

(3) connecting innovators and physicians to existing Federal and non-Federal resources, including resources from the Food and Drug Administration, the National Institutes of Health, the Small Business Administration, the Department of Energy, the Department of Education, the National Science Foundation, the Department of Veterans Affairs, the Agency for Healthcare Research and Quality, and the National Institute of Standards and Technology;

*****

December 19, 2007, 121 Stat. 1492 (Public Law 110-140—110th Congress, 1st session) *Energy Independence and Security Act of 2007.*

Public Law 110-140

AN ACT

To move the United States toward greater energy independence and security, to increase the production of clean renewable fuels, to protect consumers, to increase the efficiency of products, buildings, and vehicles, to promote research on and deploy greenhouse gas capture and storage options, and to improve the energy performance of the Federal Government, and for other purposes.

Subtitle B—Biofuels Research and Development

SEC. 221. BIODIESEL.

(b) MATERIAL FOR THE ESTABLISHMENT OF STANDARDS.—The Director of the National Institute of Standards and Technology, in consultation with the Secretary, shall make publicly available the physical property data and characterization of biodiesel and other biofuels as appropriate.

*****

December 21, 2007, 121 Stat. 1809 (Public Law 110-143—110th Congress, 1st session) *Methamphetamine Remediation Research Act of 2007.*

Public Law 110-143

AN ACT

To provide for a research program for remediation of closed methamphetamine production laboratories, and for other purposes.

SEC. 3. VOLUNTARY GUIDELINES.

(a) ESTABLISHMENT OF VOLUNTARY GUIDELINES.—Not later than one year after the date of enactment of this Act, the Administrator of the Environmental Protection Agency (in this Act referred to as the "Administrator"), in consultation with the National Institute of Standards and Technology, shall establish voluntary guidelines, based on the best currently available scientific knowledge, for the remediation of former methamphetamine laboratories, including guidelines regarding preliminary site assessment and the remediation of residual contaminants.

SEC. 7. METHAMPHETAMINE DETECTION RESEARCH AND DEVELOPMENT PROGRAM.

The Director of National Institute of Standards and Technology, in consultation with the Administrator, shall support a research program to develop—

(1) new methamphetamine detection technologies, with emphasis on field test kits and site detection; and
(2) appropriate standard reference materials and validation procedures for methamphetamine detection testing.

*****

December 26, 2007, 121 Stat. 1844 (Public Law 110-161—110th Congress, 1st session) *Consolidated Appropriations Act, 2008.*

Public Law 110-161

AN ACT

Making appropriations for the Department of State, foreign operations, and related programs for the fiscal year ending September 30, 2008, and for other purposes.

National Institute of Standards and Technology

Scientific and Technical Research and Services

For necessary expenses of the National Institute of Standards and Technology, $440,517,000, to remain available until expended, of which not to exceed $6,580,000 may be transferred to the "Working Capital Fund": Provided, That not to exceed $5,000 shall be for official reception and representation expenses.

Industrial Technology Services

For necessary expenses of the Hollings Manufacturing Extension Partnership of the National Institute of Standards and Technology, $89,640,000, to remain available until expended. In addition, for necessary expenses of the Technology Innovation Program of the National Institute of Standards and Technology, $65,200,000, to remain available until expended: Provided, That of the $70,200,000 provided for in direct obligations under this heading, $65,200,000 is appropriated from the general fund and $5,000,000 is derived from recoveries of prior year obligations from the Advanced Technology Program.

Construction of Research Facilities

For construction of new research facilities, including architectural and engineering design, and for renovation and maintenance of existing facilities including agency recreational and welfare facilities, not otherwise provided for the National Institute of Standards and Technology, as authorized by 15 U.S.C. 278c-278e, $160,490,000, to remain available until expended, of which $30,080,000 is for a competitive construction grant program for research science buildings: Provided, That the Secretary of Commerce shall include in the budget justification materials that the Secretary submits to Congress in support of the Department of Commerce budget (as submitted with the budget of the President under section 1105(a) of title 31, United States Code) an estimate for each National Institute of Standards and Technology construction project having a total multi-year program cost of more than $5,000,000 and simultaneously the budget justification materials shall include an estimate of the budgetary requirements for each such project for each of the five subsequent fiscal years.

*****

May 22, 2008, 122 Stat. 923 (Public Law 110-234—110th Congress, 2nd session) *Food Conservation and Energy Act of 2008.*

Public Law 110-234

AN ACT

To provide for the continuation of agricultural programs through fiscal year 2012, and for other purposes.

"SEC. 9002. BIOBASED MARKETS PROGRAM.

"(a) FEDERAL PROCUREMENT OF BIOBASED PRODUCTS.—
"(3) GUIDELINES.—
"(A) IN GENERAL.—The Secretary, after consultation with the Administrator, the Administrator of General Services, and the Secretary of Commerce (acting through the Director of the National Institute of Standards and Technology), shall prepare, and from time to time revise, guidelines for the use of procuring agencies in complying with the requirements of this subsection.

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June 18, 2008, 122 Stat. 1651 (Public Law 110-246—110th Congress, 2nd session) *Food Conservation and Energy Act of 2008.*

Public Law 110-246

AN ACT

To provide for the continuation of agricultural and other programs of the Department of Agriculture through fiscal year 2012, and for other purposes.

"SEC. 9002. BIOBASED MARKETS PROGRAM.

"(a) FEDERAL PROCUREMENT OF BIOBASED PRODUCTS.—

"(3) GUIDELINES.—

"(A) IN GENERAL.—The Secretary, after consultation with the Administrator, the Administrator of General Services, and the Secretary of Commerce (acting through the Director of the National Institute of Standards and Technology), shall prepare, and from time to time revise, guidelines for the use of procuring agencies in complying with the requirements of this subsection.

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August 14, 2008, 122 Stat. 3078 (Public Law 110-315—110th Congress, 2nd session) *Higher Education Opportunity Act.*

Public Law 110-315

AN ACT

To amend and extend the Higher Education Act of 1965, and for other purposes.

"SEC. 357. EVALUATION AND ACCOUNTABILITY PLAN.

(b) ELIGIBILITY FOR GRANTS.—Section 361 (20 U.S.C. 1067g) is amended—

(C) by striking subparagraph (D) and inserting the following:

"(D) relevant offices of the National Aeronautics and Space Administration, National Oceanic and Atmospheric Administration, National Science Foundation, and National Institute of Standards and Technology;"

*****

February 17, 2009, 123 Stat. 115 (Public Law 111-5—11th Congress, 1st session) *American Recovery and Reinvestment Act of 2009.*

Public Law 111-5

AN ACT

Making supplemental appropriations for job preservation and creation, infrastructure investment, energy efficiency and science, assistance to the unemployed, and State and local fiscal stabilization, for the fiscal year ending September 30, 2009, and for other purposes.

Division A-Appropriations Provisions

TITLE II—COMMERCE, JUSTICE, SCIENCE, AND RELATED AGENCIES

National Institute of Standards and Technology

Scientific and Technical Research and Services

For an additional amount for "Scientific and Technical Research and Services", $220,000,000.

Construction of Research Facilities

For an additional amount for "Construction of Research Facilities", $360,000,000, of which $180,000,000 shall be for a competitive construction grant program for research science buildings.

TITLE VIII—DEPARTMENTS OF LABOR, HEALTH AND HUMAN SERVICES, AND EDUCATION, AND RELATED AGENCIES

Office of the National Coordinator for Health Information Technology
(Including Transfer of Funds)

"For an additional amount for "Office of the National Coordinator for Health Information Technology", $2,000,000,000, to carry out title XIII of this Act, to remain available until expended: Provided, That of such amount, the Secretary of Health and Human Services shall transfer $20,000,000 to the Director of the National Institute of Standards and Technology in the Department of Commerce for continued work on advancing health care information enterprise integration through activities such as technical standards analysis and establishment of conformance testing infrastructure, so long as such activities are coordinated with the Office of the National Coordinator for Health Information Technology…"

TITLE XXX—HEALTH INFORMATION TECHNOLOGY AND QUALITY

Part 2—Application and Use of Adopted Health Information Technology Standards; Reports

Subtitle B—Testing of Health Information Technology

SEC. 13201. NATIONAL INSTITUTE FOR STANDARDS AND TECHNOLOGY TESTING.

"(a) PILOT TESTING OF STANDARDS AND IMPLEMENTATION SPECIFICATIONS.—In coordination with the HIT Standards Committee established under section 3003 of the Public Health Service Act, as added by section 13101, with respect to the development of standards and implementation specifications under such section, the Director of the National Institute for Standards and Technology shall test such standards and implementation specifications, as appropriate, in order to assure the efficient implementation and use of such standards and implementation specifications.

(b) VOLUNTARY TESTING PROGRAM.—In coordination with the HIT Standards Committee established under section 3003 of the Public Health Service Act, as added by section 13101, with respect to the development of standards and implementation specifications under such section, the Director of the National Institute of Standards and Technology shall support the establishment of a conformance testing infrastructure, including the development of technical test beds. The development of this conformance testing infrastructure may include a program to accredit independent, non-Federal laboratories to perform testing.

SEC. 13202. RESEARCH AND DEVELOPMENT PROGRAMS.

(a) HEALTH CARE INFORMATION ENTERPRISE INTEGRATION RESEARCH CENTERS.—

"(1) IN GENERAL.—The Director of the National Institute of Standards and Technology, in consultation with the Director of the National Science Foundation and other appropriate Federal agencies, shall establish a program of assistance to institutions of higher education (or consortia thereof which may include nonprofit entities and Federal Government laboratories) to establish multidisciplinary Centers for Health Care Information Enterprise Integration."

*****

March 1, 2009, 123 Stat. 524 (Public Law 111-8—11th Congress, 1st session) *Omnibus Appropriations Act, 2009*

Public Law 111-8

AN ACT

Making omnibus appropriations for the fiscal year ending September 30, 2009, and for other purposes.

Division B-Commerce, Justice, Science, and Related Agencies

Appropriations Act, 2009

TITLE I—DEPARTMENT OF COMMERCE

National Institute of Standards and Technology

Scientific and Technical Research and Services

For necessary expenses of the National Institute of Standards and Technology, $472,000,000, to remain available until expended, of which not to exceed $9,000,000 may be transferred to the "Working Capital Fund": Provided, That not to exceed $5,000 shall be for official reception and representation expenses: Provided further, That within the amounts appropriated, $3,000,000 shall be used for the projects, and in the amounts, specified in the explanatory statement described in section 4 (in the matter preceding division A of this consolidated Act).

Industrial Technology Services

For necessary expenses of the Hollings Manufacturing Extension Partnership of the National Institute of Standards and Technology, $110,000,000, to remain available until expended. In addition, for necessary expenses of the Technology Innovation Program of the National Institute of Standards and Technology, $65,000,000, to remain available until expended.

Construction of Research Facilities

For construction of new research facilities, including architectural and engineering design, and for renovation and maintenance of existing facilities, not otherwise provided for the National Institute of Standards and Technology, as authorized by 15 U.S.C. 278c-278e, $172,000,000, to remain available until expended, of which $30,000,000 is for a competitive construction grant program for research science buildings: Provided, That within the amounts appropriated, $44,000,000 shall be used for the projects, and in the amounts, specified in the explanatory statement described in section 4 (in the matter preceding division A of this consolidated Act): Provided further, That the Secretary of Commerce shall include in the budget justification materials that the Secretary submits to Congress in support of the Department of Commerce budget (as submitted with the budget of the President under section 1105(a) of title 31, United States Code) an estimate for each National Institute of Standards and Technology construction project having a total multi-year program cost of more than $5,000,000 and simultaneously the budget justification materials shall include an estimate of the budgetary requirements for each such project for each of the five subsequent fiscal years."

Source: GPO Access: Public and Private Laws, U.S. Government Printing Office: http://www.gpoaccess.gov/plaws/index.html. Accessed July 13th, 2009. And Lexis-Nexis.

APPENDIX B

HISTORIES OF THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY AND NATIONAL BUREAU OF STANDARDS

This appendix lists the published histories of the National Bureau of Standards and the National Institute of Standards and Technology. The three official agency histories are listed first, followed by other published historical accounts of NBS/NIST. The three official histories include a detailed contents list, while the other histories include an abstract only. All references include a NIST Research Library call number when available. This listing was compiled from a search of the NIST Research Library catalog and a literature search conducted in February 2010. All the authors of these works were affiliated with NBS/NIST unless otherwise noted. Much has been written about NBS/NIST and its activities over the one hundred plus years of its existence. The publications listed here are those histories we had knowledge of at the time of this publication.

Official Histories

Responding to National Needs 1969-1993: The National Bureau of Standards Becomes the National Institute of Standards and Technology
James F. Schooley
NIST Special Publication 955. November 2000
1006 pp. QC100 .U57 NO.955 2000

Table of Contents

1. Unique Institution (150 pp.)
2. Bright Prospects for NBS (171 pp.)
3. A Nation in Trouble; An Agency in Change (117 pp.)
4. A Durable Direction (171 pp.)
5. The National Bureau of Standards Becomes the National Institute of Standards and Technology: Public Law 100-418, August 23, 1988 (27 pp.)
6. Metrology Makes Room for Industrial Productivity (147 pp.)

Appendices

A. Legislation Relating to the Organization, Functions, and Activities of the National Bureau of Standards/ National Institute of Standards and Technology (78 pp.)
B. Histories of the National Bureau of Standards (4 pp.)
C. NBS/NIST in the Federal Administration (4 pp.)
D. Site Information and Maps: Gaithersburg and Boulder (6 pp.)
E. NBS/NIST Staff, 1901-1999 (2 pp.)
F. NBS/NIST Postdoctoral Research Associates, 1968-1993 (12 pp.)
G. Scientific Awards Given by the Department of Commerce and NBS/NIST to Staff Members, 1968-1993 (14 pp.)
H. Members of the Visiting Committee for NBS and the Visiting Committee on Advanced Technology for NIST (6 pp.)
I. NBS/NIST Actual Obligations, 1967-1999 (2 pp.)
J. NBS/NIST Publications (18 pp.)
K. Structure and Leadership of NBS/NIST (52 pp.)

Index (17 pp.)

A Unique Institution: The National Bureau of Standards 1950-1969
Elio Passaglia, with Karma A. Beal
NBS Special Publication 925. October 1999
822 pp. QC100 .U57 NO.925 1999

Table of Contents

Measures for Progress: A History of the National Bureau of Standards
Rexmond C. Cochrane
NBS Miscellaneous Publication 275. 1966
703 pp. QC100 .U6 C633 1966

Table of Contents

G. NBS Special Appropriations, 1910-1935 (2 pp.)
H. NBS Authorized Personnel (2 pp.)
I. Types of Staff Publications (4 pp.)
J. Division and Section Chiefs as of July 1, 1905; Sept. 1, 1910; July 1, 1915; Jan. 1, 1920; Feb. 1, 1925; Apr. 1, 1930; Nov 15, 1934; May 1, 1940; July 1, 1945; March 1, 1950; Oct. 1, 1954; Dec. 1, 1960. (1st WW) Wartime projects as of Sept. 1, 1918 (62 pp.)
K. NBS Publications Representing Research Highlights, 1901-1951 (18 pp.)
L. Land Purchases at Van Ness Site (2 pp.)
M. Samuel Wesley Stratton, Founder and First Director of the National Bureau of Standards (12 pp.)
N. Books by NBS Staff, 1912-1960 (6 pp.)
O. Buildings and Structures of the National Bureau of Standards (4 pp.)

Bibliography (10 pp.)

Index (21 pp.)

Other Histories

The National Bureau of Standards Comes of Age Under Samuel Stratton
James F. Schooley
IEEE Instrumentation & Measurement Magazine, Vol. 12, No. 6, pp. 25-29, November 2009
TK7881 .I285

This article highlights the increased expansion and complexity of the National Bureau of Standards (NBS) from 1904-1922. Samuel Stratton led a carefully chosen group of excellent scientists to produce the principal source of science-based measurement standards in the U.S. The list of services to the public, academia and to Federal agencies broadened. They instituted the Standard Reference Materials Service for industry, became part of the Department of Commerce, supported the physical development, production, and testing of materials needed during World War I, studied problems found in the new field of high altitude aeronautics, radio, and the dental industry, and worked in many more areas. After the war, Stratton successfully proposed that industry send their own scientists to work at NBS as guest researchers. These researchers helped to replace the many NBS staff members lost to higher industrial pay scales, thus maintaining the Bureau's progress on industry related projects.

Stratton Builds a Laboratory
James F. Schooley
IEEE Instrumentation & Measurement Magazine, Vol. 12, No. 5, pp. 29-33, October 2009
TK7881 .I285

This article is the third in a series of four that describes the establishment of the National Bureau of Standards. In this article, the remarkable success of Samuel Stratton in building an effective and far-reaching standards laboratory is discussed, as well as the outstanding personnel at the NBS and their work from 1901-1904, including the immediate and effective NBS response to the great Baltimore fire of 1904.

The Creation of the National Bureau of Standards
James F. Schooley
IEEE Instrumentation & Measurement Magazine, Vol. 12, No. 4, pp. 34-39, August 2009
TK7881 .I285

This article is the second in a series of four that describe the early years of the National Bureau of Standards. A brief description of the convention of the meter, a look at 19th century science and invention in America, and an account of the creation of the National Bureau of Standards appear in this article.

The Early Years of the National Bureau of Standards: Born to Measure
James F. Schooley
IEEE Instrumentation & Measurement Magazine, Vol. 12, No. 3, pp. 8-12, June 2009
TK7881 .I285

In this first of 4 articles about the early history of the National Bureau of Standards (NBS), an overview is provided of the state of standards in America during the first decades of the country's existence, some of the origins of the scientific approach to metrology, and the growth of the NBS through the contributions of some of the outstanding people who participated in metrology.

The History and Resources of the National Institute of Standards and Technology
Evelyn Constance Powell (Rensselaer Polytechnic Institute. Troy, NY)
Science & Technology Libraries, Vol. 25, No. 3, pp. 5-19, April 2005
Z695 .T3 S3 V.25, NO.3 2005

This paper is a historical account of the agency of the U.S. government charged with setting the nation's physical measurement standards. Originally named the National Bureau of Standards, it is now known as the National Institute of Standards and Technology reflecting its recent additional mandate to increase U.S. competitiveness. The contributions this agency has made in improving the quality of manufacturing and measurement in the United States are described.

Significant Papers from the First 50 Years of the Boulder Labs
Edited by M. E. DeWeese, M. A. Luebs, H. L. McCullough
NISTIR 6618. August 2004
QC100 .U56 NO.6618 2004

The Department of Commerce Boulder Labs were dedicated on September 14, 1954. This volume presents a snapshot of research accomplishments in the half century since then. The papers collected in this publication represent the most significant work of all the agencies of the Boulder Labs.

Building and Fire Research at NBS/NIST: 1975-2000
Richard N. Wright
NIST Building Science Series 179. December 2003
TA435 .U58 NO.179 2003

This history summarizes the technical accomplishments of the NIST building and fire research programs and their impacts, the existential and management challenges faced by the programs, and the visions and efforts of the staff.

Responding to National Needs: 1994-2001, Supplement to Appendices
Diane Cunningham, Paula Deutsch, Julian M. Ives, Sandra Lee Kelley, Keith Martin, and John Norris
NIST Special Publication 955 Supplement. July 2002
QC100 .U57 NO.955 2002 JUL SUPP TO APPEN

Information contained in this publication updates and expands the data presented in the Appendices of NIST SP 955, Responding to National Needs, The National Bureau of Standards Becomes the National Institute of Standards and Technology 1969-1993, by James F. Schooley, November 2000.

A Brief History of Gaseous Dielectrics Research at NIST
J. K. Olthoff and L. G. Christophorou
Proceedings of the Annual Conference on Electrical Insulation and Dielectric Phenomena (Waterloo, Canada, Oct. 14-17, 2001). pp. 281-284. October 2001

Researchers at the National Institute of Standards and Technology (NIST) have investigated gaseous dielectrics for more than 20 years. Significant technical accomplishments in this area include a detailed understanding of the physics and chemistry of corona-induced decomposition of SF6, the determination of important collisional cross sections for dielectric gases, the development of conditional detection techniques for partial discharges, and assessment of potential replacement gases for SF6. These and other research areas will be highlighted in this brief history of gaseous dielectrics research at NIST.

NIST Centennial Sessions, August 2, 2001
NISTIR 6769. August 2001
QC100 .U56 NO.6769

Contains presentation slides from the National Conference of Standards Laboratories International Symposium to celebrate NIST's Centennial.

100 Years of Optical Science and Metrology at NIST
William R. Ott
Proceedings of the SPIE .Vol. 4450, pp. 1-14. August 2001

The National Bureau of Standards (NBS) was formed by Congress 100 years ago. Five areas of optics have been important elements of the Bureau's research for almost its entire history: atomic and molecular spectroscopy; radiometry; colorimetry; optical properties of materials; and, for the last 40 years, laser science and applications. Research and measurement services have supported national programs ranging from the manufacture of high quality optical glass during two World Wars to the calibration of spectrometers on the Hubble Space Telescope. Pioneers in optical science and metrology at NBS/NIST include many well known scientists, ranging from William Coblentz, who established the field of optical radiometry during his 40 year career from 1905-1945, to William Phillips, who received the Nobel Prize in Physics in 1997 for his research on the laser cooling and trapping of atoms.

Automating the Future: A History of the Automated Manufacturing Research Facility, 1980-1995
Joan M. Zenzen
NIST Special Publication 967. March 2001
QC100 .U57 NO.967

A history of NIST's Automated Manufacturing Research Facility (AMRF) with a focus on the people who conceived the idea for the AMRF and how they made it a reality.

Celebrating One Hundred Years of Chemistry at the National Institute of Standards and Technology
Compiled and Edited by Hratch G. Semerjian, William F. Koch, Ellyn S. Beary, Michael S. Epstein, and Gregory B. Vasquez
NISTIR 6388. September 2000 and March 2001 eds.
QC100 .U56 NO.6388 2000

Provides an overview of historically important NIST work in chemistry as well as contemporary research performed by the Chemical Science and Engineering Laboratory.

A Century of Excellence in Measurements, Standards, and Technology: A Chronicle of Selected NBS/NIST Publications, 1901-2000
David R. Lide, Editor
NIST Special Publication 958. January 2001
QC100 .U57 NO.958 2001

This book consists of short accounts describing 102 representative publications that had a significant impact during NIST's first century.

NIST at 100: Foundations for Progress
Laura Ost, Virginia Covahey, Kelly Talbott, Christina Robinson, Linda Joy, Susan Ford, and Sharon Shaffer
NIST Special Publication 956. October 2000
QC100 .U57 NO.956 2000

Highlights of research accomplishments and their impacts from NIST's first 100 years.

History of NIST's Contributions to the Development of Standard Reference Materials and Reference and Definitive Methods for Clinical-Chemistry
R. Schaffer, G. N. Bowers, and R. S. Melville
Clinical Chemistry. Vol. 41, No. 9, pp. 1306-1312. September 1995
RB1 .C55

The issuance of cholesterol as a Standard Reference Material (SRM) in 1967, started the National Institute of Standards and Technology (NIST; then named the National Bureau of Standards) on a major effort to help clinical laboratories establish and improve the quality of measurements they make. In working with clinical laboratory scientists to establish Reference Methods (RMs) for measuring the analytes, NIST developed Definitive Methods (DMs) to use for evaluating RM accuracy and then used the DMs for assigning analyte values to its SRMs. The development of SRMs and DMs is discussed.

NBS/NIST, A Historical Perspective: A Symposium in Celebration of NIST's Ninetieth Anniversary, March 4, 1991
Edited by Karma A. Beal
NIST Special Publication 825. April 1992
QC100.U57825 1992

A collection of talks and presentations in celebration of NIST's 90th year.

Gauging the Nation: Samuel Wesley Stratton and the Invention of the National Bureau of Standards
Nelson R Kellogg (Johns Hopkins University, Baltimore, MD)
Ph. D. thesis, Johns Hopkins University, 1992.

The Bureau of Standards had become a wholly different agency from what was urged before Congress in 1900 and 1901 during the hearings to establish the NBS. One of the principal goals of this essay is to apprehend how this evolution took place, and to set out the dynamics of the interplay among the NBS administration, outside interest groups, and Congressional overseers in the growth and successive redefinitions of the nation's premier physical laboratory. The laboratory culture is also explored, as well as progressive educational initiatives. Finally, administrations and policies are briefly surveyed with an eye toward the precedent of the Stratton years.

NBS-INA—The Institute for Numerical Analysis—UCLA 1947-1954
Magnus R. Hestenes and John Todd
NIST Special Publication 730. August 1991
QC100 .U57 no.730 1991

This report is a history of the Institute for Numerical Analysis (INA) with special emphasis on its research program during the period 1947 to 1956. The Institute for Numerical Analysis was located on the campus of the University of California, Los Angeles. It was a section of the National Applied Mathematics Laboratories, which formed the Applied Mathematics Division of the National Bureau of Standards.

A Brief History of Near-Field Measurements of Antennas at the National Bureau of Standards
R. C. Baird, A. C. Newell, and C. F. Stubenrauch
IEEE Transactions on Antennas and Propagation. Vol. 36, No. 6, pp. 727-733. June 1988
TK7800 .I2

The US National Bureau of Standards (NBS) played a pioneering role in the development of practical planar near-field antenna measurement techniques. A brief history is presented of that role, which began with theoretical studies to determine corrections for diffraction in a microwave measurement of the speed of light. NBS contributions to the development of nonplanar near-field measurement theory and practice are also described.

Achievement in Radio: Seventy Years of Radio Science, Technology, Standards, and Measurement at the National Bureau of Standards
Wilbert F. Snyder and Charles L. Bragaw
NBS Special Publication 555. October 1986
QC100 .U57 NO.555 1986 V1986

This historical account of NBS' achievements in radio is a semi-popular presentation, yet gives an extensive treatment of the technical features of 70 years of radio science in both Washington and Boulder.

The National Academy of Sciences—National Research Council's Postdoctoral Research Associateship Program: An Account of its Origin and Early History at the National Bureau of Standards
Joseph Hilsenrath
NBS Grant Contactor Report 85-500. September 1985
QC100 .U6N25 no.85-500 1985

This report reviews the origins and early history of the National Academy of Sciences-National Research Council's Postdoctoral Research Associateship Program at the National Bureau of Standards. It describes in detail the intra- and interagency discussions and negotiations that led to the program's creation.

The National Bureau of Standards Office of Recycled Materials, 1976-1982
Edited by Harvey Yakowitz
NBS Special Publication 662. September 1983
QC100 .U57 no.662 1983

A report of the activities and accomplishments of the NBS Office of Recycled Materials.

X-Ray Measurements and Protection, 1913-1964: The Role of the National Bureau of Standards and the National Radiological Organizations
Lauriston S. Taylor and W. Reeves Tilley
NBS Special Publication 625. December 1981
QC100 .U57 no.625 1981

An account of the initial U.S. concerns with, and subsequent efforts to cope with, the safe use of ionizing radiation is given. National interest was focused in the National Bureau of Standards, where radiation programs were established.

A History of Walkway Slip-Resistance Research at the National Bureau of Standards
Sanford C. Adler and Brian C. Pierman
NBS Special Publication 565. December 1979
QC100 .U57 no.565 1979

This report summarizes NBS research in the area of walkway and shoe slip-resistance measurement from 1924-1979.

NBS Interagency Transducer Project, 1951-1979: An Overview
Paul S. Lederer
NBS Technical Note 1110. August 1979
QC100 .U5753 no.1110 1979

Between 1951 and 1979, the National Bureau of Standards was engaged in a continuing project to study the performance of sensory transducers, primarily those used in telemetry. This report provides a brief description of the background and history of the project, its objectives, some of the techniques and specialized facilities developed and used, and of some of the publications that have been issued from the project.

A Ten Year History of National Bureau of Standards Activities Under the Brooks Act (Public Law 89-306)
Edited by Grace Burns and Shirley Radack
NBSIR 76-1113. February 1977
QC100 .U56 no.76-1113 1977

This report presents the principal findings of a National Bureau of Standards task force which reviewed the activities and accomplishments of NBS from 1965 to 1975 under Public Law 89-306, the Brooks Act. The Brooks Act is concerned with the effective use of computers by the Federal Govenment and assigns the National Bureau of Standards responsibility for providing scientific and technological advisory services for automatic data processing, developing uniform Federal ADP standards and undertaking necessary research in computer science and technology. Program activities and a history of funding for each of these three major responsibilities are covered. Also included are case studies of individual program initiatives.

75 Years of Physics at NBS
Ernest Ambler
Physics Today, Vol. 29, No. 8, pp. 33-38, August 1976
QC1 .P658

This historical survey describes the contributions made to the field of physics by the National Bureau of Standards since its inception in 1901. Four broad areas are emphasized: nuclear physics, thermal physics (including cryogenics), spectroscopy and fundamental constants.

Hydrocarbons for Fuel: 75 Years of Materials Research at NBS
George T. Armstrong
NBS Special Publication 434. May 1976
QC100 .U57 no.434 1976

In this historical review, the NBS work on hydrocarbons is discussed in terms of the three major classes of natural hydrocarbonaceous fuels: natural gas, petroleum, and coal. The work done on the measurement of properties of the pure components has included measurement of the values of the properties themselves and development of practical and accurate measurement procedures and instruments. In addition, combustion energies, densities, viscosities, vapor pressures, refractive indices, elemental compositions and other parameters have been determined for complex fuel mixtures and correlated to find methods of estimating properties. Extensive standard reference data tables have been compiled and a number of standard reference materials have been developed.

NBS: An Overview
NBS Special Publication 367. 1966 and 1972 eds.
QC100 .U57 no.367

The publication presents an overview of the Bureau's history, programs, and major contributions, along with individual chapters detailing the programs of each of the four NBS Institutes: Institute for Basic Standards; Institute for Materials Research; Institute for Applied Technology; and Institute for Computer Sciences and Technology.

Activities of the National Bureau of Standards, 1945-1970
Complied by Churchill Eisenhart
National Bureau of Standards. March 1971
QC100.U6E35 1971

A chronology of principal administrative and legislative actions affecting the National Bureau of Standards, including some notable operational activities and highlights of the Bureau's activities affecting science and technology.

Building Research at the National Bureau of Standards
Paul R. Achenbach
NBS Building Science Series 0. October 1970
TA435 .U58 no. 0

The history of building research and technology at the National Bureau of Standards is presented in this volume. The participation of the Bureau in the application of science and engineering to building materials and components played an early and important role in the development of steel and reinforced concrete as structural materials; in the understanding of the physics and chemistry of cement, lime and gypsum; in the evaluation of the fire properties of building components; in safe plumbing practices; in laboratory evaluation of the effects of weather on deterioration of building materials; and in measurement of the heat and sound transmission properties of building materials and constructions.

U. S. Statutes Relating to the National Bureau of Standards, 1901-1966
Compiled by Walter W. Weinstein and Margaret Brandenbourger
National Bureau of Standards. 1968
QC100 .U528 1968

A legislative history of the National Bureau of Standards to 1966.

Early History of Optics at National Bureau of Standards
Irvine C. Gardner
Applied Optics, Vol. 6. No. 1, pp.1-8. January 1967
QC350 .O62

The early history of the establishment of the National Bureau of Standards and of its work in optics is surveyed, as evidenced by its publications appearing in the period 1901-1925.

A History of Vertical-Incidence Ionsphere Sounding at the National Bureau of Standards
Sanford C. Gladden
National Bureau of Standards Technical Note 28. September 1959
QC100 .U5753 no.28 1959

A chronological history of the development of vertical incidence ionosphere sounding at the National Bureau of Standards through 1957.

The Story of Standards
John Perry (Management Consultant, Freelance Writer)
Funk & Wagnalls, New York, 1955
QC100 .P42 1955

A popular narrative on the Bureau of Standards and the history of standardization.

National Bureau of Standards: A Semicentennial
Lyman J. Briggs and Edward U. Condon
The Scientific Monthly, Vol. 73, No.3, pp. 166-182. September 1951
QC100 .U6 N31 1951

This paper discusses the early work and contemporary programs of the National Bureau of Standards.

Visitors' Manual of the National Bureau of Standards: A Brief Synopsis of its History, Functions, and Laboratory Facilities
Hugh G. Boutell
NBS Miscellaneous Publication 160. 1929, 1932, 1935, and 1937 eds.
QC100 .U57 no.160

A brief guide to the history, functions, and facilities of the Bureau.

The Bureau of Standards: Its History, Activities, and Organization
Gustavus A. Weber (Institute for Government Research. Washington D.C.)
Johns Hopkins Press, 1925
QC100 .U58 W4 1925

An Institute for Government Research monograph on the history, activities, and organization of the National Bureau of Standards.

War Work of the Bureau of Standards
NBS Miscellaneous Publication 46. April 1921
QC100 .U57 NO.46 1921

An account of the Bureau's work during World War I.

The Story of the Establishment of the National Bureau of Standards
Henry S. Pritchett (President, Massachusetts Institute of Technology. Cambridge, MA)
Science, Vol. 15, No. 373, pp. 281-284. February 21, 1902
Q1 .S35

The passage of a bill in Congress providing for the establishment of a National Bureau of Standards came as a surprise to many. As the work of this bureau ought in the future to have a large bearing upon science and industry it may not be without interest to record the circumstances under which this legislation was effected, and to bring to the attention of those who in the future may be interested in the matter the names of a few men who, though not men of science, gave their time and labor heartily in the interest of this work.

Source: NIST Research Library Online Catalog and literature search performed in February 2010.

APPENDIX C

NIST IN THE FEDERAL ADMINISTRATION

This appendix lists Executive departmental officials who exercised supervisory authority over NIST, during the terms of NIST Directors from 1993-2009.

UNITED STATES PRESIDENTS	DEPARTMENT OFFICIALS	NIST DIRECTORS
William J. Clinton 1993-2001	Ronald H. Brown Secretary of Commerce 1993-1996	Arati Prabhakar 1993-1997
	Mary L. Good Under Secretary of Commerce for Technology 1993-1997	
	Michael Kantor Secretary of Commerce 1996-1997	
	Mary L. Good Under Secretary of Commerce for Technology 1993-1997	
	William M. Daley Secretary of Commerce 1997-2000	Raymond G. Kammer 1997-2001
	Cheryl L. Shavers Under Secretary of Commerce for Technology 1999-2001	
	Norman A. Mineta Secretary of Commerce 2000-2001	
	Cheryl L. Shavers Under Secretary of Commerce for Technology 1999-2001	
	Karen H. Brown Acting Under Secretary of Commerce for Technology 2001	Karen H. Brown Acting Director 2001

UNITED STATES PRESIDENTS	DEPARTMENT OFFICIALS	NIST DIRECTORS
George W. Bush 2001-2009	Donald L. Evans Secretary of Commerce 2002-2004	Dr. Arden Bement, Jr. 2002-2004
	Phillip J. Bond Under Secretary of Commerce for Technology 2002-2005	Hratch Semerjian Acting Director 2004-2005
	Carlos M. Gutierrez Secretary of Commerce 2005-2009	Hratch Semerjian Acting Director 2004-2005
	(Vacant) Under Secretary of Commerce for Technology	
	Carlos M. Gutierrez Secretary of Commerce 2005-2009	William A. Jeffrey 2005-2007
	Robert Cresanti Under Secretary of Commerce for Technology 2006-2007	
	Carlos M. Gutierrez Secretary of Commerce 2005-2009	James Turner Acting Director 2007-2008
	Under Secretary of Commerce for Technology (Position Eliminated December 2007)	(Vacant)
Barack H. Obama 2009-	Gary F. Locke Secretary of Commerce 2009-	Patrick D. Gallagher Director of NIST 2009-

Source: Agency Web Sites

APPENDIX D

SITE INFORMATION AND MAPS: GAITHERSBURG AND BOULDER

This appendix contains site construction information and maps for the Gaithersburg, MD and Boulder, CO campuses. These tables include information for years prior to 1994. We include the pre-1994 data in this supplement because the information became available after the publication of *Responding to National Needs: The National Bureau of Standards Becomes the National Institute of Standards and Technology 1969-1993*.

NIST Gaithersburg Site Construction 1990-2008

Building number	Building name	Date completed	Area (Gross sq ft)	Area (Gross sq meters)
311	Grounds Storage Shed	9/30/1990	2,511	233
NN	NIST North (Leased Office Bldg.)	10/1/1995	122,120	11,345
313	Site Effluent Neutralization	6/30/1996	245	22
312	Materials Processing Facility	9/30/1996	3,877	360
227	Advanced Chemical Sciences Laboratory (ACSL)	8/1/1998	200,000	18,580
314	Backflow Preventer Building East	10/31/1998	663	61
315	Backflow Preventer Building West	10/31/1998	663	61
215-219	Advanced Measurements Laboratory (AML)	1/30/2004	536,538	49,846
222	Gutted and renovated	6/30/2006	166,101	15,431
NN	NIST North (Leased Office Bldg.)	Vacated 12/31/2006	122,120	11,345
103	Visitor Center	4/1/2009	2,000	185
104	Gate House	4/1/2009	200	18

Source: Joan Stanley, NIST Office of the Chief Facilities Management Officer

Because of security regulations, maps will be provided to NIST staff only, upon appropriate request.

NIST Gaithersburg campus map

Because of security regulations, maps will be provided to NIST staff only, upon appropriate request.

NIST Boulder campus map

CONSTRUCTION SCHEDULE FOR ADVANCED MEASUREMENT LABORATORY

Activity	Start Date	End Date
Bldg 215 (Clean Room)		
Excavate Bldg 215 and Tunnel	Dec. 26, 2000	Jan. 23, 2001
Utility Tunnel Construction	Jan. 22, 2001	April 5. 2001
Install Tower Crane 1	Jan. 8, 2001	Jan. 19, 2001
Bldg 215 Remaining Work	Feb 12, 2001	April 3, 2003
Bldg 216 (Instrument East)		
Excavate Bldg 216	Jan 10, 2001	Feb 6, 2001
Install Tower Crane 2	Feb 7, 2001	Feb 22, 2001
Bldg 216 Remaining Work	March 1, 2001	Nov 25, 2002
Bldg 217 (Instrument West)	Feb 25, 2002	Aug 29, 2003
Bldg 219 (Metrology West)	Dec 18, 2000	Oct 2, 2003
Relocation Completion		June 15, 2004

AML WING COMPLETION SCHEDULE

Wing	Date
Instrument East (216)	Nov 25, 2002
Cleanroom (215)	April 3, 2003
Metrology East (218)	April 14, 2003
Instrument West (217)	August 29, 2003
Metrology West (219)	October 2, 2003

Cost: $235.2 million
Completion date: June 21, 2004

SUPPLEMENTAL CONSTRUCTION INFORMATION FOR AML

Project Size:

Building Area:
47,480 gross square meters (511,070 gross square feet)
19,537 net assignable square meters (210,295 net square feet)

Net to Gross Ratio:
41.6 %

Gross Building Area Breakdown:
8,520 m^2 – Cleanroom Wing
9,529 m^2 – Instrument Lab (East)
11,858 m^2 – Instrument Lab (West)
8,470 m^2 – Dynamic Metrology Lab (East)
9,103 m^2 – Quiet Metrology Lab (West)

Net Building Area Breakdown:
2,407 m^2 – Offices
9,808 m^2 – Laboratories
4,086 m^2 – Laboratory Support
3,236 m^2 – Building Support

Lab Types:
187 Instrument Lab Modules
151 Metrology Lab Modules

Specialty Areas:
48 Precision Temperature Control Laboratories (±0.01 °C or ±0.1 °C)
27 Low Vibration Laboratories (active and passive isolation systems)
8,520 gsm Cleanroom Facility (Class 100 upgradable to Class 10)

Lab General Areas:

Laboratories building-wide feature each of the critical environmental categories listed for the overall building, including:

Air Cleanliness:
HEPA filtration at the supply-side of all laboratory air handlers

Temperature Control:
±0.25 °C is the baseline for all laboratories, all digital system

Vibration Isolation:
All laboratories are on-grade or below-grade, with a minimum level of "Criterion-A", isolated slab on-grade. Mechanical, electrical, and structural systems are designed to minimize vibration.

Power Quality:
Laboratories feature a building-wide, conditioned power supply system meeting IEEE Std. 1100-1992 for critical electronic loads.

Acoustical Design:
Considered in the design of all mechanical, architectural, structural, and electrical systems so as not to affect scientific programs. (Based on NC-45 (Labs), NC-55 (Cleanroom) & NC-30 (Special Metrology))

Service Galleys:
Mechanical services (piping, ventilation, & electrical) as well as "dirty" laboratory support equipment and gas bottles are located in a service corridor located between laboratory modules, maximizing flexibility and cleanliness.

Metric Design:
The building is laid out on a hard-metric module and features the use of the metric system wherever economically feasible.

Green Building:
Natural daylighting, energy conservation and recycling are incorporated into the building design and planned operation.

NIST Boulder Site Construction 1951-2008

Project	Construction began	Construction complete	Gross sq ft of project	Total gross sq ft	Total gross sq meters
B5 Heavy Equipment	1951	1951	2,850	2,850	264
B4 Camco	1951	1951	15,403	18,253	1,693
B2 Cryogenics South & North half	1951	1951	45,702	63,955	5,933
B3 Liquefier	1951	1951	20,024	83,979	7,790
B1 Radio Building Library, Aud., Center Spine, Wing 1, Wing 2, Wing 3 & Wing 4	1952	1954	200,257	286,636	26,590
B8 Mesa Test Site	1953	1953	2,400	86,379	8,013
B1 Wing 6	1956	1959	26,200	313,834	29,113
B14 Field Strength Calibration	1958	1958	278	286,914	26,615
B11 Vertical Incidence	1958	1958	408	287,322	26,653
B9 Gas Meter	1958	1958	312	287,634	26,682
B1 Wing 5	1960	1962	77,928	401,562	37,251
B2 Wing “B” Addition	1962	1964	9,800	323,634	30,022
B21 Maintenance Garage	1962	1963	3,968	405,530	37,619
B22 Warehouse	1962	1964	17,280	422,810	39,222
B25 North Shop	1965	1966	3,200	426,010	39,519
B24 Plasma Physics	1965	1967	27,328	453,338	42,054
B25 Offices & South Shop	1973	1975	5,000	458,338	42,517
B24 High Bay Addition	1984	1985	2,682	461,020	42,766
B2 High Bay Addition	1986	1986	3,320	464,340	43,074
B1 Annex B	1987	1987	3,800	468,140	43,427
B1 Annex A	1987	1987	4,200	472,340	43,816
B24 Annex A	1988	1988	4,200	476,540	44,206
B2 Annex A	1989	1989	1,800	478,340	44,373
B2 Annex A	1989	1989	2,400	480,740	44,596
B1 Annex C	1989	1989	4,200	484,940	44,985
B26 Day Care Facility	1989	1989	4,230	489,170	45,378
B23 Hazardous Materials Building	1989	1990	1,435	490,605	45,511
B27 High Frequency	1991	1991	480	491,085	45,555
B1 Annex D	1992	1992	4,200	495,285	45,945
B4 Addition	1994	1994	1,020	496,305	46,039
B26 Addition	1995	1995	4,370	500,675	46,445
B2 Addition	1995	1995	5,440	506,115	46,949
B41 High Speed Switch	2004	2004	460	506,575	47,061
B42 Central Utility Plant	2004	2005	24,000	530,575	49,290
B51 Visitors Center	2004	2005	1,450	532,025	49,425
B12 Hydrogen Research Facility	2008	2008	720	532,745	49,492

Source: James McConnell, Engineering, Maintenance, Safety, and Support Division, NIST Boulder

APPENDIX E

NIST STAFF, 1996-2007

The data in these tables below show NIST staff, grouped by major categories, for fiscal years (FYs) 1996-2007. This was the most recent data available at the time of publication. Data for 1994-1995 was not available.

Full Time Permanent Employees FYs 1996-2007 (in pay band)

Fiscal Year	Professional (ZP)	Technical/Wage Grade (ZT/WG)	Admin/Clerical (ZA/ZS)	Total
1996	1510	695	598	2803
1997	1529	727	589	2845
1998	1545	732	584	2861
1999	1520	712	611	2843
2000	1465	687	588	2740
2001	1456	653	577	2686
2002	1481	663	598	2742
2003	1470	643	569	2682
2004	1424	582	505	2511
2005	1403	545	524	2472
2006	1,386	565	493	2444
2007	1,405	558	509	2474

Full Time Permanent Employees FYs 1996-2007 (Professional) Pay Band (ZP)

Fiscal Year	Physicists	Chemists	Engineers	Comp Sci/ Programmers	Mathematicians	Other	Total
1996	329	180	408	274	62	257	1510
1997	333	176	411	292	67	250	1529
1998	336	179	409	310	68	243	1545
1999	329	175	398	315	62	241	1520
2000	321	169	377	307	56	235	1465
2001	310	173	372	309	56	236	1456
2002	309	178	377	319	58	240	1481
2003	302	168	363	329	62	246	1470
2004	290	162	355	316	64	237	1424
2005	283	163	350	313	63	231	1403
2006	277	160	344	318	64	223	1386
2007	271	162	353	324	61	234	1405

Full Time Permanent Employees FYs 1996-2007 (by degree) (Professional) Pay Band (ZP)

Fiscal Year	PhD	Masters	Bachelors	No Degree	Total
1996	742	316	386	66	1510
1997	765	326	366	72	1529
1998	778	343	354	70	1545
1999	761	353	336	70	1520
2000	745	336	318	66	1465
2001	740	327	314	75	1456
2002	745	337	324	75	1481
2003	737	330	326	77	1470
2004	724	319	316	65	1424
2005	706	318	317	62	1403
2006	700	307	321	58	1386
2007	695	316	334	60	1405

Full Time Permanent Employees FYs 1996-2007 (by location)

Fiscal Year	Gaithersburg	Boulder	Total
1996	2438	365	2803
1997	2468	377	2845
1998	2475	386	2861
1999	2477	366	2843
2000	2403	337	2740
2001	2350	336	2686
2002	2399	343	2742
2003	2349	333	2682
2004	2197	314	2511
2005	2174	298	2472
2006	2160	284	2444
2007	2189	283	2472

Full Time Equivalent Employees FYs 1996-2007 (by location)

Fiscal Year	Gaithersburg	Boulder	Total
1996	2739	398	3137
1997	2720	405	3125
1998	2757	417	3174
1999	2765	416	3181
2000	2698	384	3082
2001	2606	365	2971
2002	2629	370	2999
2003	2645	374	3019
2004	2557	353	2910
2005	2412	341	2753
2006	2414	324	2738
2007	2429	324	2753

Postdoctoral Research Associates 1996-2008*

Fiscal Year	Number of PostDocs
1996	83
1997	87
1998	76
1999	81
2000	78
2001	83
2002	70
2003	90
2004	86
2005	93
2006	98
2007	81
2008	86

* Postdoctoral Research Associate counts from 1996-2008 represent the number of Postdoctoral Research Associates actively employed by NIST on the last day of the fiscal year, regardless of their length of employment during the year. The numbers do not represent the total number of Postdoctoral Associates employed over the course of the entire fiscal year.

NIST Scientific Guest Researchers

Fiscal Year	Estimate of Guest Researchers
1996	1250
1997	1260
1998	1240
1999	1500
2000	1600
2001	1600
2002	1600
2003	1600
2004	1600
2005	1600
2006	1600
2007	1700

Source: NIST Budget Division

APPENDIX F

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

NIST's Postdoctoral Program supports a nationwide competitive postdoctoral program administered in cooperation with the National Academy of Sciences/National Research Council. The postdoctoral program brings research scientists and engineers of unusual promise and ability to perform advanced research related to the NIST mission, introduces the latest university research results and techniques to NIST scientific programs, strengthens mutual communication with university researchers, shares NIST unique research facilities with the U.S. scientific and engineering communities, and provides a valuable mechanism for the transfer of research results from NIST to the scientific and engineering communities.

The National Research Council began a joint NIST/NIH Postdoctoral Program in 2003. The goal was to cultivate a scientific work force competent in both the biological and the physical sciences. Each NIH/NIST Postdoctoral Associate spent time at the laboratories of both NIST and NIH's National Institute of Biomedical Imaging and Bioengineering. The Associates also had two advisers, one at NIST and one at the NIH.

From the year 2000-2007 the NIST Office of Academic Affairs ceased collecting university attended and PhD field information. The university attended became available again starting in 2008. Due to differences in record keeping, data in this appendix may differ from the previous edition of *Responding to National Needs, Supplement to Appendices*. We believe this list is the most accurate data available.

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	University	PhD Field	NIST Advisor	Laboratory	Division
1994					
Daniel M. Anderson	Northwestern University/IL	Applied Mathematics	Geoffrey B. McFadden	Computing and Applied Mathematics Laboratory	Applied/Computatl Math Div (MD)
James W. Brown	Stanford University/CA	Chemistry	Frederick P. Schwarz	Chemical Science and Technology Laboratory	Biotechnology Division
John H. Burnett	Harvard University/MA	Solid State Physics	Paul M. Amirtharaj	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Theodore A. Camus	Brown University/RI	Computer Science	Martin Herman	Manufacturing Engineering Laboratory	Intelligent Systems Division
Angel Castellanos	Bernard Baruch College, CUNY	Physics	Craig J. Sansonetti	Physics Laboratory	Atomic Physics Division
Matthew A. Davies	Cornell University/NY	Aeronautics and Engr Mech	Mehmet A. Donmez	Manufacturing Engineering Laboratory	Automated Production Technology Division
Frank Dimeo Jr.	Northwestern University/IL	Material Science	Stephen Semancik	Chemical Science and Technology Laboratory	Process Measurements Division (MD)
Ronald G. Dixon	Yale University-Sch of Med/CT	Physics	Theodore V. Vorburger	Manufacturing Engineering Laboratory	Precision Engineering Division
Robert P. Dobrow	Johns Hopkins University/MD	Statistics	James A. Lechner	Computing and Applied Mathematics Laboratory	Statistical Engineering Division (MD)
Michael J. Donahue	Ohio State University	Welding Engineering	J. A. Simmons	Materials Science and Engineering Laboratory	Metallurgy Division
John W. Dykes	University of California-Davis	Physics	Ronald B. Goldfarb	Electronics and Electrical Engineering Laboratory	Electromagnetic Technology Division
David A. Everest	University of Michigan-Ann Arbor	Fluid Dynamics	Kermit C. Smyth	Building and Fire Research Laboratory	Fire Science Division
Bradford J. Factor	Stanford University/CA	Applied Physics	Charles C. Han	Materials Science and Engineering Laboratory	Polymers Division
Michael A. Gatzke	Princeton University/NJ	Physics and Astronomy	Steven L. Rolston	Physics Laboratory	Atomic Physics Division
Constance L. Gettinger	Univ of California-Santa Barbara	Material Science	Charles C. Han	Materials Science and Engineering Laboratory	Polymers Division
Gloria M. Gusler	Univ of California-Los Angeles	Petroleum and Chem Engr	Gregory B. McKenna	Materials Science and Engineering Laboratory	Polymers Division
Angela R. Hight Walker	Wesleyan University/CT	Chemical Physics	Richard D. Suenram	Physics Laboratory	Molecular Physics Division
Peter F. Hopkins	Harvard University/MA	Solid State Physics	John M. Moreland	Electronics and Electrical Engineering Laboratory	Electromagnetic Technology Division
Zeina J. Jabbour	Lehigh University/PA	Physics	Jabez J. McClelland	Physics Laboratory	Electron and Optical Physics Division
Stephen F. Kawalko	University of Illinois-Chicago	Electrical Engineering	David A. Hill	Electronics and Electrical Engineering Laboratory	Radio Frequency Technology Division
Gerard J. Kim	University of Southern California	Computer Science	Howard M. Bloom	Manufacturing Engineering Laboratory	Factory Automation Systems Division
Jody J. Klaassen	Massachusetts Inst of Technology	Chemistry	Stephen R. Leone	Physics Laboratory	Quantum Physics Division
Kurt W. Kolasinski	Stanford Univ-Sch of Medicine/CA	Chemical Physics	Richard R. Cavanagh	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Kenneth S. Macturk	University of Akron/OH	Polymer Science	Donald L. Hunston	Materials Science and Engineering Laboratory	Polymers Division
Martin G. Manley	Penn State University Park	Engineering Acoustics	Nelson N. Hsu	Manufacturing Engineering Laboratory	Automated Production Technology Division
Dawn M. Meekhof	University of Washington	Physics	David J. Wineland	Physics Laboratory	Time and Frequency Division
William E. Mell	University of Washington	Applied Mathematics	Howard R. Baum	Building and Fire Research Laboratory	Fire Safety Engineering Division
John D. Miller	University of Texas-Austin	Physics	John J. Bollinger	Physics Laboratory	Time and Frequency Division
Brigitte L. Ramos	University of Cincinnati/OH	Analytical Chemistry	Steven J. Choquette	Chemical Science and Technology Laboratory	Organic Analytical Research Division
Steven J. Ritchie	Penn State University Park	Mechanical Engineering	Takashi Kashiwagi	Building and Fire Research Laboratory	Fire Safety Engineering Division
William J. Rose	Georgetown University/DC	English	David S. Pallett	Computer Systems Laboratory	Advanced Systems Division
Robin L. Selinger	Harvard University/MA	Physics	Robb M. Thomson	Materials Science and Engineering Laboratory	Office of the Director
Jeffrey W. Sharp	University of Tennessee-Knoxville	Solid State Physics	Paul M. Amirtharaj	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Barbara A. Siles	University of Cincinnati/OH	Analytical Chemistry	Stephen A. Wise	National Institute of Standards and Technology	National Institute of Standards and Technology
Thomas J. Silva	Univ of California-San Diego	Electrical Engineering	Ronald B. Goldfarb	Electronics and Electrical Engineering Laboratory	Electromagnetic Technology Division
Karen L. Williams	University of Hawaii at Manoa	Chemistry	Lane C. Sander	Chemical Science and Technology Laboratory	Analytical Chemistry Division
1995					
Nora C. Beck Tan	University of Maryland	Materials Engineering	Wen-Li Wu	Materials Science and Engineering Laboratory	Polymers Division
Christine M. Bell	University of Texas-Austin	Chemistry	Lane C. Sander	Chemical Science and Technology Laboratory	Analytical Chemistry Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	University	PhD Field	NIST Advisor	Laboratory	Division
1995 (cont.)					
Dina M. Colucci	Purdue University/IN	Chemical Engineering	Gregory B. McKenna	Materials Science and Engineering Laboratory	Polymers Division
Mark W. Keller	Yale University/CT	Applied Physics	John M. Martinis	Electronics and Electrical Engineering Laboratory	Cryoelectronic Metrology Group
Kristen L. Steffens	Stanford University/CA	Physical Chemistry	Michael R. Zachariah	Chemical Science and Technology Laboratory	Process Measurements Division (MD)
Aephraim M. Steinberg	University of California-Berkeley	Optical Sciences	William D. Phillips	Physics Laboratory	Atomic Physics Division
Fred E. Wietfeldt	University of California-Berkeley	Physics	Geoffrey L. Greene	Physics Laboratory	Ionizing Radiation Division
1996					
Eric R. Abraham	Rice University/TX	Physics	Eric Cornell	Physics Laboratory	Quantum Physics Division
William R. Anderson	University of Virginia	Physics	Jabez J. McClelland	Physics Laboratory	Electron and Optical Physics Division
Jonathan Baker	University of Delaware	Physics	Peter J. Mohr	Physics Laboratory	Atomic Physics Division
Gregory A. Balchin	University of Cincinnati-Unknown	Solid State Physics	Paul M. Amirtharaj	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Lorin Benedict	University of California-Berkeley	Physics	Raju V. Datla	Physics Laboratory	Optical Technology Division
Scott D. Bergeson	University of Wisconsin-Madison	Physics	Thomas B. Lucatorto	Physics Laboratory	Time and Frequency Division
Steven R.F. Biegalski	U of Illinois-Urbana-Champaign	Nuclear Engineering	Lloyd A. Currie	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
James C. Booth	University of Maryland	Physics	David A. Rudman	Electronics and Electrical Engineering Laboratory	Electromagnetic Technology Division
Curtis C. Bradley	Portland State University/OR	Science Education	Robert J. Celotta	Physics Laboratory	Electron and Optical Physics Division
Daryl G. Clerc	Washington State University	Material Science	Hassel Ledbetter	Materials Science and Engineering Laboratory	Materials Reliability Division
Mark W. Covington	U of Illinois-Urbana-Champaign	Solid State Physics	John M. Martinis	Electronics and Electrical Engineering Laboratory	Electromagnetic Technology Division
Joseph J. Dalluge	University of Utah	Biochemistry	Michael J. Welch	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Benjamin J. Davies	University of Virginia	Physics	Kristian Helmerson	Physics Laboratory	Atomic Physics Division
Paul C. DeRose	University of Pennsylvania	Physical Chemistry	John C. Stephenson	Physics Laboratory	Molecular Physics Division
Barbara A. DiCamillo	Univ of California-Los Angeles	Chemistry	Joseph G. Pellegrino	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Shellee D. Dyer	University of Utah	Electrical Engineering	Kent B. Rochford	Electronics and Electrical Engineering Laboratory	Electromagnetic Technology Division
Emile E. Ettedgui	University of Rochester/NY	Physics	G T. Davis	Materials Science and Engineering Laboratory	Polymers Division
Eva S. Ferre	University of Colorado	Electrical Engineering	Robert E. Drullinger	Physics Laboratory	Time and Frequency Division
Ronald E. Giachetti	North Carolina State U-Raleigh	Industrial Engineering	Ram D. Sriram	Manufacturing Engineering Laboratory	Factory Automation Systems Division
Jerome E. Gormley	University of Michigan-Ann Arbor	Nuclear Engineering	Dale E. Newbury	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Todd A. Heimer	Johns Hopkins University/MD	Chemistry	Edwin J. Heilweil	Physics Laboratory	Molecular Physics Division
Jay H. Hendricks	Johns Hopkins University/MD	Chemistry	Michael R. Zachariah	Chemical Science and Technology Laboratory	Process Measurements Division (MD)
David G. Holmberg	Virginia Polytech Inst and State U	Mechanical Engineering	William L. Grosshandler	Building and Fire Research Laboratory	Fire Science Division
I-Ping Hsu	University of California-Irvine	Aeronautics and Engr Mech	Cary Presser	Chemical Science and Technology Laboratory	Process Measurements Division (MD)
Yumi Ijiri	Cornell University/NY	Physics	Julie A. Borchers	Materials Science and Engineering Laboratory	Center for Neutron Research
Robert W. Ivester	U of Massachusetts-Amherst	Mechanical Engineering	Steven R. Ray	Manufacturing Engineering Laboratory	Factory Automation Systems Division
David L. Jacobson	University of Missouri-Columbia	Optics	Muhammad Arif	Physics Laboratory	Ionizing Radiation Division
Christine E. Kalnas	University of Michigan-Ann Arbor	Material Science	David T. Read	Materials Science and Engineering Laboratory	Materials Reliability Division
Christian E. Kendrick	Princeton University/NJ	Electrical Engineering	Richard E. Cavicchi	Chemical Science and Technology Laboratory	Process Measurements Division (MD)
William M. Klipstein	University of Washington	Physics	Steven L. Rolston	Physics Laboratory	Atomic Physics Division
Benjamin P. Lee	Univ of California-Santa Barbara	Physics	Jack F. Douglas	Materials Science and Engineering Laboratory	Polymers Division
Rastislav Levicky	University of Minnesota-Twin Cit	Chemical Engineering	Michael J. Tarlov	Chemical Science and Technology Laboratory	Process Measurements Division (MD)
Richard A. Loomis	University of Pennsylvania	Physical chemistry	Stephen R. Leone	Physics Laboratory	Quantum Physics Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	University	PhD Field	NIST Advisor	Laboratory	Division
1996 (cont.)					
Robert Lutwak	Massachusetts Inst of Technology	Physics	William D. Phillips	Physics Laboratory	Atomic Physics Division
David J. Macon	U of Massachusetts-Amherst	Polymer Science and Engr	Wen-Li Wu	Materials Science and Engineering Laboratory	Polymers Division
Carl C. Miller	Cornell University/NY	Physical Chemistry	Michael P. Casassa	Physics Laboratory	Molecular Physics Division
Travis B. Mitchell	University of San Diego/CA	Physics	John J. Bollinger	Physics Laboratory	Time and Frequency Division
Michael J. Munroe	University of Oregon	Optical Sciences	Robert K. Hickernell	Electronics and Electrical Engineering Laboratory	Electromagnetic Technology Division
Christopher J. Myatt	University of Colorado	Physics	Wayne M. Itano	Physics Laboratory	Time and Frequency Division
Ralph E. Napolitano	Georgia Institute of Technology	Metallurgical Engr	Robert J. Schaefer	Materials Science and Engineering Laboratory	Metallurgy Division
Bryant C. Nelson	U of Massachusetts-Amherst	Analytical Chemistry	Stephen A. Wise	Chemical Science and Technology Laboratory	Organic Analytical Research Division
James M. Nystrom	Northwestern University/IL	Material Science	Stephen Semancik	Chemical Science and Technology Laboratory	Process Measurements Division (MD)
George Papadopoulos	Polytechnic University/NY	Aero/Astro Engineering	William M. Pitts	Building and Fire Research Laboratory	Fire Science Division
Teresa P. Petralli-Mallow	Georgetown University/DC	Biophysical Chemistry	Anne L. Plant	Chemical Science and Technology Laboratory	Biotechnology Division
Donald G. Porter	Washington University/MO	Electrical Engineering	James L. Blue	Computing and Applied Mathematics Laboratory	Applied/Computatl Math Division (MD)
Ty J. Prosa	University of Wisconsin-Madison	Physics	John D. Barnes	Materials Science and Engineering Laboratory	Polymers Division
Nicholas D. Rizzo	Yale University/CT	Applied Physics	Ronald B. Goldfarb	Electronics and Electrical Engineering Laboratory	Electromagnetic Technology Division
Kathleen A. Romanik	University of Maryland	Computer Science	James S. Albus	Manufacturing Engineering Laboratory	Intelligent Systems Division
Marc D. Rumminger	University of California-Berkeley	Mechanical Engineering	Gregory T. Linteris	Building and Fire Research Laboratory	Fire Science Division
Todd G. Ruskell	University of Arizona	Optical Sciences	John M. Moreland	Electronics and Electrical Engineering Laboratory	Electromagnetic Technology Division
Mark A. Schwabacher	Rutgers State U-Branch Unknown	Computer Science	Ram D. Sriram	Manufacturing Engineering Laboratory	Factory Automation Systems Division
Joseph T. Slusher	University of Tennessee-Knoxville	Chemical Engineering	R. D. Mountain	Chemical Science and Technology Laboratory	Phys/Chem Properties Division (MD)
Chad R. Snyder	Virginia Polytech Inst and State U	Physical Chemistry	Frederick I. Mopsik	Materials Science and Engineering Laboratory	Polymers Division
Adam B. Steel	University of Maryland	Analytical Chemistry	Gregory E. Poirier	Chemical Science and Technology Laboratory	Process Measurements Division (MD)
David A. Tulchinsky	Univ of California-Santa Barbara	Physics	Michael H. Kelley	Physics Laboratory	Electron and Optical Physics Division
Christopher S. Wood	University of Colorado	Physics	David J. Wineland	Physics Laboratory	Time and Frequency Division
Brenton C. Young	Stanford University/CA	Physics	James C. Bergquist	Physics Laboratory	Time and Frequency Division
1997					
Michael Allen	Arizona State University	Physical Chemistry	Kenneth M. Evenson	Physics Laboratory	Time and Frequency Division
Scott R. Angster	Washington State University	Mechanical Engineering	Ram D. Sriram	Manufacturing Engineering Laboratory	Manufacturing Syst Integration Division
Kathleen A. Barnes	Michigan Technological University	Petroleum and Chem Engr	Alan I. Nakatani	Materials Science and Engineering Laboratory	Polymers Division
Francine Battagila	University of Pennsylvania	Mechanical Engineering	Ronald G. Rehm	Computing and Applied Mathematics Laboratory	Applied/Computatl Math Division (MD)
Dale J. Brugh	University of Utah	Physical Chemistry	Richard D. Suenram	Physics Laboratory	Optical Technology Division
Rodney A. Bryant	University of Michigan-Ann Arbor	Aerospace Engineering	William M. Pitts	Building and Fire Research Laboratory	Fire Science Division
Daniel L. Burden	Indiana University-Bloomington	Analytical Chemistry	Anne L. Plant	Chemical Science and Technology Laboratory	Biotechnology Division
Carelyn E. Campbell	Northwestern University/IL	Material Science	William J. Boettinger	Materials Science and Engineering Laboratory	Metallurgy Division
Thomas M. Crawford	University of Colorado	Solid State Physics	Ronald B. Goldfarb	Electronics and Electrical Engineering Laboratory	Electromagnetic Technology Division
Bruce R. Fabijonas	University of Illinois-Chicago	Applied Mathematics	Daniel W. Lozier	Computing and Applied Mathematics Laboratory	Applied/Computatl Math Division (MD)
Jonathan E. Guyer	Northwestern University/IL	Material Science	Joseph G. Pellegrino	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Margaret A. Hubbard	U of Illinois-Urbana-Champaign	Physics	Sarah L. Gilbert	Electronics and Electrical Engineering Laboratory	Optoelectronics Division
Jeeseong Hwang	Michigan State University	Solid State Physics	Lori S. Goldner	Physics Laboratory	Optical Technology Division
Robert Ivkov	University of Maryland	Physical Chemistry	Eric J. Amis	Materials Science and Engineering Laboratory	Polymers Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	University	PhD Field	NIST Advisor	Laboratory	Division
1997 (cont.)					
Claire E. Jordan	University of Wisconsin-Madison	Analytical Chemistry	Lee J. Richter	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Charles B. Kellogg	University of Georgia	Physics	Karl K. Irikura	Chemical Science and Technology Laboratory	Phys/Chem Properties Division (MD)
Stephen T. Kreger	University of Rochester/NY	Optics	Kent B. Rochford	Electronics and Electrical Engineering Laboratory	Optoelectronics Division
Terence P. Lerch	Iowa State University	Engineering Mechanics	Christopher M. Fortunko	Materials Science and Engineering Laboratory	Materials Reliability Division
David M. Lorenzetti	Massachusetts Inst of Technology	Building Research	Andrew K. Persily	Building and Fire Research Laboratory	Building Environment Division
Leo Lue	Massachusetts Inst of Technology	Chemical and Paper Engr	Daniel G Friend	Chemical Science and Technology Laboratory	Phys/Chem Properties Division (CO)
Scott R. Messenger	Washington University/MO	Physics and Astronomy	David S. Simons	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Chris A. Michaels	Columbia University/NY	Chemistry	Richard R. Cavanagh	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Ronaldo Minniti	University of Tennessee-Knoxville	Physics	John D. Gillaspy	Physics Laboratory	Atomic Physics Division
Krista L. Mullman	University of Wisconsin-Madison	Physics	Kristian Helmerson	Physics Laboratory	Atomic Physics Division
Tanya L. Myers	University of Chicago/IL	Physical Chemistry	David J. Nesbitt	Physics Laboratory	Quantum Physics Division
Alline F. Myers	North Carolina State U-Raleigh	Material Science	Eric B. Steel	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Walter W. Nederbragt	University of California-Davis	Mechanical Engineering	Ram D. Sriram	Manufacturing Engineering Laboratory	Manufacturing Syst Integration Division
David L. Osborn	University of California-Berkeley	Chemical Physics	Stephen R. Leone	Physics Laboratory	Quantum Physics Division
Scott M. Owens	State Univ of New York at Albany	Physics	R. D. Deslattes	Physics Laboratory	Atomic Physics Division
Darrin J. Pochan	U of Massachusetts-Amherst	Polymer Science	Wen-Li Wu	Materials Science and Engineering Laboratory	Polymers Division
Jon R. Pratt	Virginia Polytech Inst and State U	Engineering Mechanics	Mehmet A. Donmez	Manufacturing Engineering Laboratory	Automated Production Technology Division
Robert J. Rafac	University of Notre Dame/IN	Physics	Wayne M. Itano	Physics Laboratory	Time and Frequency Division
Bruce D. Ravel	University of Washington	Physics	Charles E. Bouldin	Materials Science and Engineering Laboratory	Ceramics Division
Andrea M. Reiff	University of Houston/TX	Mathematics	Frederick R. Phelan, Jr	Materials Science and Engineering Laboratory	Polymers Division
John Henry J. Scott	Carnegie Mellon University/PA	Applied Physics	Dale E. Newbury	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
John R. Seidensticker	Penn State University Park	Symbolic Systems	S. M. Wiederhorn	Materials Science and Engineering Laboratory	Ceramics Division
Quentin A. Turchette	California Institute Technology	Physics	Christopher R. Monroe	Physics Laboratory	Time and Frequency Division
Mark R. VanLandingham	University of Delaware	Material Science	Jonathan W. Martin	Building and Fire Research Laboratory	Building Materials Division
Robin M. Walton	University of Michigan-Ann Arbor	Chemical Engineering	Stephen Semancik	Chemical Science and Technology Laboratory	Process Measurements Division (MD)
Christopher C. White	University of Wisconsin-Madison	Chemistry	Wen-Li Wu	Materials Science and Engineering Laboratory	Polymers Division
John F. Widmann	University of Washington	Chemical Engineering	Cary Presser	Chemical Science and Technology Laboratory	Process Measurements Division (MD)
1998					
Bertha M. Allen	U of Maryland-Baltimore County	Physical Chemistry	Anne L. Plant	Chemical Science and Technology Laboratory	Biotechnology Division
Timothy A. Barckholtz	Ohio State University	Physical Chemistry	Stephen R. Leone	Physics Laboratory	Quantum Physics Division
George Becker	State Univ of New York at Albany	Computer Science	Paul E. Black	Information Technology Laboratory	Software Diagnostics and Conformance Testing Div
Michael L. Branham	University of Florida	Medicinal Chemistry	Kenneth D. Cole	Chemical Science and Technology Laboratory	Biotechnology Division
David A. Branning	University of Rochester/NY	Physics	Alan L. Migdall	Physics Laboratory	Optical Technology Division
William W. Brubaker	Indiana University-Bloomington	Analytical Chemistry	Michele M. Schantz	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Matthew F. Bundy	Washington State University	Mechanical Engineering	Anthony Hamins	Building and Fire Research Laboratory	Fire Science Division
Julia Y. Chan	University of California-Davis	Chemistry	Terrell A. Vanderah	Materials Science and Engineering Laboratory	Ceramics Division
Pin Chen	California Institute Technology	Chemical Physics	Leo W. Hollberg	Physics Laboratory	Time and Frequency Division
Herek L. Clark	University of California-Berkeley	Mechanical Engineering	Cary Presser	Chemical Science and Technology Laboratory	Process Measurements Division (MD)

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	University	PhD Field	NIST Advisor	Laboratory	Division
1998 (cont.)					
Eric J. Cockayne	Cornell University/NY	Physics	Benjamin P. Burton	Materials Science and Engineering Laboratory	Ceramics Division
Olga I. Cordero-Brana	Utah State University	Mathematical Sciences	David L. Banks	Computing and Applied Mathematics Laboratory	Statistical Engineering Division (MD)
Jeff M. Cronkhite	Georgia Institute of Technology	Chemical Physics	Jeffrey W. Hudgens	Chemical Science and Technology Laboratory	Phys/Chem Properties Division (MD)
Steven W. Deiker	University of Wisconsin-Madison	Physics	John M. Martinis	Electronics and Electrical Engineering Laboratory	Electromagnetic Technology Division
Tasshi Dennis	Rice University/TX	Electrical Engineering	Sarah L. Gilbert	Electronics and Electrical Engineering Laboratory	Optoelectronics Division
Scott A. Diddams	University of New Mexico	Physics	John L. Hall	Physics Laboratory	Quantum Physics Division
Alexander C. Drohat	U of Maryland-Baltimore County	Biochemistry	James T. Stivers	Chemical Science and Technology Laboratory	Biotechnology Division
Christopher E. Elmer	Colorado School of Mines	Math and Applied Math	John W. Cahn	Materials Science and Engineering Laboratory	Metallurgy Division
Fredrik K. Fatemi	University of Virginia	Molecular Physics	Paul D. Lett	Physics Laboratory	Atomic Physics Division
Donald Gajewski	Univ of California-San Diego	Solid State Physics	Joseph G. Pellegrino	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Robert J. Goldschmidt	Drexel University/PA	Analytical Chemistry	Charles M. Guttman	Materials Science and Engineering Laboratory	Polymers Division
Jay H. Grinstead	University of Virginia	Mechanical Engineering	Gerald T. Fraser	Physics Laboratory	Optical Technology Division
Warren W. Harper	University of Kentucky	Chemical Physics	David J. Nesbitt	Physics Laboratory	Quantum Physics Division
Wanda K. Hartman	Michigan State University	Chemistry	Frederick P. Schwarz	Chemical Science and Technology Laboratory	Biotechnology Division
Timothy J. Haugan	State Univ of New York-Buffalo	Electrical Computer Sci	Winnie K. Wong Ng	Materials Science and Engineering Laboratory	Ceramics Division
Thomas P. Heavner	University of Colorado	Physics	Steven R. Jefferts	Physics Laboratory	Time and Frequency Division
Tina H.T. Huang	University of Kansas	Analytical Chemistry	Michael J. Tarlov	Chemical Science and Technology Laboratory	Process Measurements Division (MD)
William H. Huber	University of Minnesota-Twin Cit	Physics	Neil M. Zimmerman	Electronics and Electrical Engineering Laboratory	Electricity Division
Paul R. Huffman	Duke University/NC	Physics	Muhammad Arif	Physics Laboratory	Ionizing Radiation Division
David J. Jones	Massachusetts Inst of Technology	Electrical Engineering	Tracy S. Clement	Physics Laboratory	Quantum Physics Division
Thomas C. Killian	Massachusetts Inst of Technology	Physics	Steven L. Rolston	Physics Laboratory	Atomic Physics Division
Lyon B. King	University of Michigan-Ann Arbor	Aerospace Engineering	John J. Bollinger	Physics Laboratory	
Masaru K. Kuno	Massachusetts Inst of Technology	Chemistry	David J. Nesbitt	Physics Laboratory	Quantum Physics Division
Eric W. Landree	Northwestern University/IL	Material Science	Terrence J. Jach	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Gary G. Leisk	Tufts University/MA	Mechanical Engineering	Nelson N. Hsu	Manufacturing Engineering Laboratory	Automated Production Technology Division
Steven M. Lev	State U of New York-Stony Brook	Geochemistry	Robert D. Vocke, Jr	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Maritoni Litorja	Northwestern University/IL	Physical Chemistry	Lee J. Richter	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Kristy L. Mardis	University of Wisconsin-Madison	Physical Chemistry	Michael K. Gilson	Chemical Science and Technology Laboratory	Biotechnology Division
Steven P. Mates	Penn State University Park	Mechanical Engineering	Stephen D. Ridder	Materials Science and Engineering Laboratory	Metallurgy Division
James C. Meredith	University of Texas-Austin	Chemical Engineering	Eric J. Amis	Materials Science and Engineering Laboratory	Polymers Division
Alexander B. Morgan	University of South Carolina	Chemistry	Jeffrey W. Gilman	Building and Fire Research Laboratory	Fire Science Division
Amy B. Musser	Penn State University Park	Architectural Engr	Andrew K. Persily	Building and Fire Research Laboratory	Building Environment Division
Benjamin E. Nachumi	Columbia University/NY	Physics	Alfons Weber	Physics Laboratory	Optical Technology Division
Sae Woo Nam	Stanford University/CA	Physics	Gene C. Hilton	Electronics and Electrical Engineering Laboratory	Electromagnetic Technology Division
Paul D. Panetta	Iowa State University	Material Science	George A. Alers	Materials Science and Engineering Laboratory	Materials Reliability Division
Harold V. Parks	University of Colorado-Boulder	Atomic Physics	James E. Faller	Physics Laboratory	Quantum Physics Division
J. M. Pedulla	University of Pittsburgh/PA	Physical Chemistry	R. D. Deslattes	Physics Laboratory	Atomic Physics Division
Philip M. Peters	University of Rochester/NY	Optics	Norman A. Sanford	Electronics and Electrical Engineering Laboratory	Optoelectronics Division
James V. Porto	Cornell University/NY	Physics	John D. Gillaspy	Physics Laboratory	Atomic Physics Division
Michael W. Rabin	U of Illinois-Urbana-Champaign	Physics	John M. Martinis	Electronics and Electrical Engineering Laboratory	Electromagnetic Technology Division
Christine H. Russell	State Univ of New York at Albany	Physics	Eric B. Steel	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	University	PhD Field	NIST Advisor	Laboratory	Division
1998 (cont.)					
Charles A. Sackett	Rice University/TX	Physics	David J. Wineland	Physics Laboratory	Time and Frequency Division
Geoffrey B. Saupe	University of Texas-Austin	Chemistry	Michael J. Tarlov	Chemical Science and Technology Laboratory	Process Measurements Division (MD)
Joshua P. Schwarz	University of Colorado	Physics	Edwin R. Williams	Electronics and Electrical Engineering Laboratory	Electricity Division
John E. Simsarian	State U of New York-Stony Brook	Physics	William D. Phillips	Physics Laboratory	Molecular Physics Division
Christopher L. Soles	University of Michigan-Ann Arbor	Material Science	Wen-Li Wu	Materials Science and Engineering Laboratory	Polymers Division
Elizabeth A. Sornsin	University of Alabama-Huntsville	Physics	Kent B. Rochford	Electronics and Electrical Engineering Laboratory	Optoelectronics Division
Joseph R. Swinder	University of Maryland	Chemistry	Dale E. Newbury	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Jason Sydow	Cornell University/NY	Physics	Ronald H. Ono	Electronics and Electrical Engineering Laboratory	Electromagnetic Technology Division
Lois A. Tully	U of Maryland School of Medicine	Genetics	Barbara C. Levin	Chemical Science and Technology Laboratory	Biotechnology Division
Brent D. Viers	University of Cincinnati/OH	Chemistry	Barry J. Bauer	Materials Science and Engineering Laboratory	Polymers Division
Kurt R. Vogel	University of Colorado	Physics	Leo W. Hollberg	Physics Laboratory	Time and Frequency Division
Kenneth D. Weston	Univ of California-Santa Barbara	Physical Chemistry	Lori S. Goldner	Physics Laboratory	Optical Technology Division
John T. Woodward	Univ of California-Santa Barbara	Physics	Anne L. Plant	Chemical Science and Technology Laboratory	Biotechnology Division
1999					
Brian P. Anderson	Stanford University/CA	Applied Physics	Eric Cornell	Physics Laboratory	Quantum Physics Division
William E. Bailey	Stanford University/CA	Material Science	Stephen Russek	Electronics and Electrical Engineering Laboratory	Electromagnetic Technology Division
James P. Burke	University of Colorado	Atomic and Molecular Physics	Paul S. Julienne	Physics Laboratory	Atomic Physics Division
Derrick T. Carpenter	Lehigh University/PA	Material Science	Robert Keller	Materials Science and Engineering Laboratory	Materials Reliability Division
Scott R. Davis	University of Colorado	Chemical Physics	David F. Plusquellic	Physics Laboratory	Optical Technology Division
John T. Elliott	State U of New York-Stony Brook	Biophysics Phys Biochem	Anne L. Plant	Chemical Science and Technology Laboratory	Biotechnology Division
Julie Epelboim	University of Maryland	Psychology	David Coombs	Manufacturing Engineering Laboratory	Intelligent Systems Division
Michael J. Fasolka	Massachusetts Inst of Technology	Polymer Science and Engr	Lori S. Goldner	Physics Laboratory	Optical Technology Division
Richard A. Fry	George Washington University/DC	Material Science	Robert D. Shull	Materials Science and Engineering Laboratory	Metallurgy Division
Stephen P. Fuss	University of Texas-Austin	Thermal Engineering	Anthony Hamins	Building and Fire Research Laboratory	Fire Science Division
Amanda N. Goyette	University of Wisconsin-Madison	Physics	James K. Olthoff	Electronics and Electrical Engineering Laboratory	Electricity Division
Maury E. Howard	University of Texas-Austin	Analytical Chemistry	John D. Fassett	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Eric W. Hudson	University of California-Berkeley	Solid State Physics	Joseph A. Stroscio	Physics Laboratory	Electron and Optical Physics Division
Lawrence K. Iwaki	U of Illinois-Urbana-Champaign	Chemical Physics	Edwin J. Heilweil	Physics Laboratory	Optical Technology Division
Albrecht Jander	Washington University/MO	Engineering and Applied Physics	Ronald B. Goldfarb	Electronics and Electrical Engineering Laboratory	Electromagnetic Technology Division
Kevin J. Knopp	University of Colorado	Optical Sciences	David H. Christensen	Electronics and Electrical Engineering Laboratory	Optoelectronics Division
Donald E. Kramer	University of Minnesota-Twin Cit	Material Science	Richard J. Fields	Materials Science and Engineering Laboratory	Metallurgy Division
Young S. Lee	Massachusetts Inst of Technology	Solid State Physics	Jeffrey W. Lynn	Materials Science and Engineering Laboratory	Center for Neutron Research
Michael J. Y. Lim	University of Michigan-Ann Arbor	Atomic Physics	Steven L. Rolston	Physics Laboratory	Atomic Physics Division
Laura J. Lising	University of California-Berkeley	Physics	William D. Phillips	Physics Laboratory	Atomic Physics Division
Alexander E. Lobkovsky	University of Chicago/IL	Theoretical Physics	James A. Warren	Materials Science and Engineering Laboratory	Metallurgy Division
Mark R. Locatelli	University of California-Berkeley	Material Science	Edwin R. Fuller, Jr	Materials Science and Engineering Laboratory	Ceramics Division
Richard B. Mindek	University of Connecticut	Mechanical Engineering	Christopher J. Evans	Manufacturing Engineering Laboratory	Precision Engineering Division
Erik J. Nelson	Stanford University/CA	Solid State Physics	Joseph C. Woicik	Materials Science and Engineering Laboratory	Ceramics Division
Kevin V. O'Donovan	U of Illinois-Urbana-Champaign	Solid State Physics	Julie A. Borchers	Materials Science and Engineering Laboratory	Center for Neutron Research

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	University	PhD Field	NIST Advisor	Laboratory	Division
1999 (cont.)					
Steven E. Peil	Harvard University/MA	Physics	Steven L. Rolston	Physics Laboratory	Atomic Physics Division
David J. Ross	University of California-Irvine	Physics	M. R. Moldover	Chemical Science and Technology Laboratory	Phys/Chem Properties Division (MD)
Mary A. Rowe	University of California-Berkeley	Atomic Physics	Christopher R. Monroe	Physics Laboratory	Time and Frequency Division
Tony L. Schmitz	University of Florida	Mechanical Engineering	Matthew A. Davies	Manufacturing Engineering Laboratory	Intelligent Systems Division
Francis W. Starr	Boston University/MA	Physics	Sharon C. Glotzer	Materials Science and Engineering Laboratory	Polymers Division
David G. Sterling	University of Colorado	Applied Mathematics	Timothy J. Burns	Information Technology Laboratory	Mathematical & Computational Sciences Div (MD)
Peter M. Vallone	University of Illinois-Chicago	Biophysical Chemistry	Dennis J. Reeder	Chemical Science and Technology Laboratory	Biotechnology Division
Emanuel A. Waddell	Louisiana State U and A&M College	Analytical Chemistry	Steven J. Choquette	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Marshall C. Wheeler	University of Texas-Austin	Chemical and Paper Engr	Stephen Semancik	Chemical Science and Technology Laboratory	Process Measurements Division (MD)

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	NIST Advisor	Laboratory	Division
2000 NIST-NRC			
Tammy Amos	Brian Toby	Materials Science and Engineering Laboratory	Center for Neutron Research
Wendy Andersen	Thomas Bruno	Chemical Science and Technology Laboratory	Physical and Chemical Properties Division
Stephen Banovic	Timothy Foecke	Materials Science and Engineering Laboratory	Metallurgy Division
Kathryn Beers	Charles Han	Materials Science and Engineering Laboratory	Polymers Division
Anthony Birdwell	Joseph Pellegrino	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Eric Bolda	Paul Julienne	Physics Laboratory	Electron and Optical Physics Division
Eric Chang	Eric Shirley	Physics Laboratory	Optical Technology Division
Alfred Crosby	Eric Amis	Materials Science and Engineering Laboratory	Polymers Division
Ryan DaBell	Pamela Chu	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Rick Davis	Jeffrey Gilman	Building and Fire Research Laboratory	Fire Science Division
William DeGraffenreid	Craig Sansonetti	Physics Laboratory	Atomic Physics Division
Eric DeJong	John Marino	Chemical Science and Technology Laboratory	Biotechnology Division
Jason Floyd	Kevin McGrattan	Building and Fire Research Laboratory	Fire Safety Engineering Division
Stephen Fox	Michael Postek	Manufacturing Engineering Laboratory	Precision Engineering Division
Stephen Gensemer	Paul Lett	Physics Laboratory	Atomic Physics Division
John Goodpaster	Bruce Benner	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Katherine Gurski	Geoffrey McFadden	Information Technology Laboratory	Mathematical and Computational Sciences Division
John Harkless	Karl Irikura	Chemical Science and Technology Laboratory	Physical and Chemical Properties Division
Ronald Hedden	Barry Bauer	Materials Science and Engineering Laboratory	Polymers Division
William Heinz	Lori Goldner	Physics Laboratory	Optical Technology Division
Shannon Hill	Jabez McClelland	Physics Laboratory	Electron and Optical Physics Division
John Jakupciak	Catherine O'Connell	Chemical Science and Technology Laboratory	Biotechnology Division
Timothy Johnson	Laurie Locascio	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Sharon Kennedy	Eric Amis	Materials Science and Engineering Laboratory	Polymers Division
Chulsoo Kim	Norman Sanford	Electronics and Electrical Engineering Laboratory	Optoelectronics Division
Alexander Komives	Maynard Dewey	Physics Laboratory	Ionizing Radiation Division
Jason Kriesel	William Bollinger	Physics Laboratory	Time and Frequency Division
Ronald Kumon	Donna Hurley	Materials Science and Engineering Laboratory	Materials Reliability Division
Andrew Kunz	Robert McMichael	Materials Science and Engineering Laboratory	Metallurgy Division
Deborah Kuzmanovic	Catherine O'Connell	Chemical Science and Technology Laboratory	Biotechnology Division
Gary Leisk	Nelson Hsu	Manufacturing Engineering Laboratory	Manufacturing Metrology Division
Joseph Lehnart	Wen-Li Wu	Materials Science and Engineering Laboratory	Polymers Division
Daniel Lewis	William Boettinger	Materials Science and Engineering Laboratory	Metallurgy Division
Frederick Mancoff	Stephen Russek	Electronics and Electrical Engineering Laboratory	Electromagnetic Technology Division
Samuel Manzello	Jiann Yang	Building and Fire Research Laboratory	Fire Research Division
Keith Miller	Thomas Bruno	Chemical Science and Technology Laboratory	Physical and Chemical Properties Division
Chad Nelson	Michael Welch	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Ursula Perez Salas	Susan Krueger	Materials Science and Engineering Laboratory	Center for Neutron Research
Adam Pivovar	Dan Neumann	Materials Science and Engineering Laboratory	Center for Neutron Research
David Pugmire	Gregory Poirer	Chemical Science and Technology Laboratory	Process Measurements Division
Randall Rainey	Catherine Jackson	Materials Science and Engineering Laboratory	Polymers Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	NIST Advisor	Laboratory	Division
2000 NIST-NRC (cont.)			
Christopher Rasmussen	David Coombs	Manufacturing Engineering Laboratory	Intelligent Systems Division
Dennis Rich	Alan Thompson	Physics Laboratory	Ionizing Radiation Division
William Rippard	Stephen Russek	Electronics and Electrical Engineering Laboratory	Electromagnetic Technology Division
Jason Sanabia	Laura Ratliff	Physics Laboratory	Atomic Physics Division
Mary Satterfield	Michael Welch	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Michael Savage	Lyle Levine	Materials Science and Engineering Laboratory	Metallurgy Division
Nancy Savage	Stephen Semancik	Chemical Science and Technology Laboratory	Process Measurements Division
I-Liang Siu	William Egelhoff	Materials Science and Engineering Laboratory	Metallurgy Division
Julia Slutsker	Richard Fields	Materials Science and Engineering Laboratory	Metallurgy Division
Hans Stauffer	Stephen Leone	Physics Laboratory	Quantum Physics Division
Charles Taylor	Stephen Semancik	Chemical Science and Technology Laboratory	Process Measurements Division
Douglas Twisselmann	Robert Shull	Materials Science and Engineering Laboratory	Metallurgy Division
Newell Washburn	Alamgir Karim	Materials Science and Engineering Laboratory	Polymers Division
Michael Weir	Francis Wang	Materials Science and Engineering Laboratory	Polymers Division
Philip Wilson	Lee Richter	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Suo-Che Yang	Lee Richter	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
2001 NIST-NRC			
Jose Aumentado	Mark Keller	Electronics and Electrical Engineering Laboratory	Quantum Electrical Metrology Division
Brett Baker	Thomas Moffat	Materials Science and Engineering Laboratory	Metallurgy Division
Joseph Berry	Norman Sanford	Electronics and Electrical Engineering Laboratory	Optoelectronics Division
Jason Bochinski	James Faller	Physics Laboratory	Quantum Physics Division
Helen Byrd	Charles Guttman	Materials Science and Engineering Laboratory	Polymers Division
Michele Chabot	John Moreland	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
John Cormier	Joseph Hodges	Chemical Science and Technology Laboratory	Process Measurements Division
Kristan Corwin	Sara Gilbert	Electronics and Electrical Engineering Laboratory	Optoelectronics Division
Brian DeMarco	David Wineland	Physics Laboratory	Time and Frequency Division
Taffetha Dobbins	Andrew Allen	Materials Science and Engineering Laboratory	Ceramics Division
Scott Goldie	Edwin Heilweil	Physics Laboratory	Optical Technology Division
Alyssa Henry	Laurie Locascio	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Camille Jones	Brian Toby	Materials Science and Engineering Laboratory	Center for Neutron Research
Ronald Jones	Jan Hall	Physics Laboratory	Quantum Physics Division
Scott Kennedy	Eric Amis	Materials Science and Engineering Laboratory	Polymers Division
John Keske	Stephen Leone	Physics Laboratory	Quantum Physics Division
Larry Kneller	Charles Majkrzak	Materials Science and Engineering Laboratory	Center for Neutron Research
Forrest Landis	Charles Han	Materials Science and Engineering Laboratory	Polymers Division
Sheng Lin-Gibson	Wen-lin Wu	Materials Science and Engineering Laboratory	Polymers Division
Thomas Loftus	Debbie Jin	Physics Laboratory	Quantum Physics Division
Jeffery McGuirk	Eric Cornell	Physics Laboratory	Quantum Physics Division
Aaron Miller	John Martinis	Electronics and Electrical Engineering Laboratory	Quantum Electrical Metrology Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	NIST Advisor	Laboratory	Division
2001 NIST-NRC (cont.)			
Vivek Prabhu	Wen-Lin Wu	Materials Science and Engineering Laboratory	Polymers Division
Tanya Ramond	Leo Hollberg	Physics Laboratory	Time and Frequency Division
Catherine Rimmer	Lane Sander	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Jacob Roberts	William Phillips	Physics Laboratory	Atomic Physics Division
David Saylor	Edwin Fuller	Materials Science and Engineering Laboratory	Ceramics Division
Michelle Silva	Jun Ye	Physics Laboratory	Quantum Physics Division
Chad Sosolik	Joseph Stroscio	Physics Laboratory	Electron and Optical Physics Division
Gloria Thomas	Richard Cavicchi	Chemical Science and Technology Laboratory	Process Measurements Division
Jonathan Weinstein	Paul Lett	Physics Laboratory	Atomic Physics Division
James Williams	Charles Clark	Physics Laboratory	Electron and Optical Physics Division
Jacob Yeston	John Stephenson	Physics Laboratory	Optical Technology Division
Christopher Zangmeister	Roger VanZee	Chemical Science and Technology Laboratory	Process Measurements Division
Rebecca Zangmeister	Michael Tarlov	Chemical Science and Technology Laboratory	Process Measurements Division
2002 NIST-NRC			
Karin Balss	Michael Tarlov	Chemical Science and Technology Laboratory	Process Measurements Division
Angela Bardo	Lori Goldner	Physics Laboratory	Optical Technology Division
Matthew Beard	Edwub Heilweil	Physics Laboratory	Optical Technology Division
Robert Bousquet	Pamela Chu	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Son Hoang Bui	Ted Vorburger	Manufacturing Engineering Laboratory	Precision Engineering Division
Mauricio Cafiero	Stephen Russek	Chemical Science and Technology Laboratory	Physical and Chemical Properties Division
Phil Cage	Stephen Russek	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
James Cooper	Francis Wang	Materials Science and Engineering Laboratory	Polymers Division
William Doriese	Kent Irwin	Electronics and Electrical Engineering Laboratory	Quantum Electrical Metrology Division
Zachary Dutton	Charles Clark	Physics Laboratory	Electron and Optical Physics Division
Aaron Forster	Nicholas Dagalakis	Materials Science and Engineering Laboratory	Polymers Division
Jason Gorman	Nicholas Dagalakis	Manufacturing Engineering Laboratory	Intelligent Systems Division
Christina Hacker	Curt Richter	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Christopher Harrison	Eric Amis	Materials Science and Engineering Laboratory	Polymers Division
Bryan Huey	John Blendell	Materials Science and Engineering Laboratory	Ceramics Division
Erin Jablonski	Eric Lin	Materials Science and Engineering Laboratory	Polymers Division
Ronald Jones	Eric Lin	Materials Science and Engineering Laboratory	Polymers Division
Scott Kukuck	Kuldeep Prasad	Building and Fire Research Laboratory	Fire Safety Engineering Division
Heather Lewandowski	William Phillips	Physics Laboratory	Atomic Physics Division
Katrice Lippa	Karen Phinney	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Michael Lufaso	Terrell Vanderah	Materials Science and Engineering Laboratory	Ceramics Division
Christine Mahoney	Greg Gillen	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
David Matheu	Carlos Gonzalez	Chemical Science and Technology Laboratory	Physical and Chemical Properties Division
William McGivern	Wing Tsang	Physics Laboratory	Optical Technology Division
Douglas Meier	Stephen Semancik	Chemical Science and Technology Laboratory	Process Measurements Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	NIST Advisor	Laboratory	Division
2002 NIST-NRC (cont.)			
Luis Melara	Anthony Kearsley	Information Technology Laboratory	Mathematical and Computational Sciences Division
Hyeung-Sik Min	Albert Jones	Manufacturing Engineering Laboratory	Manufacturing Systems Integration Division
Elizabeth Mirowski	John Moreland	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Lora Nugent-Glandorf	Thomas Perkins	Physics Laboratory	Quantum Physics Division
Kenneth O'Hara	Paul Lett	Physics Laboratory	Atomic Physics Division
Wendell Oskay	James Bergquist	Physics Laboratory	Time and Frequency Division
Brian Polk	Michael Gaitan	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Darwin Reyes	Michael Gaitan	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Peter Roos	Steven Cundiff	Physics Laboratory	Quantum Physics Division
Adam Scotch	John Blendell	Materials Science and Engineering Laboratory	Ceramics Division
Vincent Shen	Raymond Mountain	Chemical Science and Technology Laboratory	Physical and Chemical Properties Division
Karen Siegrist	Gerald Fraser	Physics Laboratory	Atomic Physics Division
Raymond Simmonds	John Martinis	Electronics and Electrical Engineering Laboratory	Quantum Electrical Metrology Division
David Song	Ronald Boisvert	Information Technology Laboratory	Mathematical and Computational Sciences Division
Chirstopher Stafford	Alamgir Karim	Materials Science and Engineering Laboratory	Polymers Division
Kevin Van Workum	Jack Douglas	Materials Science and Engineering Laboratory	Polymers Division
Bryan Vogt	Wen-Li Wu	Materials Science and Engineering Laboratory	Polymers Division
Wyatt Vreeland	Laurie Locascio	Chemical Science and Technology Laboratory	Analytical Chemistry Division
John Vrettos	Curtis Meuse	Chemical Science and Technology Laboratory	Biotechnology Division
Matthew Wagner	Greg Gillen	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Joward Walls	Charles Han	Materials Science and Engineering Laboratory	Polymers Division
Stephanie Wetzel	Charles Guttman	Materials Science and Engineering Laboratory	Polymers Division
Donald Windover	James Cline	Materials Science and Engineering Laboratory	Ceramics Division
Gary Wojcik	David Nesbitt	Building and Fire Research Laboratory	Building Materials Division
Frank Woodward	Jeffrey Lynn	Materials Science and Engineering Laboratory	Center for Neutron Research
Derek Yoder	Daniel Fischer	Materials Science and Engineering Laboratory	Ceramics Division
Barry Zink	Gene Hilton	Electronics and Electrical Engineering Laboratory	Quantum Electrical Metrology Division
2003 NIST-NRC			
Neil Anderson	John Stephenson	Physics Laboratory	Optical Technology Division
Mark Arnould	William Wallace	Materials Science and Engineering Laboratory	Polymers Division
John Ball	Laurie Locascio	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Matt Becker	Eric Amis	Materials Science and Engineering Laboratory	Polymers Division
Mary Bedner	William MacCreahan	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Joshua Bienfang	Charles Clark	Physics Laboratory	Electron and Optical Physics Division
Stephen Bullock	Isabel Beichl	Information Technology Laboratory	Mathematical and Computational Sciences Division
Neil Claussen	Leo Hollberg	Physics Laboratory	Time and Frequency Division
Michael Coble	John Butler	Chemical Science and Technology Laboratory	Biotechnology Division
David Cotrell	David Cotrell	Information Technology Laboratory	Mathematical and Computational Sciences Division
Amanda Cox	James Randa	Electronics and Electrical Engineering Laboratory	Electromagnetics Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	NIST Advisor	Laboratory	Division
2003 NIST-NRC (cont.)			
Jason Crain	Daniel Pierce	Physics Laboratory	Electron and Optical Physics Division
Joseph Curtis	Dan Neumann	Materials Science and Engineering Laboratory	Center for Neutron Research
Zuzanna Cygan	Alamgir Karim	Materials Science and Engineering Laboratory	Polymers Division
William Davis	Paul Becker	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Dean Delongchamp	Eric Lin	Materials Science and Engineering Laboratory	Polymers Division
Peter DeSanto	Winnie Wong-Ng	Materials Science and Engineering Laboratory	Ceramics Division
Nathan Dodder	Michele Schantz	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Michael Donovan	Wing Tsang	Chemical Science and Technology Laboratory	Physical and Chemical Properties Division
Samuel Forry	Laurie Locascio	Chemical Science and Technology Laboratory	Analytical Chemistry Division
William Fritz	Emil Simiu	Building and Fire Research Laboratory	Materials and Construction Research Division
Dan Fry	Erik Hobbie	Materials Science and Engineering Laboratory	Atomic Physics Division
Jayne Garno	James Batteas	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Richard Holbrook	Dale Newbury	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Samuel Howerton	Stephen Wise	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Daniel Hussey	Muhammad Arif	Physics Laboratory	Ionizing Radiation Division
Mark Iadicola	Richard Fields	Materials Science and Engineering Laboratory	Metallurgy Division
Frank Johnson	Robert Shull	Materials Science and Engineering Laboratory	Metallurgy Division
Jennifer Keller	Paul Becker	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Eric Langlois	John Moreland	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Li Anne Liew	John Moreland	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Bogdan Lita	Alexana Roshko	Electronics and Electrical Engineering Laboratory	Optoelectronics Division
Brian Maranville	Robert McMichael	Materials Science and Engineering Laboratory	Metallurgy Division
Carlos Martinez	Stephen Semancik	Chemical Science and Technology Laboratory	Process Measurements Division
Robert McDermott	John Martinis	Electronics and Electrical Engineering Laboratory	Quantum Electrical Metrology Division
Hans Mumm	Maynard Dewey	Physics Laboratory	Ionizing Radiation Division
Babak Nikoobakht	Stephan Stranick	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Kristen O'Brien (Wilson)	Joseph Antonucci	Materials Science and Engineering Laboratory	Polymers Division
Aric Opdahl	Michael Tralov	Chemical Science and Technology Laboratory	Process Measurements Division
James Rantschler	Robert McMichael	Materials Science and Engineering Laboratory	Metallurgy Division
William Ratcliff	Seung-hun Lee	Materials Science and Engineering Laboratory	Center for Neutron Research
Joseph Reiner	Kristian Helmerson	Physics Laboratory	Atomic Physics Division
Danna Rosenburg	Robert Schwall	Electronics and Electrical Engineering Laboratory	Quantum Electrical Metrology Division
Michael Schneider	Thomas Silva	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Richard Seugling	Jon Pratt	Electronics and Electrical Engineering Laboratory	Quantum Electrical Metrology Division
Chad Sheng	Cary Presser	Chemical Science and Technology Laboratory	Process Measurements Division
Sanjiv Shresta	Carl Williams	Physics Laboratory	Atomic Physics Division
Heather Stapleton	Michele Schantz	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Jean Stephens	Joy Dunkers	Materials Science and Engineering Laboratory	Polymers Division
Willard Uhlig	Marius Ungaris	Electronics and Electrical Engineering Laboratory	Electron and Optical Physics Division
Owen Vajk	Jeffrey Lynn	Materials Science and Engineering Laboratory	Center for Neutron Research
Richard Wagner	Benjamin Burton	Materials Science and Engineering Laboratory	Ceramics Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	NIST Advisor	Laboratory	Division
2003 NIST-NRC (cont.)			
JThomas Wallis	Pavel Kabos	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Kendall Waters	Andrew Slifka	Materials Science and Engineering Laboratory	Materials Reliability Division
Jason Widegren	Joseph Magee	Chemical Science and Technology Laboratory	Physical and Chemical Properties Division
Elizabeth Wilder	Joseph Antonucci	Materials Science and Engineering Laboratory	Polymers Division
2003 NIST-NIH			
Joonyeong Kim	James Batteas	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Jeffrey Krogmeier	Jeeseong Hwang	Physics Laboratory	Optical Technology Division
Juan Taboas	Steven Hudson	Materials Science and Engineering Laboratory	Polymers Division
James White	Michael Tarlov	Chemical Science and Technology Laboratory	Process Measurements Division
Gary Zabow	John Moreland	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
2004 NIST-NRC			
Nicholas Barbosa	Robert Keller	Materials Science and Engineering Laboratory	Materials Reliability Division
Joy Barker	Norman Sanford	Electronics and Electrical Engineering Laboratory	Optoelectronics Division
Jeremy Beebe	Roger Van Zee	Chemical Science and Technology Laboratory	Process Measurements Division
Johanna Camara	Michael Welch	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Samuel Carter	Steven Cundiff	Physics Laboratory	Quantum Physics Division
Alice Crawford	Kristian Helmerson	Physics Laboratory	Atomic Physics Division
Cindi Dennis	Willliam Egelhoff	Materials Science and Engineering Laboratory	Metallurgy Division
Tithi Dutta Roy	Francis Wang	Materials Science and Engineering Laboratory	Polymers Division
Thomas Epps	Michael Fasolka	Materials Science and Engineering Laboratory	Polymers Division
Nathan Gallant	Newell Washburn	Materials Science and Engineering Laboratory	Polymers Division
Simon Garcia	Stephen Semancik	Chemical Science and Technology Laboratory	Process Measurements Division
Emily Gibson	Ralph Jimenez	Physics Laboratory	Quantum Physics Division
Scott Glancy	Emanuel Knill	Information Technology Laboratory	Mathematical and Computational Sciences Division
Marc Gurau	Lee Richter	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Michael Hartman	John Rush	Materials Science and Engineering Laboratory	Center for Neutron Research
Rebecca Heltsley	William MacCrehan	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Chad Hoyt	Leo Hollberg	Physics Laboratory	Time and Frequency Division
John Hutchinson	Laurie Locascio	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Emily Jarvis	Anne Chaka	Chemical Science and Technology Laboratory	Physical and Chemical Properties Division
Philip Johnson	Carl Williams	Physics Laboratory	Atomic Physics Division
Gavin King	Thomas Perkins	Physics Laboratory	Quantum Physics Division
Christopher Kinsinger	Karl Irikura	Chemical Science and Technology Laboratory	Physical and Chemical Properties Division
Aaron Leanhardt	Eric Cornell	Physics Laboratory	Quantum Physics Division
David Lenhert	Anthony Hamins	Building and Fire Research Laboratory	Fire Research Division
Nancy Lin	Francis Wang	Materials Science and Engineering Laboratory	Polymers Division
Derik Love	Christopher Holloway	Electronics and Electrical Engineering Laboratory	Electromagnetics Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	NIST Advisor	Laboratory	Division
2004 NIST-NRC (cont.)			
Joseph Main	Emil Simiu	Building and Fire Research Laboratory	Materials and Construction Research Division
Idan Mandelbaum	Angela Hight Walker	Physics Laboratory	Optical Technology Division
Dennis McDaniel	Anne Plant	Chemical Science and Technology Laboratory	Biotechnology Division
James McGuire	Tom Silva	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Brian Nablo	Michael Gaitan	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Kevin Osborn	Mark Keller	Electronics and Electrical Engineering Laboratory	Quantum Electrical Metrology Division
Robert Owings	David Pappas	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Aaron Peck	John Kucklick	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Laura Picraux	Roger Van Zee	Chemical Science and Technology Laboratory	Process Measurements Division
Savelas Rabb	Michael Winchester	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Chandra Savage-Marsden	David Nesbitt	Physics Laboratory	Quantum Physics Division
Peter Schwindt	Hugh Robinson	Physics Laboratory	Time and Frequency Division
Jennifer Sebby-Strabley	Paul Lett	Physics Laboratory	Atomic Physics Division
Gordon Shaw III	Jon Pratt	Manufacturing Engineering Laboratory	Manufacturing Metrology Division
Michael Souryal	Nadar Moayeri	Information Technology Laboratory	Advanced Network Technologies Division
Ian Spielman	William Phillips	Physics Laboratory	Atomic Physics Division
Christopher Stanley	Susan Krueger	Materials Science and Engineering Laboratory	Center for Neutron Research
Frederick Strauch	Eite Tiesinga	Physics Laboratory	Atomic Physics Division
Matthew Vergne	Michael Welch	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Brandon Vogel	Eric Lin	Materials Science and Engineering Laboratory	Polymers Division
Tanya Zelevinsky	Jun Ye	Physics Laboratory	Quantum Physics Division
Mark Zurbuchen	Igor Levin	Materials Science and Engineering Laboratory	Ceramics Division
2004 NIST-NIH			
Richard Conroy	John Moreland	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Matthew Kipper	Francis Wang	Materials Science and Engineering Laboratory	Polymers Division
Brian O'Neill	Timothy Quinn	Materials Science and Engineering Laboratory	Materials Reliability Division
Vinoy Thomas	Sheldon Wiederhorn	Materials Science and Engineering Laboratory	Materials Science and Engineering Laboratory Office
2005 NIST-NRC			
Jennifer Anton	Stephanie Hooker	Materials Science and Engineering Laboratory	Materials Reliability Division
Bryan Barnes	Richard Silver	Manufacturing Engineering Laboratory	Precision Engineering Division
Nabil Bassim	Martin Green	Materials Science and Engineering Laboratory	Ceramics Division
Jason Benkoski	Alamgir Karim	Materials Science and Engineering Laboratory	Polymers Division
Michael Beversluis	Stephan Stranick	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Adam Black	Paul Lett	Physics Laboratory	Atomic Physics Division
Benjamin Brown	William Egelhoff	Physics Laboratory	Atomic Physics Division
Elaine Chan	John Kasianowicz	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Thomas Chastek	Eric Amis	Materials Science and Engineering Laboratory	Polymers Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	NIST Advisor	Laboratory	Division
2005 NIST-NRC (cont.)			
Elizabeth Dakin-Rogers	Jabez McClelland	Physics Laboratory	Electron and Optical Physics Division
Wendy Davis	Yoshihiro Ohno	Physics Laboratory	Optical Technology Division
Kristin DeWitt	Edwin Heilweil	Physics Laboratory	Optical Technology Division
Ryan Epstein	James Bergquist	Physics Laboratory	Time and Frequency Division
Jeffrey Fagan	Erik Hobbie	Materials Science and Engineering Laboratory	Polymers Division
Rene Gabbai	Emil Simiu	Building and Fire Research Laboratory	Materials and Construction Research Division
Eric Gansen	Robert Hickernell	Electronics and Electrical Engineering Laboratory	Optoelectronics Division
Kirsten Genson	Michael Fasolka	Materials Science and Engineering Laboratory	Polymers Division
Mark Greene	Keith Lykke	Physics Laboratory	Optical Technology Division
Michael Halter	John Elliott	Chemical Science and Technology Laboratory	Biotechnology Division
Mark Hoefer	Tom Silva	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Atif Imtiaz	Pavel Kabos	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Kavita Jeerage	Andrew Slifka	Materials Science and Engineering Laboratory	Materials Reliability Division
Barbara Jones	Karen Phinney	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Jeffrey Kline	David Pappas	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Regis Kline	Wen-Li Wu	Materials Science and Engineering Laboratory	Polymers Division
June Lau	Robert McMichael	Materials Science and Engineering Laboratory	Metallurgy Division
Patricia Lee	James Porto	Physics Laboratory	Atomic Physics Division
Benjamin Lev	Jun Ye	Physics Laboratory	Quantum Physics Division
Dustin Levy	Kimberly Briggman	Physics Laboratory	Optical Technology Division
Veichung Liang	Ram Sriram	Manufacturing Engineering Laboratory	Manufacturing Systems Integration Division
Geoffrey Lowman	Lori Goldner	Physics Laboratory	Optical Technology Division
Jacqueline Mann	Robert Vocke	Chemical Science and Technology Laboratory	Analytical Chemistry Division
John Merle	Karl Irikura	Chemical Science and Technology Laboratory	Physical and Chemical Properties Division
Shawn Moylan	Alkan Donmez	Manufacturing Engineering Laboratory	Manufacturing Metrology Division
Casey Mungle	Stephen Semancik	Chemical Science and Technology Laboratory	Process Measurements Division
Matthew Munson	Laurie Locascio	Chemical Science and Technology Laboratory	Biotechnology Division
Ofer Naaman	Mark Keller	Electronics and Electrical Engineering Laboratory	Quantum Electrical Metrology Division
Hirsh Nanda	Susan Krueger	NIST Center for Neutron Research	Center For Neutron Research
Michael Nosonovsky	Grady White	Materials Science and Engineering Laboratory	Ceramics Division
Brian Okerberg	Christopher Soles	Materials Science and Engineering Laboratory	Polymers Division
Kirt Page	Eric Amis	Materials Science and Engineering Laboratory	Polymers Division
Lisa Pakstis	Joy Dunkers	Materials Science and Engineering Laboratory	Polymers Division
Joseph Robertson	John Kasianowicz	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Zachary Schultz	Lee Richter	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Jonathan Shackman	David Ross	Chemical Science and Technology Laboratory	Process Measurements Division
Justin Shaw	Stephen Russek	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Jeffrey Simpson	Angela Hight Walker	Physics Laboratory	Optical Technology Division
Jackson Smith	Marcus Cicerone	Materials Science and Engineering Laboratory	Polymers Division
Lafe Spietz	Robert Schwall	Electronics and Electrical Engineering Laboratory	Quantum Electrical Metrology Division
Jason Stalnaker	Leo Hollberg	Physics Laboratory	Time and Frequency Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	NIST Advisor	Laboratory	Division
2005 NIST-NRC (cont.)			
Martin Stevens	Richard Mirin	Electronics and Electrical Engineering Laboratory	Optoelectronics Division
Evi Struble	Frederick Schwarz	Chemical Science and Technology Laboratory	Biotechnology Division
Lucile Teague	James Kushmerick	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Bryan Tomlin	Richard Lindstrom	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Jared Wahlstrand	Steven Dundiff	Physics Laboratory	Quantum Physics Division
Richard Walters	David Nesbitt	Physics Laboratory	Quantum Physics Division
Shannon Watson	Julie Borchers	NIST Center for Neutron Research	Center For Neutron Research
Lauren Wolf	Kimberly Briggman	Physics Laboratory	Optical Technology Division
Lam Yu	Steven Robey	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
2005 NIST-NIH			
Robert Brinson	John Marino	Chemical Science and Technology Laboratory	Biotechnology Division
Martin Hohmann-Marriott	John Henry Scott	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Mary Kamande	Karen Phinney	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Baranidharan Raman	Stephen Semancik	Chemical Science and Technology Laboratory	Process Measurements Division
Erica Takai	Steven Hudson	Materials Science and Engineering Laboratory	Polymers Division
2006 NIST-NRC			
Kyle Alvine	Christopher Soles	Materials Science and Engineering Laboratory	Polymers Division
Jason Amini	David Wineland	Physics Laboratory	Time and Frequency Division
Chandler Becker	Jonathan Guyer	Materials Science and Engineering Laboratory	Metallurgy Division
Denis Bergeron	Jeffrey Hudgens	Chemical Science and Technology Laboratory	Physical and Chemical Properties Division
Andrew Berglund	Jabez McClelland	Center for Nanoscale Science and Technology	Center For Nanoscale Science and Technology
Brian Berry	Ronald Jones	Materials Science and Engineering Laboratory	Polymers Division
Timothy Brewer	Greg Gillen	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Gretchen Campbell	Jun Ye	Physics Laboratory	Quantum Physics Division
Jason Campbell	John Suehle	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Akobuije Chijioke	John Lawall	Physics Laboratory	Atomic Physics Division
Matthew Clarke	Jeeseong Hwang	Physics Laboratory	Optical Technology Division
Ian Coddington	Nathan Newbury	Electronics and Electrical Engineering Laboratory	Optoelectronics Division
Catherine Cooksey	Edwin Heilweil	Physics Laboratory	Optical Technology Division
Joseph Davies	Robert Shull	Materials Science and Engineering Laboratory	Metallurgy Division
Daniel Dougherty	Steven Robey	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Kevin Douglass	David Plusquellic	Physics Laboratory	Optical Technology Division
Nadia Edwin	Vivek Prabhu	Materials Science and Engineering Laboratory	Polymers Division
Patrick Egan	Jack Stone	Manufacturing Engineering Laboratory	Precision Engineering Division
Matthew Eisaman	Alan Migdall	Physics Laboratory	Optical Technology Division
Susie Eustis	Stephan Stranick	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
James Falabella	Michael Tarlov	Chemical Science and Technology Laboratory	Process Measurements Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	NIST Advisor	Laboratory	Division
2006 NIST-NRC (cont.)			
Brian Gable	Timothy Foecke	Materials Science and Engineering Laboratory	Metallurgy Division
Daniel Genin	Kevin Mills	Information Technology Laboratory	Advanced Network Technologies Division
Nadine Gergel-Hackett	Curt Richter	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Nathan Guisinger	Joseph Stroscio	Center for Nanoscale Science and Technology	Center for Nanoscale Science and Technology
Behrang Hamadani	Curt Richter	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Ranko Heindl	Stephen Russek	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Joshua Hertz	Stephen Semancik	Chemical Science and Technology Laboratory	Process Measurements Division
Angelique Lasseigne	Thomas Siewert	Materials Science and Engineering Laboratory	Materials Reliability Division
Kristopher Lavery	Eric Lin	Materials Science and Engineering Laboratory	Polymers Division
Dale Li	Robert Schwall	Electronics and Electrical Engineering Laboratory	Quantum Electrical Metrology Division
Andrew Lock	Anthony Hamins	Building and Fire Research Laboratory	Fire Research Division
Nathan Lundblad	William Phillips	Physics Laboratory	Atomic Physics Division
Sara Mason	Anne Chaka	Chemical Science and Technology Laboratory/Physics Laboratory	Optical Technology Division
Marvi Matos	Marcus Cicerone	Materials Science and Engineering Laboratory	Polymers Division
Randall McDermott	William Mel	Building and Fire Research Laboratory	Fire Research Division
Craig McGray	Michael Gaitan	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
John Meacham	David Ross	Chemical Science and Technology Laboratory	Biotechnology Division
Andrew Moad	Lee Richter	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Abby Morgan	Carl Simon	Materials Science and Engineering Laboratory	Polymers Division
Janelle Newman	William MacCrehan	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Adam Nolte	Christopher Stafford	Materials Science and Engineering Laboratory	Polymers Division
Lisa Ott (Starkey)	Thomas Bruno	Chemical Science and Technology Laboratory	Physical and Chemical Properties Division
Daniel Paik	Thomas Perkins	Physics Laboratory	Quantum Physics Division
Jae Park	Raymond Simmonds	Electronics and Electrical Engineering Laboratory	Quantum Electrical Metrology Division
Derek Patton	Kathryn Beers	Materials Science and Engineering Laboratory	Polymers Division
Leonard Pease	Michael Tarlov	Chemical Science and Technology Laboratory	Process Measurements Division
Rachel Popelka-Filcoff	Robert Greenberg	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Jennifer Recknor	Timothy Quinn	Materials Science and Engineering Laboratory	Materials Reliability Division
Marc Roy	Eric Amis	Materials Science and Engineering Laboratory	Polymers Division
Jennifer Ruglovsky(Klamo)	Martin Green	Materials Science and Engineering Laboratory	Ceramics Division
Neal Scruggs	Migler Kalman	Materials Science and Engineering Laboratory	Polymers Division
David Serrell	Andrew Slifka	Materials Science and Engineering Laboratory	Materials Reliability Division
Scott Stanley	Wen-Li Wu	Materials Science and Engineering Laboratory	Polymers Division
Evan Thomas	Winnie Wong Ng	Materials Science and Engineering Laboratory	Ceramics Division
Benjamin Ueland	Jeffrey Lynn	NIST Center for Neutron Research	Center for Neutron Research
Jay Vaishnav	Charles Clark	Physics Laboratory	Electron and Optical Physics Division
Gregory Vogl	Jon Pratt	Manufacturing Engineering Laboratory	Manufacturing Metrology Division
Kiwon Yoon	Kent Irwin	Electronics and Electrical Engineering Laboratory	Quantum Electrical Metrology Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	NIST Advisor	Laboratory	Division
2006 NIST-NIH			
Yun Chen	John Moreland	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Ilija Draganic	John Gillaspy	Physics Laboratory	Atomic Physics Division
Yonglin Liu	Angela Hight Walker	Physics Laboratory	Optical Technology Division
Minhua Zhao	Tinh Nguyen	Building and Fire Research Laboratory	Materials and Construction Research Division
2007 NIST-NRC			
Blakely Adair	Steven Christopher	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Christopher Bass	Jeffrey Nico	Physics Laboratory	Ionizing Radiation Division
August Bosse	Jack Douglas	Materials Science and Engineering Laboratory	Polymers Division
Danielle Cleveland	Stephen Long	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Valerie Coffman	Stephen Langer	Information Technology Laboratory	Mathematical and Computational Sciences Division
Robert Compton	James Porto	Physics Laboratory	Atomic Physics Division
Greg Cooksey	John Elliott	Chemical Science and Technology Laboratory	Biotechnology Division
Adam Creuziger	Timothy Foecke	Materials Science and Engineering Laboratory	Metallurgy Division
John Douglas	Loren Goodrich	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Gregory Dutton	Steven Robey	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Bryan Eastin	Emanuel Knill	Information Technology Laboratory	Mathematical and Computational Sciences Division
Brian Fisher	Jeff Nico	Physics Laboratory	Ionizing Radiation Division
Amanda Fond	Michael Winchester	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Nathaniel Fredin	Ronald Jones	Materials Science and Engineering Laboratory	Polymers Division
Andrew Geraci	John Kitching	Physics Laboratory	Time and Frequency Division
David Germack	Christopher Soles	Materials Science and Engineering Laboratory	Polymers Division
William Griffith	John Kitching	Physics Laboratory	Time and Frequency Division
Paul Haney	Mark Stiles	Center for Nanoscale Science and Technology	Center for Nanoscale Science and Technology
Andrea Hamill	Paul Butler	NIST Center for Neutron Research	Center for Neutron Research
David Hanneke	David Wineland	Physics Laboratory	Time and Frequency Division
Don Harris	Edwin Heilweil	Physics Laboratory	Optical Technology Division
Jason Hattrick-Simpers	Leonid Bendersky	Materials Science and Engineering Laboratory	Metallurgy Division
Carrigan Hayes	Donald Burgess	Chemical Science and Technology Laboratory	Chemical and Biochemical Reference Data Division
Andrew Herzing	Ian Anderson	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Albert Hilton	Theodore Vorburger	Manufacturing Engineering Laboratory	Precision Engineering Division
Peter Johnson	Chirstopher Stafford	Materials Science and Engineering Laboratory	Polymers Division
Alexander Kieckhafer	John Curry	Physics Laboratory	Atomic Physics Division
Kathryn Krycka	Julie Borchers	NIST Center for Neutron Research	Center for Neutron Research
David Lahr	Stephen Semancik	Chemical Science and Technology Laboratory	Process Measurements Division
Andrew Ludlow	Christopher Oates	Physics Laboratory	Time and Frequency Division
Joie Marhefka	Kalman Migler	Materials Science and Engineering Laboratory	Polymers Division
Jeffrey Martin	Steven Hudson	Materials Science and Engineering Laboratory	Polymers Division
Stephen Maxwell	William Phillips	Physics Laboratory	Atomic Physics Division
Elizabeth McGaw	Benner Bruce	Chemical Science and Technology Laboratory	Analytical Chemistry Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	NIST Advisor	Laboratory	Division
2007 NIST-NRC (cont.)			
Ariel Michelman-Ribeiro	John Kasianowicz	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Abigail Miller	Lori Goldner	Physics Laboratory	Optical Technology Division
Jasmine Millican	Judith Stalick	NIST Center for Neutron Research	Center for Neutron Research
Todd Morris	Michael Tarlov	Chemical Science and Technology Laboratory	Process Measurements Division
Jayne Morrow	Kenneth Cole	Chemical Science and Technology Laboratory	Biotechnology Division
Ryan Murphy	Vivek Prabhu	Materials Science and Engineering Laboratory	Polymers Division
Ryan Nieuwendaal	Eric Lin	Materials Science and Engineering Laboratory	Polymers Division
John Perreault	Deborah Jin	Physics Laboratory	Quantum Physics Division
Jeffrey Peterson	David Nesbitt	Physics Laboratory	Quantum Physics Division
Daniel Phelan	Peter Gehring	NIST Center for Neutron Research	Center for Neutron Research
Mark Richards	Thomas Siewert	Materials Science and Engineering Laboratory	Materials Reliability Division
Mickey Richardson	Gail Holmes	Materials Science and Engineering Laboratory	Polymers Division
Daniel Roe	Anne Chaka	Physics Laboratory	Optical Technology Division
Claudette Rosado-Reyes	Jeffrey Manion	Chemical Science and Technology Laboratory	Chemical and Biochemical Reference Data Division
Aric Sanders	Norman Sanford	Electronics and Electrical Engineering Laboratory	Optoelectronics Division
Jayna Shah	Michael Gaitan	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Erin Sharp	David Nesbitt	Physics Laboratory	Quantum Physics Division
Clayton Simien	Craig Sansonetti	Physics Laboratory	Atomic Physics Division
Jason Simmons	Taner Yildirim	NIST Center for Neutron Research	Center for Neutron Research
Derek Smith	Michael Tarlov	Chemical Science and Technology Laboratory	Process Measurements Division
Brent Sperling	James Maslar	Chemical Science and Technology Laboratory	Process Measurements Division
Tighe Spurlin	Anne Plant	Chemical Science and Technology Laboratory	Biotechnology Division
Samuel Stavis	Michael Gaitan	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Gila Stein	James Liddle	Center for Nanoscale Science and Technology	Center for Nanoscale Science and Technology
Jack Surek	James Baker-Jarvis	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Todd Taylor	Ram Sriram	Manufacturing Engineering Laboratory	Manufacturing Systems Integration Division
Aaron Urbas	Steven Choquette	Chemical Science and Technology Laboratory	Biotechnology Division
Robert Usselman	Ron Goldfarb	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Aaron Van Devender	Dietrich Leibfried	Physics Laboratory	Time and Frequency Division
2007 NIST-NIH			
Kaushik Chatterjee	Carl Simon	Materials Science and Engineering Laboratory	Polymers Division
Georgeta Crivat	Jeeseong Hwang	Physics Laboratory	Optical Technology Division
Shubhadeep Purkayashta	Maral Dizdar	Chemical Science and Technology Laboratory	Biotechnology Division
Murugan Ramalingam	Mark Cicerone	Materials Science and Engineering Laboratory	Polymers Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	University	NIST Advisor	Laboratory	Division
2008 NIST-NRC				
Richard Bindel	University of Maryland	Elizabeth Mackey	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Irene Calizo	University of California-Riverside	Hight Walker Angela	Physics Laboratory	Optical Technology Division
Thomas Cecil	University of Virginia	Stephen Russek	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Calvin Chan	Princeton University	David Gundlach	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Shin (Grace) Chou	Massachusetts Institute of Technology	Jeeseong Hwang	Physics Laboratory	Optical Technology Division
Gordon Christopher	Carnegie Mellon University	Kalman Migler	Materials Science and Engineering Laboratory	Polymers Division
April Cooke	University of North Carolina	Robert Ivester	Manufacturing Engineering Laboratory	Manufacturing Metrology Division
Christopher Forrey	University of Massachusetts	Alamgir Karim	Materials Science and Engineering Laboratory	Polymers Division
Keith Gilmore	Montana State University	Eric Shirley	Physics Laboratory	Optical Technology Division
Daniel Havey	University of Colorado	Joseph Hodges	Chemical Science and Technology Laboratory	Process Measurements Division
Layla Hormozi	Florida State University	Carl Williams	Physics Laboratory	Atomic Physics Division
Patrick Hughes	University of Maryland-College Park	Alan Thompson	Physics Laboratory	Ionizing Radiation Division
Todd Johnson	University of Wisconsin	Scott Diddams	Physics Laboratory	Time And Frequency Division
Jason Killgore	University of Washington, Seattle	Donna Hurley	Materials Science and Engineering Laboratory	Materials Reliability Division
Paulina Kuo	Stanford University	Glenn Solomon	Physics Laboratory	Atomic Physics Division
Catherine Lo	Yale University	Laurie Locascio	Chemical Science and Technology Laboratory	Biochemical Science Division
Paul Lott	University of Maryland	Geoffrey McFadden	Information Technology Laboratory	Mathematical and Computational Sciences Division
Elisabeth Mansfield	University of Arizona	Stephanie Hooker	Materials Science and Engineering Laboratory	Materials Reliability Division
Joshua Martin	University of South Florida	Martin Green	Materials Science and Engineering Laboratory	Ceramics Division
Ludwig Mathey	Harvard University	Charles Clark	Physics Laboratory	Electron and Optical Physics Division
Rebecca Montange	University of Colorado/Boulder	Thomas Perkins	Physics Laboratory	Quantum Physics Division
Nicole Moore	Washington University	Carl Simon	Materials Science and Engineering Laboratory	Polymers Division
Paul Morrow	Rensselaer Polytechnic Institute	John Bonevich	Materials Science and Engineering Laboratory	Metallurgy Division
Michael Niemack	Princeton University	Kent Irwin	Electronics and Electrical Engineering Laboratory	Quantum Electrical Metrology Division
Sapun Parekh	University of California	Marcus Cicerone	Materials Science and Engineering Laboratory	Polymers Division
David Rampulla	Carnegie Mellon	James Kushmerick	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
John Read	Cornell University	William Egelhoff	Materials Science and Engineering Laboratory	Metallurgy Division
Efrain Rodriquez	University of California, Santa Barbara	Taner Yildirim	NIST Center for Neutron Research	NIST Center For Neutron Research
Joseph Roscioli	Yale University	David Nesbitt	Physics Laboratory	Quantum Physics Division
Gregory Rutter	Georgia Institute of Technology	Joseph Stroscio	Center for Nanoscale Science and Technology	Center for Nanoscale Science and Technology
Andrea Szakal	Penn State University Park	John Marino	Chemical Science and Technology Laboratory	Biochemical Science Division
Michael Thorpe	University of Colorado/Boulder	David Wineland	Physics Laboratory	Time and Frequency Division
Nathan Tomlin (Miller)	University of Colorado	John Lehman	Electronics and Electrical Engineering Laboratory	Optoelectronics Division
Kristina Verdal	University of Rochester/NY	Terrence Udovic	NIST Center for Neutron Research	NIST Center For Neutron Research
Russell Watson	University of South Carolina, Columbia	Robert Downing	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Michael Weiger	North Carolina State University	Matthew Becker	Materials Science and Engineering Laboratory	Polymers Division
Justin Zook	Memphis University	Wyatt Vreeland	Chemical Science and Technology Laboratory	Biochemical Science Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	University	NIST Advisor	Laboratory	Division
2008 NIST-NIH				
Zeeshan Ahmed	University of Pittsburgh	David Plusquellic	Physics Laboratory	Optical Technology Division
Jyotsnendu Giri	California Institute of Technology	Marcus Cicerone	Materials Science and Engineering Laboratory	Polymers Division
Girish Kumar	University of Cincinnati	Simon Carl	Materials Science and Engineering Laboratory	Polymers Division
Jonathan Lefman	New York University	Marcus Cicerone	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
2009 NIST-NRC				
Shaffique Adam	Cornell Univ, NY	Mark Stiles	Center for Nanoscale Science and Technology	Center For Nanoscale Science And Technology
Thomas Allison	Univ of Calif-Berkeley	Jun Ye	Physics Laboratory	Quantum Physics Division
Ashley Beasley	Johns Hopkins Univ, MD	David Bunk	Chemical Science and Technology Laboratory	Analytical Chemistry Division
James Benson	Univ of Missouri-Columbia	Anthony Kearsley	Information Technology Laboratory	Mathematical and Computational Sciences Division
Adam Berro	Univ of Texas-Austin	James Liddle	Center for Nanoscale Science and Technology	Center for Nanoscale Science and Technology
Sarah Bickman	Yale University, CT	James Berquist	Physics Laboratory	Time and Frequency Division
Ryan Brennan	George Washington Univ, DC	Michael Ralph Winchester	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Jacob Burress	Univ of Missouri-Columbia	Taner Yildirim	NIST Center for Neutron Research	NIST Center for Neutron Research
Amy Cassidy	Univ of So Calif-LA	Charles Clark	Physics Laboratory	Electron And Optical Physics Division
Edwin Chan	Univ of Mass-Amherst	Kathryn Beers	Materials Science and Engineering Laboratory	Polymers Division
Robert Chang	Drexel Univ-PA	Jeeseong Hwang	Physics Laboratory	Optical Technology Division
Antony Chen	Univ of Penn	Anne Plant	Chemical Science and Technology Laboratory	Biochemical Science Division
Arman Cingoz	Univ of Calif-Berkeley	Jun Ye	Physics Laboratory	Quantum Physics Division
Brad Conrad	Univ of Maryland-College Park	David Gundlach	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Steve DeCaluwe	Univ of Maryland-College Park	Joseph A. Dura	NIST Center for Neutron Research	NIST Center For Neutron Research
Scott Eastman	Univ of Mass-Amherst	Christopher L. Soles	Materials Science and Engineering Laboratory	Polymers Division
Larry Fiegland	VA Polytech Inst & State U	David Nesbitt	Physics Laboratory	Quantum Physics Division
Anna Fox	Drexel Univ-PA	Richard Mirin	Electronics and Electrical Engineering Laboratory	Optoelectronics Division
Natalie Frey Huls	University of South Florida	Cindi Dennis	Materials Science and Engineering Laboratory	Metallurgy Division
Andrew Funk	Univ of Oregon	Steven T. Cundiff	Physics Laboratory	Quantum Physics Division
Joshua Gordon	University of Arizona, Tucson	Christopher Holloway	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Justin Gorham	John Hopkins University/MD	John Henry Scott	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
Lauren Greenlee	The University of Texas-Austin	Stephanie Hooker	Materials Science and Engineering Laboratory	Materials Reliability Division
Matthew Hammond	Univ of Calif-Santa Barbara	Dean DeLongchamp	Materials Science and Engineering Laboratory	Polymers Division
Carlos Hangarter	Univ of Calif-Riverside	Thomas Moffat	Materials Science and Engineering Laboratory	Metallurgy Division
Joel Helton	Massachusetts Inst of Tech	Jeffrey W. Lynn	NIST Center for Neutron Research	NIST Center for Neutron Research
John Howarter	Purdue Univ	Christopher M. Stafford	Materials Science and Engineering Laboratory	Polymers Division
Michael Huber	Tulane Univ of Louisiana	Muhammad Arif	Physics Laboratory	Ionizing Radiation Division
Matthew Hummon	Harvard Univ	Debbie Jin	Physics Laboratory	Quantum Physics Division
Candice Jongsma	Texas A&M University	John Kucklick	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Kenneth Kearns	Univ of Wisconsin-Madison	Christopher Soles	Materials Science and Engineering Laboratory	Polymers Division
Kate Klein	Univ of Tennessee-Knoxville	Ian M. Anderson	Chemical Science and Technology Laboratory	Surface and Microanalysis Science Division
William Krekelberg	Univ of Texas-Austin	Karl Irikura	Chemical Science and Technology Laboratory	Chemical and Biochemical Reference Data Division
Eric Lass	Univ of Virginia	William J. Boettinger	Materials Science and Engineering Laboratory	Metallurgy Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	University	NIST Advisor	Laboratory	Division
2009 NIST-NRC (cont.)				
James Lee	University of Maryland	Dylan Morris	Materials Science and Engineering Laboratory	Ceramics Division
David Leibrandt	Mass Inst of Tech	James Bergquist	Physics Laboratory	Time and Frequency Division
Kristen Lewis	Univ of Washington	Peter M. Vallone	Chemical Science and Technology Laboratory	Biochemical Science Division
Tara Liebisch	University of Michigan-Ann Arbor	John Kitching	Physics Laboratory	Time and Frequency Division
Tara Lovestead	Univ of Colorado-Boulder	Daniel Friend	Chemical Science and Technology Laboratory	Thermophysical Properties Division
Marla McConnell	Univ of Pennsylvania	Eric Lin	Materials Science and Engineering Laboratory	Polymers Division
Erica McJimpsey	Univ of Calif-Davis	David Bunk	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Karl Nelson	Pennsylvania State University	James Porto	Physics Laboratory	Atomic Physics Division
Brendan O'Connor	Univ of Michigan-Ann Arbor	Dean M. DeLongchamp	Materials Science and Engineering Laboratory	Polymers Division
Justin Olamit	Univ of Calif-Davis	Robert Shull	Materials Science and Engineering Laboratory	Metallurgy Division
Steven Olmschenk	Univ of Michigan-Ann Arbor	James Porto	Physics Laboratory	Atomic Physics Division
William Osborn	Univ of Connecticut	Robert F. Cook	Materials Science and Engineering Laboratory	Ceramics Division
Elijah Petersen	Univ of Michigan-Ann Arbor	Bryant C. Nelson	Chemical Science and Technology Laboratory	Biochemical Science Division
John Pettibone	Univ of Iowa	Jeffrey W. Hudgens	Chemical Science and Technology Laboratory	Chemical and Biochemical Reference Data Division
Ryan Pirkl	Georgia Inst of Tech	Kate Remley	Electronics and Electrical Engineering Laboratory	Electromagnetics Division
Wendy Queen	Clemson Univ	Craig Brown	NIST Center for Neutron Research	NIST Center for Neutron Research
Franklyn Quinlan	Univ of Central Florida	Scott A. Diddams	Physics Laboratory	Time and Frequency Division
Phillip Rogers	State Univ of NY-Albany	Stephen Semancik	Chemical Science and Technology Laboratory	Process Measurements Division
Mark Roll	Univ of Michigan-Ann Arbor	Vivek Prabhu	Materials Science and Engineering Laboratory	Polymers Division
Jason Ryan	Penn State Univ	John Suehle	Electronics and Electrical Engineering Laboratory	Semiconductor Electronics Division
Germarie Sanchez-Pomales	Univ of Puerto Rico	Michael J. Tarlov	Chemical Science and Technology Laboratory	Process Measurements Division
Karl Sebby	Montana State Univ	Timothy Quinn	Materials Science and Engineering Laboratory	Materials Reliability Division
Daniel Siderius	Purdue Univ	Vincent K. Shen	Chemical Science and Technology Laboratory	Chemical and Biochemical Reference Data Division
Mark Siemens	Univ of Colorado	Steven Cundiff	Physics Laboratory	Quantum Physics Division
David Simmons	Univ of Texas-Austin	Jack F. Douglas	Materials Science and Engineering Laboratory	Polymers Division
Daniel Sisan	Univ of Maryland-College Park	Anne Plant	Chemical Science and Technology Laboratory	Biochemical Science Division
Jeffrey Sowards	Ohio State Univ	Thomas A. Siewert	Materials Science and Engineering Laboratory	Materials Reliability Division
Mark Strus	Purdue Univ	Robert Keller	Materials Science and Engineering Laboratory	Materials Reliability Division
Elizabeth Strychalski	Cornell Univ, NY	Laurie E. Locascio	Chemical Science and Technology Laboratory	Biochemical Science Division
Christopher Tison	Georgia Institute of Technology	Carl Simon	Materials Science and Engineering Laboratory	Polymers Division
Jessica Torrey	Univ of Wash	Stephanie Hooker	Materials Science and Engineering Laboratory	Materials Reliability Division
Nasir Uddin	Drexel Univ	Marc Nyden	Building and Fire Research Laboratory	Fire Research Division
Varun Verma	Univ of Illinois-Urbana	Richard Mirin	Electronics and Electrical Engineering Laboratory	Optoelectronics Division
Joshua Wayment	Univ of Utah	Rebecca Zangmeister	Chemical Science and Technology Laboratory	Process Measurements Division
Paul Wilkinson	Univ of Calif-Los Angeles	Jon Pratt	Manufacturing Engineering Laboratory	Manufacturing Metrology Division
Bret Windom	Univ of Florida	Thomas Joseph Bruno	Chemical Science and Technology Laboratory	Thermophysical Properties Division
Kevin Wright	Univ of Rochester-NY	Kristian P. Helmerson	Physics Laboratory	Atomic Physics Division
Jonathan Wrubel	Cornell Univ, NY	Kristian P. Helmerson	Physics Laboratory	Atomic Physics Division
Jennifer Yordy	Medical University South Carolina	Michele Schantz	Chemical Science and Technology Laboratory	Analytical Chemistry Division
Diana Zeiger	University of California-San Francisco	Sheng Lin-Gibson	Materials Science and Engineering Laboratory	Polymers Division
Jessica Zimberlin	Univ of Mass-Amherst	Marcus Cicerone	Materials Science and Engineering Laboratory	Polymers Division
Alexander Zolot	Univ of Colorado-Boulder	Nathan Newbury	Electronics and Electrical Engineering Laboratory	Optoelectronics Division

NIST POSTDOCTORAL RESEARCH ASSOCIATES, 1994-2009

Name	University	NIST Advisor	Laboratory	Division
2009 NIST-NIH				
Amit Dutta	Rensselaer Polytechnic Institute	Michael Tarlov	Chemical Science and Technology Laboratory	Process Measurements Division
Ji Youn Lee	Seoul Natl Univ	Jeeseong Hwang	Physics Laboratory	Optical Technology Division
Sang-Min Lee	Northwestern University/IL	Robert Cook	Materials Science and Engineering Laboratory	Ceramics Division
Seulki Lee	Gwangju Institute of Science & Tech	Marcus Cicerone	Materials Science and Engineering Laboratory	Polymers Division

Source: NIST Office of Academic Affairs

APPENDIX G

SCIENTIFIC AWARDS GIVEN BY THE DEPARTMENT OF COMMERCE AND NIST TO STAFF MEMBERS, 1994-2009

The Gold Medal, established in 1949, is the highest honorary award granted by the Secretary for distinguished performance characterized by extraordinary, notable, or prestigious contributions that impact the mission of the Department and/or one operating unit, and that reflects favorably on the Department.

The Allen V. Astin Measurement Science Award, first presented in 1984, is granted for outstanding achievement in the advancement of measurement science or in the delivery of measurement services developed within NIST, in cooperation with other Government agencies or private groups, or in cooperation with international metrology organizations.

The Edward Uhler Condon Award, first presented in 1974, is granted for distinguished achievement in effective written exposition in science or technology. The paper, or series of papers, must represent substantial scientific, technical, or technological merit. The award recognizes the organization and clarity of style that achieve unusually effective exposition and broad treatment of a specific subject area and appeal to readers with a wide range of scientific or technical interests.

The Jacob Rabinow Applied Research Award, first presented in 1975, is granted for outstanding achievements in the practical application of the results of scientific engineering research.

The Edward Bennet Rosa Award, established in 1964, is granted for outstanding achievement in or contributions to the development of meaningful and significant engineering, scientific, or documentary standards, either within NIST, or in cooperation with other Government agencies or private groups, or in cooperation with international standards organizations.

The William P. Slichter Award, first presented in 1992, is granted for outstanding achievements by NIST staff in building or strengthening ties between NIST and industry.

The Samuel Wesley Stratton Award, first presented in 1962, is granted for outstanding scientific or engineering achievements in support of NIST objectives. It is customarily associated with distinguished publications in professional journals.

This Appendix lists only awards for scientific achievement. Awards granted for administrative excellence or for other accomplishments are not included in this appendix.

1994

Gold Medal Awards—
James E. Hill, Miles E. Smid, Jack Sugar
Group: Theodore D. Doiron, Timothy J. Drapela, Paul D. Hale, Steven E. Mechels, Matt Young

Allen V. Astin Measurement Science Award—
Group: George W. Burns, Margaret G. Kaeser. Gregory F. Strouse, M. Carroll Croarkin, William F. Guthrie

Edward Uhler Condon Award—
Charles M. Beck II

Jacob Rabinow Applied Research Award—
Group: Herbert T. Bandy, Bradley N. Damazo, M. Alkan Donmez, David E. Gilsinn, Mahn H. Hahn, Kari K. Harper, Michael D. Kennedy, Neil D. Wilkin, Wendy A. Wyatt, Kenneth W. Yee

Edward Bennett Rosa Award—
David C. Stieren

William P. Slichter Award—
Robert I. Scace

Samuel Wesley Stratton Award—
Richard D. Leapman, Dale E. Newbury

1995

Gold Medal Awards—
Donald L. Hunston, Michael R. Rubin, Hratch G. Semerjian, Donald B. Sullivan, Charles R. Tilford
Group: Jau Shi Jun, John A. Kramer, William B. Penzes, Fredric E. Scire, E. Clayton Teague, John S. Villarrubia

Allen V. Astin Measurement Science Award—
E. Clayton Teague

Edward Uhler Condon Award—
David J. Nesbitt

Jacob Rabinow Applied Research Award—
Stephen E. Stein

Edward Bennett Rosa Award—
Group: William D. Dorko, Franklin R. Guenther

William P. Slichter Award—
Group: David A. Didion, Piotr A. Domanski, Mark A. Kedzierski

Samuel Wesley Stratton Award—
Eric A. Cornell

1996

Gold Medal Awards—
Eric A. Cornell, Allen C. Newell, Lyle H. Schwartz
Group: Technology Services, Chief Counsel Office for Technology Administration, Office of the Assistant Secretary for Export Enforcement, Office of the Assistant Commissioner for Trademarks

Allen V. Astin Measurement Science Award—
Group: Eric B. Steel, Shirley Turner, Jennifer R. Verkouteren, Eric S. Windsor

Edward Uhler Condon Award—
None

Jacob Rabinow Applied Research Award—
Allen R. Hefner, Jr.

Edward Bennett Rosa Award—
Group: Walter S. Liggett, Jr., Samuel R. Row III, David J. Pitchure, Jun Feng Song, Theodore V. Vorburger

William P. Slichter Award—
Steven T. Bushby

Samuel Wesley Stratton Award—
John M. Martinis

1997

Gold Medal Awards—
Kevin M. Carr, Robert E. Hebner, Ernest G. Kessler, Rance A. Velapoldi
Group: Reactor Operations and Engineering Group

Allen V. Astin Measurement Science Award—
Billy W. Mangum

Edward Uhler Condon Award—
Richard L. Kautz

Jacob Rabinow Applied Research Award—
Nelson N. Hsu

Edward Bennett Rosa Award—
George W. Burns

William P. Slichter Award—
Group: Anthony Bur, Kalman Migler, Francis Wang

Samuel Wesley Stratton Award—
Wen-Li Wu

1998

Gold Medal Awards—
B. Stephen Carpenter, Harry S. Hertz, Lura J. Powell, Rosalie T. Ruegg, Paul S. Julienne
Group: Gene C. Hilton, Kent D. Irwin, John M. Martinis, David A.Wollman

Allen V. Astin Measurement Science Award—
Judah Levine

Edward Uhler Condon Award—
None

Jacob Rabinow Applied Research Award—
Group: Gene C. Hilton, Kent D. Irwin, John M. Martinis, David A.Wollman

Edward Bennett Rosa Award—
Group: Edgar G. Erber, Dennis S. Everett, Howard H. Harary

William P. Slichter Award—
Group: W. Gary Mallard, Stephen E. Stein

Samuel Wesley Stratton Award—
William F. Egelhoff, Jr.

1999

Gold Medal Awards—
William J. Boettinger
Group: Charles J. Glinka, Charles F. Majkrzak

Allen V. Astin Measurement Science Award—
Group: Nile M Oldham, Mark E. Parker, Robert J. Densock, Raymond M. Hoffman, Richard D. Schneeman

Edward Uhler Condon Award—
John R. D. Copley

Jacob Rabinow Applied Research Award—
Group: Ronald G. Dixson, Joseph N. Fu

Edward Bennett Rosa Award—
Fred L. Walls

William P. Slichter Award—
Mark O. McLinden

Samuel Wesley Stratton Award—
Group: David B. Newell, Richard L. Steiner, Edwin R. Williams

2000

Gold Medal Awards—
Takashi Kashiwagi
Group: Victor R. McCrary, John W. Roberts

Allen V. Astin Measurement Science Award—
John L. Hall

Edward Uhler Condon Award—
Group: Ali Eichenberger, Mark W. Keller, John M. Martinis, Neil M. Zimmerman

Jacob Rabinow Applied Research Award—
Group: Edwin R. Fuller, Jr., Andrew R. Roosen, Stephen A. Langer

Edward Bennett Rosa Award—
Belinda L. Collins

William P. Slichter Award—
Fernando L. Podio

Samuel Wesley Stratton Award—
Robert D. McMichael

2001

Gold Medal Awards—
Group: Elaine B. Barker, Lawrence E. Bassham, William E. Burr, James F. Dray, Jr., Morris J. Dworkin, James G. Foti, James R. Nechvatal, Edward A. Roback, Miles E. Smid, Juan Soto, Jr.
Group: Robert A. Clary, Chistopher J. Evans, Michael L. McGlauflin, Manfred L. Osti, Richard L. Rhorer, Charles R. Tilford, Eric P. Whitenton
Group: James C. Bergquist, Steven T. Cundiff, Scott A. Diddams, Leo Hollberg, Christopher W. Oates, June Ye
Group: Daniel Josell, Thomas P. Moffat, Gery R. Stafford

Allen V. Astin Measurement Science Award—
Thomas R. Scott

Edward Uhler Condon Award—
Group: James C. Bergquist, Steven R. Jefferts, David J. Wineland

Jacob Rabinow Applied Research Award—
None

Edward Bennett Rosa Award—
R. Michael McCabe

William P. Slichter Award—
Group: Eric K. Lin, Wen-Li Wu

Samuel Wesley Stratton Award—
Deborah Shiu-Lan Jin

2002

Gold Medal Awards—
Leadership: John A. Dagata, Alim A. Faith, Katharine B. Gebbie, William R. Ott, Leslie E. Smith, Jorge R. Urrutia
Scientific and Engineering Achievement: Samuel P. Benz, Charles J. Burroughs, Bert M. Coursey, John F. Barkley, Jr., David F. Ferraiolo, David R. Kuhn

Allen V. Astin Measurement Science Award—
Bert M. Coursey

Edward Uhler Condon Award—
Charles W. Clark, Keith Burnett, Lu Deng, Edward W. Hagley, William D. Phillips

Jacob Rabinow Applied Research Awards—
James S. Albus, Stephen B. Balakirsky, Tommy Y. Chang, Tsai Hong, Alberto D. Lacaze, Steven A. Legowik, Karl N. Murphy

Edward Bennett Rosa Award—
B. Carol Johnson

William P. Slichter Award—
Edward F. Kelley

Samuel Wesley Stratton Award—
Chris A. Michaels, Lee J. Richter, Stephan J. Stranick

2003

Gold Medal Awards—
Leadership: Roger B. Marks, Albert C. Parr, Jack E. Snell
Scientific and Engineering Achievement: Richard G. Gann, Ray Radebaugh, William F. Egelhoff, Jr.

Allen V. Astin Measurement Science Award—
John H. Lehman

Edward Uhler Condon Award—
None

Jacob Rabinow Applied Research Award—
Xiao Tang

Edward Bennett Rosa Award—
David L. Duewer

William P. Slichter Award—
Kang Lee, Richard D. Schneeman

Samuel Wesley Stratton Award—
David J. Wineland

2004

Gold Medal Awards—
Leadership: Robert F. Moore, Charles W. Clark
Scientific and Engineering Achievement: Group: Elizabeth A Donley, Thomas P. Heavner, Steven R. Jefferts
Daniel A. Fischer
Group: James F. Dray, Alan H. Goldfine, Teresa Schwarzhoff, John Wack

Allen V. Astin Measurement Science Award—
Group: Timothy J. Burns, Brian S. Dutterer, Richard J. Fields, Michael D. Kennedy, Lyle E. Levine, Richard D. Rhorer, Eric P. Whitenton, Howard W. Yoon

Edward Uhler Condon Award—
Ronald G. Murno

Jacob Rabinow Applied Research Award—
Group: Paul C Brand, Richard J. Fields, Henry J. Prask

Edward Bennett Rosa Award—
Group: Douglas H. Blackburn, Steven J. Choquette, Edgar S. Etz, Wilbur S. Hurst

William P. Slichter Award—
Jonathan W. Martin

Samuel Wesley Stratton Award—
Paul S. Julienne

2005

Gold Medal Awards—
Leadership Category: Miral M. Dizar, Sivaraj Shyam-Sunder
Group: Joseph A. Falco, Frederick M. Proctor, Keith A. Stouffer, Albert J. Wavering
Scientific/Engineering Achievement: Joseph A. Stroscio
Group: Jason D. Averill, Howard R. Baum, Richard W. Burkowski, Kathryn M. Butler, Stephen A. Cauffman, Frank L. Davis, W. Stuart Dols, Richard G. Gann, John L. Gross, William L. Grosshandler, Anthony P. Hamins, Valentine G. Junker, Erica D. Kuligowski, James R. Lawson, Hai S. Lew, Therese P. Mcallister, Kevin B. Mcgrattan, Thomas J. Ohlemiller, Richard D. Peacock, William M. Pitts, Kuldeep R. Prasad, Fahim Sadek, Emil Simiu, Robert L. Vettori, Jiann C. Yang, Stephen W. Banovic, Timothy J. Foecke, Frank W. Gayle, William E. Luecke, J. David Mccolskey, James J. Filliben, Matthew Heyman, Verna B. Hines, Michael E. Newman, Craig Burkhardt, Melissa Lieberman, Michael R. Rubin

Allen V. Astin Measurement Science Award—
Charles E. Gibson
Howard W. Yoon

Edward Uhler Condon Award—
Michael A. Lombardi

Jacob Rabinow Applied Research Award—
Joseph M. Antonucci

Edward Bennett Rosa Award—
Katherine E. Sharpless

William P. Slichter Award—
Mark E. Palmer

Samuel Wesley Stratton Award—
Jeffery W. Lynn

2006

Gold Medal Awards—
Leadership Category: Patrick D. Gallagher, James E. Hill, Lisa A. Karam
Scientific/Engineering Achievement Category: Jabez J. McClelland
Group: David B. Newell, Richard L. Steiner, Edwin R. Williams
Personal and Professional Excellence Category: Dereck R. Orr

Allen V. Astin Measurement Science Award—
Michele M. Schantz

Edward Uhler Condon Award—
Richard G. Gann

Jacob Rabinow Applied Research Award—
Group: James S. Albus, Charles H. Giauque, Adam S. Jacoff, Frederick M. Proctor, William P. Shackleford, Ann Marie Virts, Brian A. Weiss

Edward Bennett Rosa Award—
Group: Matthew L. Aronoff, Arthur F. Griesser, John V. Messina, Eric D. Simmon

William P. Slichter Award—
John H. Burnett

Samuel Wesley Stratton Award—
Jun Ye

2007

Gold Medal Awards—
Taner Yildirim
Group: Samuel P. Benz, Charles J. Burroughs, Paul D. Dresselhaus, Joseph R. Kinard, Jr., Thoms E. Lipe, Jr., Yi-Hua Tang
Group: Judah Levine, Thomas E. Parker
Group: Joy P. Dunkers, Gale A. Holmes, Walter G. McDonough, Chad R. Snyder, Michael H. Francis, Jeffrey R. Guerrieri, David R. Novotny, Perry F. Wilson
Group: William C. Barker, Ramaswamy Chandramouli, Donna F. Dodson, James F. Dray, Jr., Hildegard Ferraiolo, Timothy Grance, Patrick J. Grother, William I. MacGregor, William T. Polk, Teresa Schwarzhoff

Allen V. Astin Measurement Science Award—
Igor Vayshenker

Edward Uhler Condon Award—
John W. Ekin

Jacob Rabinow Applied Research Award—
John E. Kitching

Edward Bennett Rosa Award—
Group: David J. Evans, Victor Nedzelnitsky, Randall P. Wagner

William P. Slichter Award—
Group: Steven Grantham, Shannon Hill, Thomas B. Lucatorto, Charles Tarrio, Robert E. Vest
Group: Eric K. Lin, Vivek M. Prabhu, Wen-Li Wu

Samuel Wesley Stratton Award—
Kent D. Irwin

2008

Gold Medal Awards—
Carl J. Williams
Group: John M. Butler, David L. Duewer, Margaret C. Kline, Janette W. Redman, Peter M. Vallone
Group: James C. Bergquist, Till P. Rosenband
Group: Stephen I. Kerber, Daniel Madrzylowski
Group: William E. Burr, David W. Flater, Alan H. Goldfine, Barbara Guttman, Nelson E. Hastings, John M. Kelsey, Sharon J. Laskowski, Mark W. Skall, John P. Wack
Group: Stephen Quirolgico, Mudumbai Ranganathan

Allen V. Astin Measurement Science Award—
Robert R. Zarr

Edward Uhler Condon Award—
None

Jacob Rabinow Applied Research Award—
Sae Woo Nam

Edward Bennett Rosa Award—
Edward Bennett

William P. Slichter Award—
Paul A. Boynton

Samuel Wesley Stratton Award—
Dietrich G. Leibfried

2009

Gold Medal Awards—
Paul D. Lett
Group: Muhammad Arif, David L. Jacobson
Group: Douglas C. Montgomery, Scott W. Rose
Group: Steven D. Phillips, Craig M. Shakarji
Group: Matthew P. Barrett, Timothy Grance, Christopher S. Johnson, Peter M. Mell, Stephen D. Quinn, Karen A. Scarfone, Murugiah P. Souppaya

Allen V. Astin Measurement Science Award—
Group: Paul D. Hale, Dylan F. Williams, Andrew M. Dienstfrey, Chih Ming Wang

Edward Uhler Condon Award—
No Recipients

Jacob Rabinow Applied Research Award—
Jeffrey W. Gilman

Edward Bennett Rosa Award—
Steven T. Bushby

William P. Slichter Award—
No Recipients

Samuel Wesley Stratton Award—
James C. Bergquist

Source: Annual Awards Ceremony programs. Awards file, NIST Archives.

APPENDIX H

MEMBERS OF THE VISITING COMMITTEE ON ADVANCED TECHNOLOGY

The Visiting Committee on Advanced Technology (VCAT) reviews and makes recommendations regarding general policy for the National Institute of Standards and Technology, its organization, its budget, and its programs, within the framework of applicable national policies as set forth by the President and the Congress. The VCAT submits an annual report to the Secretary of Commerce for submission to the Congress.

Public Law 56-177, which established the National Bureau of Standards as an agency of the Department of the Treasury on March 3, 1901, directed the creation of a Visiting Committee of five members, "men prominent in the various interests involved," to be appointed by the Secretary of the Treasury, to visit NBS at least annually, and to report to the secretary upon the efficiency of its scientific work and the condition of its equipment. Despite the transfer of NBS to the Department of Commerce and Labor in 1903 and the creation in 1913 of a separate Department of Commerce, the procedures of the Visiting Committee remained unchanged until 1988.

The text of Public Law 100-418, August 23, 1988, replaced the earlier Visiting Committee by a Visiting Committee on Advanced Technology (VACT). The new committee, to be appointed by the NIST Director, was to be composed of nine members, at least five of whom were to be from U.S. industry. The VCAT was to meet at least quarterly and to provide an annual report on NIST, to be submitted to Congress through the Secretary of Commerce.

Public Law 104-113, March 7, 1996, changed the number of members to 15, at least 10 of whom shall be from United States industry.

Public Law 110-69, August 9, 2007, changed the meeting times to twice each year from the previous quarterly requirement.

The dates indicate the terms of appointment.

Milton M. Chang 1996-1999
Chairman, New Focus, Inc.

Steven A. Malone 1998-1999
Director, Nebraska Dept. of Agriculture's Weights and Measures Program

Louise K. Goeser 1998-2000
General Manager, Whirlpool Corporation

Dr. Duane A. Adams 1999-2001
Vice Provost for Research, Carnegie Mellon University

Dr. Conilee G. Kirkpatrick 1999-2002
Vice President, HRL Laboratories

Dr. James W. Mitchell 1999-2002
Director, Materials; Reliability and Ecology Research Laboratory, Lucent Technologies

Dr. Caroline A. Kovac 1999-2003
Vice President, Services, Applications and Solutions, IBM

Dr. Thomas A. Manuel 1999-2004
President, Council for Chemical Research

Dr. F. Raymond Salemme 1999-2004
Founder, President, and Chief Scientific Officer, 3-Dimensional Pharmaceuticals, Inc.

Dr. Juan M. Sanchez, VCAT Chair Vice President for Research, University of Texas, Austin	2000-2005
Dr. April M. Schweighart Product Business Manager, Motorola	2000-2005
Dr. Deborah L. Grubbe Corporate Director, Safety & Health, DuPont Safety, Health, Environment	2001-2006
Dr. Wayne H. Pitcher, Jr. Technology Management Consultant	2001-2003
Dr. Lloyd R. Harriott Professor, Dept. of Electrical and Computer Engineering, University of Virginia	2001-2003
Dr. Masayoshi Tomizuka Director, Engineering Systems Research Center, University of California, Berkeley	2001
Mr. Gary D. Floss Business Partner, Bluefire Partners	2002-2007
Dr. Richard M. Gross Corporate Vice President of Research and Development, The Dow Chemical Company	2002-2004
Dr. Jennie Hunter-Cevera President, University of Maryland Biotechnology Institute	2002-2004
Mr. Scott C. Donnelly Senior Vice President, GE Corporate Research and Development, General Electric Company	2003-2004
Lou Ann Heimbrook Vice President of Global Operations, Merek & Co., Inc.	2003-2009
Robert T. Williams Director, Manufacturing Operations Support & Technology, Caterpillar Inc.	2003-2009
Dr. Donald B. Keck Chief Technology Officer, Infotonic Technology Center Inc. and Retired Vice President, Research Director Corning Incorporated	2004-2006
Mr. Edward J. Noha Chairman Emeritus, CNA Financial Corporation	2004-2006
Mr. Thomas A. Saponas Retired Senior Vice President & Chief Technology Officer, Agilent Technologies	2004-2006
Dr. James W. Serum President, SciTek Ventures	2004-2009
Dr. John F. Cassidy Senior Vice President, Science & Technology, United Technologies Corporation	2005-2007
Dr. E. David Spong Vice Chairman, ChangeAgent, Inc.	2005-2007

Mr. W. Wyatt Starnes Chairman & CEO, SignaCert, Inc.	2005-2007
Dr. Thomas M. Baer Executive Director, Stanford Photonics Research Center, Stanford University	2006-2009
Dr. Paul A. Fleury Dean of Engineering & Frederick W. Beinecke Professor of Engineering and of Applied Physics, Yale University	2006-2009
Dr. Vinton G. Cerf Vice President and Chief Internet Evangelist, Google	2007-2009
Dr. William Happer, Jr. Department of Physics, Princeton University	2007
Dr. Elsa Reichmanis Director, Materials for Communications Research, Alcatel-Lucent	2007-2009
Dr. Ruzena Bajcsy Professor of Electrical Engineering and Computer Sciences, University of California, Berkeley	2008-2009
Dr. Peter Green Vincent T. and Gloria M. Gorguze Professor of Engineering and Department Chair, Materials Science and Engineering, Professor, Chemical Engineering, Macromolecular Science and Engineering University of Michigan	2008-2009
Dr. Pradeep Khosla Dean, College of Engineering, Philip and Marsha Dowd University Professor, Founding Director, CyLab, Carnegie Mellon University	2008-2009
Dr. Alan I. Taub Executive Director, GM Research and Development, General Motors Corp.	2008-2009

Source: VCAT web site: http://www.nist.gov/director/vcat/vcatmembership_since1988.htm accessed on July 13th, 2009.

APPENDIX I

NIST ACTUAL OBLIGATIONS, 2000-2009

The table below shows the monies spent by NIST during the period FY 2000-FY 2009. Data for the period 1994-1999 may be found in *Responding to National Needs: The National Bureau of Standards Becomes the National Institute of Standards and Technology 1969-1993*, pp. 915-916.

Obligations ($M)

FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009*
Appropriations:									
Scientific and Technical Research and Services (STRS) (NIST Labs and Baldrige National Quality Program)									
283.5	311.0	329.8	358.8	345.4	379.3	398.6	440.8	450.0	534.2
Industrial Technology Services (Advanced Technology Program (ATP) and Manufacturing Extension Partnership (MEP))									
301.6	281.3	306.0	310.5	233.5	239.9	183.9	199.9	144.9	161.2
Construction of Research Facilities (includes Congressional add-ons)									
200.5	37.7	70.6	77.1	58.2	87.2	168.6	51.5	138.3	231.7
Reimbursables (funds from services rendered: work for other agencies, calibrations, SRM sales, etc.)									
114.8	116.6	125.8	135.0	152.7	149.0	174.9	160.2	170.3	170.9
900.4	746.6	832.2	881.4	789.8	855.4	926.0	852.4	903.5	1,098.0

* FY 2009 amounts include obligations relating to funding NIST received in accordance with American Reinvestment and Recovery Act (ARRA).

Source: Janet Miller and Suzanne Evans, NIST Budget Division (2000-2005). Tim Day, NIST Budget Division (2006-2009).

APPENDIX J

NIST PUBLICATION SERIES

This appendix lists the current periodical and nonperiodical NIST publications. Following each publication name is the NIST Research Library call number, the date of inception of the publication under its present name, and a description of the materials therein. See *Responding to National Needs*, Appendix J, for information on predecessor publications. The official descriptions of all current periodical and nonperiodical NIST publications can be found in the NIST Administrative Manual, Subchapter 4.09, Appendix J.

Federal Information Processing Standards
JK468.A8A3
No. 0 (1968)-Present

Publications in this series collectively constitute the Federal Information Processing Standards Register. The Register serves as the official source of information in the Federal Government regarding standards issued by NIST pursuant to the Federal Property and Administrative Services Act of 1949 as amended, Public Law 89-306 (79 Stat. 1127), and as implemented by Executive Order 11717 (38 FR 12315, dated May 11, 1973) and Part 6 of Title 15 CFR (Code of Federal Regulations).

Journal of Physical and Chemical Reference Data
Q199.J65
Vol. 1 (1972)-Present

This journal provides critically evaluated physical and chemical property data and critical reviews of measurement techniques. It is not an outlet for original experimental measurements or for review articles of a descriptive or primarily theoretical nature. The National Standard Reference Data System is one source of contributions to the Journal. JPCRD is published by the American Institute of Physics for NIST.

Journal of Research of the National Institute of Standards and Technology
QC1.U524
Vol. 93 no. 6 (1988)-Present

Reports NIST research and development in those disciplines of the physical and engineering sciences in which the Institute is active. These include physics, chemistry, engineering, mathematics, and computer sciences. Papers cover a broad range of subjects, with major emphasis on measurement methodology and the basic technology underlying standardization. Also included from time to time are survey articles on topics closely related to the Institute's technical and scientific programs. Issued six times a year.

Letter Circulars of the National Institute of Standards and Technology
QC100.U5775
No. 1135 (1988)-Present

Irregularly published lists of NIST publications and references, and general information concerning specific subjects on which popular interest had been demonstrated through inquiries addressed to NIST.

National Standard Reference Data Series
QC100.U573
No. 75-120 (2000)-Present

Provides quantitative data on the physical and chemical properties of materials, compiled from the world's literature and critically evaluated. Developed under a worldwide program coordinated by NIST under the authority of the National Standard Data Act (Public Law 90-396).

NIST Building Science Series
TA435.U58
No. 166 (1989)-Present
Disseminates technical information developed at the Institute on building materials, components, systems, and whole structures. The series presents research results, test methods, and performance criteria related to the structural and environmental functions and the durability and safety characteristics of building elements and systems.

NIST Grant/Contract Reports
QC100.U6N25
88-551-Present
This series reports work of an outside person or organization working under grantor contract from NIST.

NIST Handbooks
QC1.U51
No. 146 (1989)-Present
Recommended codes of engineering and industrial practice (including safety codes) developed in cooperation with interested industries, professional organizations, and regulatory bodies.

NIST Interagency Reports/Internal Reports
QC100.U56
No. 88-3837 (1988)-Present
A special series of interim or final reports on work performed by NIST for outside sponsors (both government and non-government). These publications often have a limited or restricted distribution.

NIST Monographs
QC100.U556
No. 175 (1990)-Present
Major contributions to the technical literature on various subjects related to the Institute's scientific and technical activities.

NIST National Construction Safety Team Act Reports
TH443.N35
No. 1. 2005-Present
This series comprises the reports of investigations carried out under Public Law 107-231, the technical cause(s) of the building failure investigated; any technical recommendations for changes to or the establishment of evacuation and emergency response procedures; any recommended specific improvements to building standards, codes, and practices; and recommendations for research and other appropriate actions to help prevent future building failures.

NIST Special Publications
QC100.U57
No. 750 (1988)-Present
These publications include proceedings of conferences sponsored by NIST, NIST annual reports and bibliographies, as well as specialized information in the form of wall charts and pocket cards. Subseries of NIST Special Publications are used for specific areas of specialized information, such as calibration services and computer security.

NIST Technical Notes
QC100.U5753
No. 1250 (1988)-Present
Studies or reports which are complete in themselves but restrictive in their treatment of a subject. Analogous to monographs but not so comprehensive in scope or definitive in treatment of the subject area. Often serve as a vehicle for final reports of work performed at NIST under the sponsorship of other government agencies.

Planning Reports
QC100.U5P5
No. 1 (1980)-Present
Internal reports that are shared with government or private agencies.

Voluntary Product Standards
QC100.U563
No. 14 (1969)-Present
Developed under procedures published by the Department of Commerce in Part 10, Title 15, of the Code of Federal Regulations. The standards establish nationally recognized requirements for products, and provide all concerned interests with a basis for common understanding of the characteristics of the products. NIST administers this program in support of the efforts of private-sector standardizing organizations.

Source: NIST Information Services Division

APPENDIX K

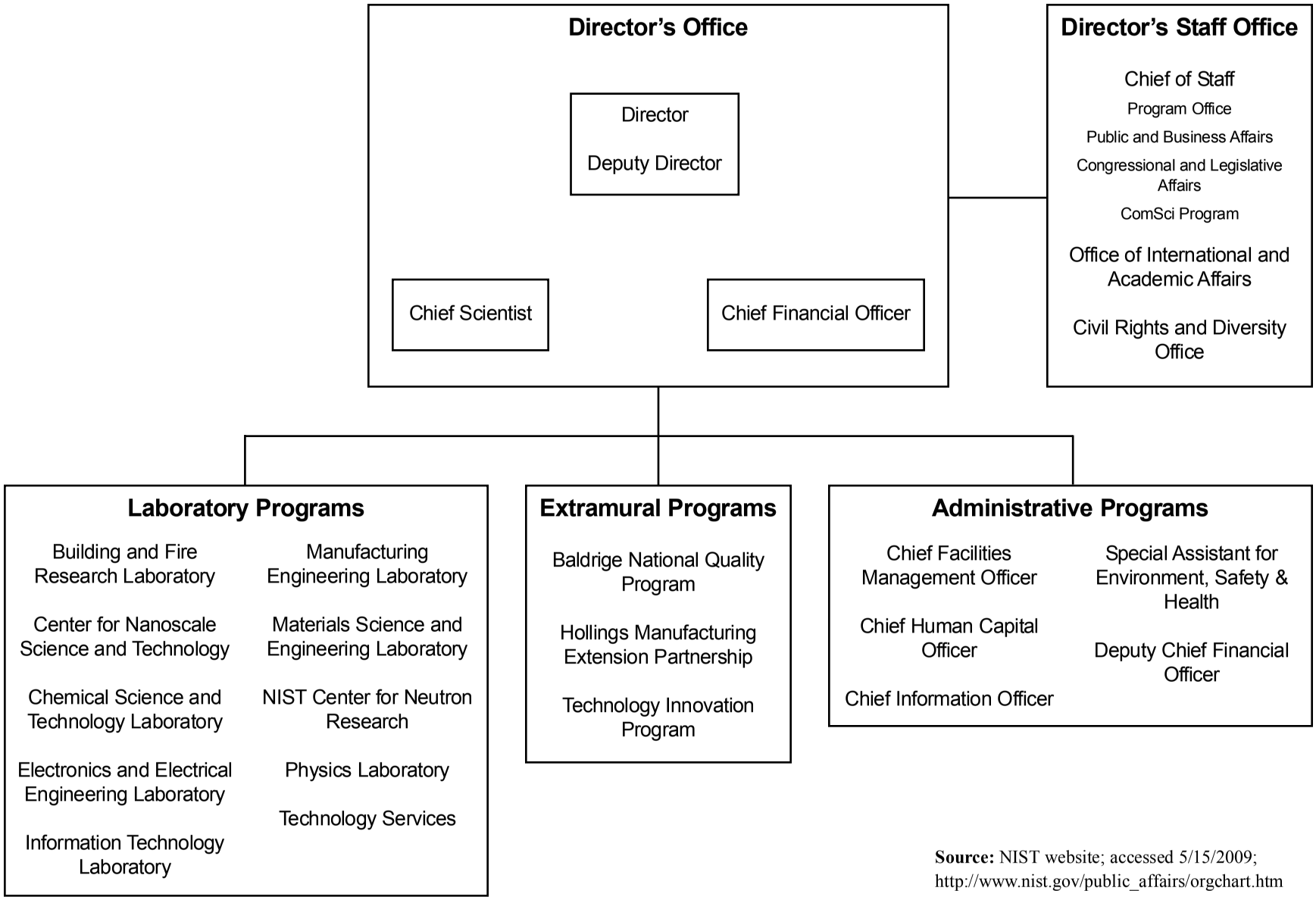
STRUCTURE AND LEADERSHIP OF NIST

The NIST administrative structure changed several times during the years 1991-2009. A few changes of note included the creation in April 2007 of two new operating units–the National Center for Neutron Research and the Center for Nanoscale Science and Technology. The former had previously been a division in the Materials Science and Engineering Laboratory. These changes first appeared on the March 2008 organizational chart.

Another change was the establishment of the position of Chief Scientist in the Director's Office in June 2006. The first appointment appeared on the January 2007 organizational chart. The Chief Scientist position reported to the Director, and was created to assist the Director and other NIST senior management in identifying specific technical opportunities for NIST, ensuring that NIST continues its legacy of technical excellence, and representing NIST at a high level in technical meetings and in international matters. The Chief Scientist also helped promote and plan science, technology, engineering, and mathematics education programs at NIST.

The NIST organization chart of May 2009 is included in this appendix.

NIST ORGANIZATIONAL CHART



Source: NIST website; accessed 5/15/2009; http://www.nist.gov/public_affairs/orgchart.htm