

NIST Gallery of Distinguished Scientists, Engineers, and Administrators



Celebrating Our 2022 Honorees

October 28, 2022



National Bureau of Standards gate from Connecticut and Van Ness site



Descendant of Newton's apple tree on Gaithersburg campus

Sometime between 5 p.m. on Monday, June 7, and 12:45 p.m. on June 8, 2021 NIST's official Newton Apple Tree toppled over and died. This arboreal clone from the garden in which Isaac Newton saw an apple fall in 1666 has finally itself succumbed to gravity. Years ago, NIST made additional clones of our Newton Apple Tree and one will now become our "official" tree.

NIST Gallery of Distinguished Scientists, Engineers, and Administrators

Adding Eight Honorees to the Gallery

**Friday, October 28, 2022
Virtual Ceremony**

10:30 am – Noon

Arranged by
STANDARDS ALUMNI ASSOCIATION



**Harry Hertz, President
Bettijoyce Lide, Chair, Portrait Gallery Committee**

History of the NBS/NIST Gallery

The Portrait Gallery had its origin in the framed photos of early NBS leaders that graced the walls of the Senior Lunch Club on the third floor of the South Building at the old site on Connecticut Avenue in Washington. These included well-known figures from early NBS history such as Harry Diamond, Hugh Dryden, W. W. Coblenz, William Hillebrand, and Edward Rosa. When the move to Gaithersburg took place in the mid-1960s, the portraits were moved to the new NBS Lunch Club, which was at the site of the present-day Heritage Room. In the early 1970s Director Lewis Branscomb proposed that these portraits form the beginning of a gallery to honor distinguished NBS alumni. When the lunch room was refurbished in 1985, the portraits were moved to the alcove just outside in the hallway.

In 1988 Director Ernest Ambler asked the SAA to oversee the creation of an up-to-date portrait gallery. SAA President Churchill Eisenhart organized a committee of senior retirees representing both technical and administrative areas. The other members of the original committee were Chester Page, Richard Cook, James Wright, Bascom Birmingham, Lawrence Wood, and Reeves Tilley. This committee announced the initial members of the NIST Gallery of Distinguished Scientists, Engineers, and Administrators in 1988. This list of 79 NBS/NIST alumni included those whose portraits were already displayed in the alcove, as well as a number of more recent alumni.

Although the SAA continued a Portrait Gallery Committee to oversee the display of the portraits, a systematic procedure to add to the list of honorees was not established immediately. Except for the addition of 19 portraits in 1995, no further additions were made until Hans Oser, Ron Johnson, and Reeves Tilley reactivated the SAA committee in 1998. Since that time a formal induction ceremony has been held each year, including a reception for friends and family. Furthermore, in an effort led by Anneke Sengers, with the help of Ralph Hudson and David Lide, the SAA drew up selection criteria and established a procedure for soliciting nominations in a standard format, appointing a jury to evaluate the candidates, and deciding which ones to propose to the NIST Director for approval. The Portrait Gallery is now one of the SAA activities most visible to the NIST staff.

Today, the 368 portraits line both walls of the corridor. In addition, digital kiosks that contain all the portraits and biographies have been installed in both Gaithersburg and Boulder and are available for use by both staff and visitors. Furthermore, all the portraits and biographical material can be accessed via the Internet through the NIST Digital Archives.

--by David Lide

SAA Portrait Gallery Committee 2022

Committee Chair Bettijoyce Lide
Committee Vice Chair Harry Hertz
Digital Portrait Gallery Jeffrey Horlick
Subcommittees:
Nominations and Elections Harry Hertz, Bettijoyce Lide, Barbara Uglik
Liaison with Honorees, Program Brochure Noël Raufaste and Jeffrey Horlick
Portrait Ceremony and Advertising Jeffrey Horlick, Norman Belecki, and Richard Lindstrom

2022 Jury

William Boettinger
Jacqueline Calhoun
Cita Furlani
John Gross

Harry Hertz (non-voting)
Matthew Heyman
Bettijoyce Lide (non-voting)

Kent Rochford
Robert Shull
Barbara Uglik (non-voting)

PROGRAM

Opening Comments Harry Hertz, President, SAA

Welcoming Remarks Laurie Locascio, Director, NIST

Presentations Bettijoyce Lide, Chair, Portrait Gallery Committee

Ballou, Susan M. ADLP Years at NBS/NIST: 2000-2020

For exemplary leadership advancing research and applied solutions for forensic science within NIST, other government agencies, academia, the legal community, and standards development organizations

Beall, James A. PML Years at NBS/NIST: 1982-2021

For creating microfabrication capabilities that enabled a wide range of groundbreaking research, and for developing best-in-the-world superconducting devices including sensors for astrophysics and materials analysis

Lew, Hai S EL Years at NBS/NIST: 1968-2020

For a lifetime of outstanding organizational and technical leadership in driving national standards resulting in improved design and construction practices for resilient, safe, and cost-effective structures

McFadden, Geoffrey B. ITL Years at NBS/NIST: 1982-2021

For groundbreaking contributions to the theory of phase transitions, hydrodynamic and morphological stability, and thermosolutal transport in materials, resulting in powerful predictive tools for materials science

O'Brian, Thomas R. PML Years at NBS/NIST: 1991-2019

For his broad range of technical and programmatic leadership, spanning all NIST programs and operating units, that resulted in exceptional global metrology impacts

Porter, Gail J. OD Years at NBS/NIST: 1978-1981; 1991-2020

For vigorously safeguarding, enhancing, and promoting NIST's technical excellence, accomplishments, and integrity to a wide variety of stakeholders by creatively and energetically using cutting-edge and conventional communication tools and techniques

Prather, Denise D. PML Years at NBS/NIST: 1970-2021

For outstanding support of NIST personnel and stakeholders of NIST's calibration services, resulting in increased efficiency and quality control throughout the public and private sectors of the U.S. economy

Unguris, John PML Years at NBS/NIST: 1980-2018

For pioneering the development of Scanning Electron Microscopy with Polarization Analysis (SEMPA) and its use for direct, high spatial resolution, quantitative imaging of magnetic nanostructures for both science and industry

Closing Remarks and Acknowledgments Bettijoyce Lide



SUSAN M. BALLOU

NBS/NIST: 2000–2020
INDUCTED: 2022

B: 1955, Alexandria, Minnesota

EDUCATION:

University of New Haven, BS (Criminal Justice, Forensic Science), 1977
Johns Hopkins University, MS (Biotechnology), 2000

CITATION: For exemplary leadership advancing research and applied solutions for forensic science within NIST, other government agencies, academia, the legal community, and standards development organizations

POSITIONS HELD AT NBS/NIST:

Program Manager for Forensic Sciences, Office of Law Enforcement Standards (OLES), Electronics and Electrical Engineering Laboratory (EEEL), 2000-2005
Program Manager, Forensic Science and Liaison to Department of Justice (DOJ) and Department of Homeland Security (DHS) for Forensic Attribution, OLES, EEEL/Special Programs Office (SPO), Associate Director for Laboratory Programs (ADLP), 2005-2014
Forensic Science Center of Excellence Federal Program Officer, SPO, ADLP, 2014-2019
Forensic Science Research Program Manager, SPO, ADLP, 2015-2019
Acting Director, SPO, ADLP, 2020

HONORS:

National Institute of Justice, Outstanding Service Award (2000)
U.S. Department of Commerce Silver Medal (2003)
NIST Equal Employment Opportunity/Diversity Award (2005)
ASTM Forensic Science Award (2009)
American Academy of Forensic Sciences Board of Directors (2009-2012)
Mary E. Cowan Outstanding Service Award, American Academy of Forensic Sciences (2012)
ASTM Award of Merit - Honorary title of Fellow (2015)
Introduced to her Majesty, the Queen of England and His Royal Highness, Prince Philip, Leverhulme Research Centre for Forensic Science, University of Dundee, Scotland (2016)
American Academy of Forensic Sciences - President (2018-2019)

MEMBERSHIPS:

American Academy of Forensic Sciences
Mid-Atlantic Association of Forensic Scientists
ASTM International
International Association for Identification

PUBLICATIONS:

More than 20 publications including:
Abraham, A., Ackerman, K., ..., Ballou, S., et al., *Electronic Crime Scene Investigation: A Guide for First Responders*, U.S. DOJ NIJ NCJ 187736 (2001)
Song, J., Whitenton, E., Kelley, D., Clary, R., Ma, L., Ballou, S., and Ols, M., "SRM 2460/2461 Standard Bullets and Casings Project", *J. of Res. of NIST* 109 (6) (2004)
Abraham, A., Andrist, C., ..., Ballou, S., et al., *Forensic Examination of Digital Evidence: A Guide for Law Enforcement*, U.S. DOJ NIJ NCJ 199408 (2004)
Ballou, S., President's Editorial "The NAS Report: Ten Years of Response", *Journal of Forensic Sciences*, Vol 64 No 1 (2019)



JAMES A. BEALL

NBS/NIST: 1982–2021

INDUCTED: 2022

B: 1954, Cumberland, Maryland

EDUCATION:

Brown University, BA (Mathematics), 1976

University of Colorado, Boulder, MS (Electrical Engineering), (1983)

CITATION: For creating microfabrication capabilities that enabled a wide range of groundbreaking research, and for developing best-in-the-world superconducting devices including sensors for astrophysics and materials analysis

POSITIONS HELD AT NBS/NIST:

Electronics Engineer, Cryoelectronic Metrology Group, Electromagnetic Technology Division, National Engineering Laboratory/Electronics and Electrical Engineering Laboratory (EEEL) (Boulder), 1982-2010
Electronics Engineer, Quantum Devices Group, Quantum Electrical Metrology Division, Physical Measurement Laboratory (PML) (Boulder), 2010-2021
Guest Researcher, Quantum Sensors Group, Quantum Electromagnetics Division, PML (Boulder), 2021-

HONORS:

U.S. Department of Commerce Gold Medals (1989, 1993, 2012, and 2021)
NIST Bronze Medals (2004 and 2017)
NIST Colleagues' Choice Award (2012)

MEMBERSHIPS:

Phi Beta Kappa

PUBLICATIONS:

More than 210 publications including:

Zimmerman, J.E., Beall, J.A., Cromar, M.W., and Ono, R.H., "Operation of a Y-Ba-Cu-O rf SQUID at 81 K", *Appl. Phys. Lett.* 51, 617-618 (1987)

Lloyd, F.L., Hamilton, C.A., Beall, J.A., Go, D., Ono, R.H., and Harris, R.E., "A Josephson Array Voltage Standard at 10 V", *IEEE Electron Device Lett.* 8, 449-450 (1987)

Rowe, M.A., Ben-Kish, A., DeMarco, B., Leibfried, D., Meyer, V., Beall, J., Britton, J., Hughes, J., Itano, W.M., Jelenkovic, B., Langer, C., Rosenband, T., and Wineland, D.J., "Transport of Quantum States and Separation of Ions in a Dual RF Ion Trap", *Quantum Inf. Comput.* 2, 257-271 (2002)

Rafac, R.J., Young, B.C., Beall, J.A., Itano, W.M., Wineland, D.J., and Bergquist, J.C., "Sub-dekahertz Ultraviolet Spectroscopy of 199Hg⁺", *Phys. Rev. Lett.* 85, 2462-2465 (2000)

Hanson, D., Hoover, S., Crites, A., Ade, P.A.R., Aird, K.A., Austermann, J.E., Beall, J.A., et al., "Detection of B-Mode Polarization in the Cosmic Microwave Background with Data from the South Pole Telescope", *Phys. Rev. Lett.* 111, 141301 (2013)

Henderson, S.W., Allison, R., Austermann, J., Baildon, T., Battaglia, N., Beall, J.A., et al., "Advanced ACTPol Cryogenic Detector Arrays and Readout", *J. Low Temp. Phys.* 184, 772-779 (2016)



HAI S. LEW

NBS/NIST: 1968–2020

INDUCTED: 2022

B: 1936, Seoul, Korea

EDUCATION:

Washington University, BS (Architectural Engineering), 1960

Lehigh University, MS (Civil Engineering), 1963

University of Texas at Austin, PhD (Civil Engineering), 1968

CITATION: For a lifetime of outstanding organizational and technical leadership in driving national standards resulting in improved design and construction practices for resilient, safe, and cost-effective structures

POSITIONS HELD AT NBS/NIST:

Research Structural Engineer, Center for Building Technology, Institute for Applied Technology/National Engineering Laboratory (NEL), 1968-1989

Chief, Structures Division, NEL/Building and Fire Research Laboratory (BFRL), 1989-1998

Senior Research Structural Engineer, BFRL/Engineering Laboratory, 1998-2020

HONORS:

NIST Bronze Medals (1980 and 2017)

American Concrete Institute Wason Medals (1980 and 1988); Henry L. Kennedy Award (1990); Henry C. Turner Medal (1999); Honorary Membership (2010); and Chester Paul Siess Award (2016)

U.S. Department of Commerce Silver Medals (1982 and 2001)

National Safety Council's Cameron Award (1982)

U.S. Department of Commerce Federal Engineer of the Year (1995)

U.S. Department of Commerce Gold Medal (2005)

ASCE Walter P. Moore, Jr. Award (2005)

Japan Society of Civil Engineers International Lifetime Contribution Award (2009)

PCI George D. Nasser Award (2018)

Fellow, American Society of Civil Engineers

NIST Dean of Staff (2017-2020)

MEMBERSHIPS:

American Concrete Institute, American Institute of Steel Construction, American Society of Civil Engineers, National Academy of Construction, National Academy of Engineering of Korea, National Institute of Building Sciences, Precast Concrete Institute, Licensed Professional Engineer State of Maryland

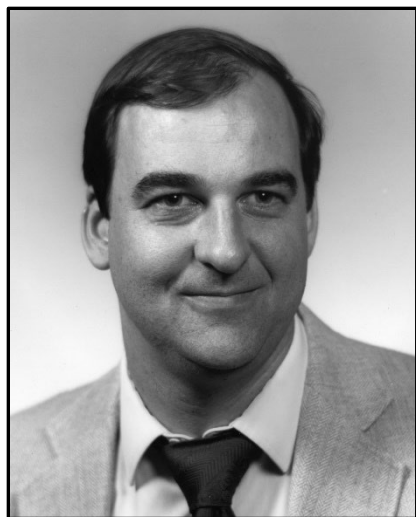
PUBLICATIONS:

More than 150 publications including:

Lew, H.S., Carino, N.J., Fattal, S.G., and Batts, M.E., *Investigation of Construction Failure of Harbour Cay Condominium in Cocoa Beach, Florida*, NBSIR 81-2374, National Bureau of Standards (1981)

Lew, H.S., Editor, *Performance of Structures During the Loma Prieta Earthquake of October 17, 1989*, NIST Special Publication 778, National Institute of Standards and Technology (1990)

Lew, H.S., Bukowski, R.W., and Carino, N.J., *Design, Construction, and Maintenance of Structural and Life Safety Systems, Federal Building and Fire Safety Investigation of the World Trade Center Disaster (NIST NCSTAR 1-1)*, National Institute of Standards and Technology (2005)



GEOFFREY B. MCFADDEN

NBS/NIST: 1982–2021

INDUCTED: 2022

B: 1953, Stillwater, Minnesota

EDUCATION:

Rice University, BA (Chemical Physics, Mathematical Sciences, Mathematics), 1975

New York University, MS (Mathematics), 1977

New York University, PhD (Mathematics), 1979

CITATION: For groundbreaking contributions to the theory of phase transitions, hydrodynamic and morphological stability, and thermosolutal transport in materials, resulting in powerful predictive tools for materials science

POSITIONS HELD AT NBS/NIST:

Mathematician, Mathematical Analysis Division, Center for Applied Mathematics, National Engineering Laboratory/Computing and Applied Mathematics Laboratory/Information Technology Laboratory (ITL), 1982-1999

Leader, Mathematical Modeling Group, Mathematical and Computational Sciences Division, ITL, 1999-2010

NIST Fellow, Mathematical and Computational Sciences Division/Applied and Computational Mathematics Division, ITL, 2004-2021

HONORS:

U.S. Department of Commerce Silver Medal (1984)

Arthur S. Flemming Award for Federal Service (1989)

U.S. Department of Commerce Gold Medal (1991)

Fellow, American Physical Society (2001)

Fellow, Washington Academy of Sciences (2012)

Fellow, Society for Industrial and Applied Mathematics (2012)

MEMBERSHIPS:

American Physical Society

Washington Academy of Sciences

Society for Industrial and Applied Mathematics

PUBLICATIONS:

More than 215 publications including:

Coriell, S.R., McFadden, G.B., and Sekerka, R.F., “Cellular Growth During Directional Solidification”, *Annual Review of Materials Science* 15, 119-145 (1985)

Glicksman, M.E., Coriell, S.R., and McFadden, G.B., “Interaction of Flows with the Crystal-Melt Interface”, *Annual Review of Fluid Mechanics* 18, 307-335 (1986)

Wheeler, A.A., Boettinger, W.J., and McFadden, G.B., “A Phase-Field Model for Isothermal Phase Transitions in Binary Alloys”, *Physical Review A* 45, 7424-7439 (1992)

McFadden, G.B., Wheeler, A.A., Braun, R.J., Coriell, S.R., and Sekerka, R.F., “Phase-Field Models for Anisotropic Interfaces”, *Physical Review E* 48, 2016-2024 (1993)

Anderson, D.M., McFadden, G.B., and Wheeler, A.A., “Diffuse-Interface Methods in Fluid Mechanics”, *Annual Review of Fluid Mechanics* 30, 139-165 (1998)

Sekerka, R.F., Coriell, S.R., and McFadden, G.B., “Morphological Stability”, *Handbook of Crystal Growth*, Vol. I, 2nd Edition, 595-630 (2015)



THOMAS R. O'BRIAN

NBS/NIST: 1991–2019

INDUCTED: 2022

B: 1955, Plainfield, New Jersey

D: 2019, Superior, Colorado

EDUCATION:

Washburn University, BS (Chemistry), 1978

University of Wisconsin, Madison, PhD (Experimental Atomic Physics), 1991

CITATION: For his broad range of technical and programmatic leadership, spanning all NIST programs and operating units, that resulted in exceptional global metrology impacts

POSITIONS HELD AT NBS/NIST:

NAS/NRC Postdoctoral Research Associate, Electron and Optical Physics Division, Physics Laboratory (PL), 1991-1993

Physicist, Optical Technology Division, PL, 1994-1997

Scientific Advisor, PL, 1997-1998

Program Analyst, Program Office, Office of the NIST Director (OD), 1998-2000

Senior Program Analyst, Program Office, OD, 2000-2003

Chief, Time and Frequency Division, PL, 2003-2008

Director, NIST Boulder Laboratories, 2006-2008

Director, Program Office, OD, 2008-2009

Chief, Time and Frequency Division, Physical Measurement Laboratory (PML), 2009-2015

Chief, Quantum Physics Division, PML, 2009-2019

HONORS:

NIST Bronze Medal (2002)

NIST Building Tomorrow's Workplace Award (2004)

U.S. Department of Commerce Gold Medal (2010)

U.S. Department of Commerce Silver Medal (2012)

MEMBERSHIPS:

American Physical Society

Institute of Electrical and Electronics Engineers (IEEE)

Optical Society of America

PUBLICATIONS:

More than 40 publications including:

O'Brian, T.R., Kim, J.-B., Lan, G., McIlrath, T.J., and Lucatorto, T.B., "Verification of the Ponderomotive Approximation for the ac Stark Shift in Xe Rydberg Levels", *Phys. Rev. A* 49, 649-652 (1994)

Thompson, A., Early, E.A., and O'Brian, T.R., "Ultraviolet Spectral Irradiance Scale Comparison: 210 nm to 300 nm", *J. of Res. of NIST*, 103, 1-13 (1998)

Early, E.A. and O'Brian, T.R., "NIST Transmission Density Instrument", *Analytica Chimica Acta* 380, 143-153 (1999)



GAIL J. PORTER

NBS/NIST: 1978–1981 and 1991–2020
INDUCTED: 2022

B: 1956, West Covina, California

EDUCATION:

University of Delaware, BA (English), 1977

University of Maryland, MA (Journalism), 1982

CITATION: For vigorously safeguarding, enhancing, and promoting NIST's technical excellence, accomplishments, and integrity to a wide variety of stakeholders by creatively and energetically using cutting-edge and conventional communication tools and techniques

POSITIONS HELD AT NBS/NIST:

Public Information Specialist and Writer/Editor, Public Information Division, Office of Administration and Information Systems, 1978-1981

Public Affairs Specialist and Coordinator, Special Projects, Public and Business Affairs Division, Office of the Director of Administration and Chief Financial Officer, 1991-2003

Chief and Acting Chief, Communications and Inquiries, Public and Business Affairs Division, Office of the Director of Administration and Chief Financial Officer, 2004-2006

Director, Public Affairs Office, Office of the Director, 2006-2020

SIGNIFICANCE OF WORK:

Over a 33-year career Ms. Porter led major communications initiatives that strengthened and protected NBS/NIST's reputation for scientific and technical excellence. As a science writer, editor, video producer, and manager, she creatively used, and mentored others in using, the latest tools to better communicate the impact of NBS/NIST's work with industry, academic and government researchers; the news media; government officials; and other key stakeholders. She was among the first at NIST to recognize the power and possibility of the World Wide Web (WWW) for broadly sharing technical research results. She advocated for and helped establish NIST's first agency-wide website. She encouraged development of novel content to help NIST reach new WWW audiences from computer coders through GitHub to young students through animations featuring measurement superheroes. As NIST Public Affairs Director, Ms. Porter skillfully guided NIST's outreach to conventional media outlets. She also oversaw creation of NIST's first social media accounts (Facebook, LinkedIn, Twitter, YouTube, and later Instagram, GitHub, and Reddit), including drafting new policy guidance that helped employees effectively use the new channels while protecting NIST's reputation. Ms. Porter supervised production of dozens of periodicals and special publications, including newsletters spotlighting the breadth of NIST accomplishments in easy-to-understand text and graphics. She wrote major portions of multiple reports that effectively documented to the Department of Commerce, Office of Management and Budget, and Congress the need for increased funding for NIST's programs and facilities. Ms. Porter was the inspiring force and project lead for two generations of museum quality interactive exhibits in the NIST Administration Building Lobby that combined video, compelling images laboratory artifacts, and text into engaging displays to introduce NIST to thousands of visitors annually.

HONORS:

NIST Bronze Medal (1993)

Blue Pencil Awards, National Association of Government Communicators, 1993 and 1996

President, D.C. Science Writers Association (2006-2007)

Shorty Social Good Award (2020)

MEMBERSHIPS:

D.C. Science Writers Association

National Association of Science Writers



DENISE D. PRATHER

NBS/NIST: 1970–2021

INDUCTED: 2022

B: 1953, Olney, Maryland

EDUCATION:

Gaithersburg High School

CITATION: For outstanding support of NIST personnel and stakeholders of NIST's calibration services, resulting in increased efficiency and quality control throughout the public and private sectors of the U.S. economy

POSITIONS HELD AT NBS/NIST:

Administrative Aid, Analytical Chemistry Division, Institute for Materials Research, 1970-1973

Administrative Aid, Electrical Reference Standards Section, Electricity Division, Institute for Basic Standards/National Measurement Laboratory (NML), 1973-1981

Administrative Support - calibration services, Electricity Division, NML/National Engineering Laboratory/ Electronics and Electrical Engineering Laboratory, 1981-2010

Administrative Specialist - calibration services, Physical Measurement Laboratory, 2010-2021

SIGNIFICANCE OF WORK:

Denise Prather provided unmatched administrative and logistical support of NBS/NIST calibration services for five decades. Her personal attention to staff and customers, and her extensive knowledge of the calibration services, steered them through the many administrative changes that took place over her years at the agency. Prather defined the role of the calibration administrator as both the internal and external face of the calibration services. Her customer relations skills and abilities were unique and outstanding, and by personally assuming the responsibility of solving the customer's problems or concerns, she increased the effectiveness of the services by letting scientists and engineers focus on the technical and not the operational. She guided the calibration services through re-organizational changes as Institutes became Centers and then Laboratories and, critically, as the administrative support of the services became centralized about 2012. She served as the "NIST go-to person" for calibration questions and built relationships with internal and external stakeholders to smoothly guide calibration services and efficiently achieve the complicated administrative and logistical tasks of calibrations.

HONORS:

Eugene Casson Crittenden Award (1992)

Measurement Services Award (1997)

NIST Bronze Medal (1998)

Diversity Award (2003)

Judson C. French Award (2013)

MEMBERSHIPS:

National Conference of Standards Laboratories International

Measurement Science Conference



JOHN UNGURIS

NBS/NIST: 1980–2018

INDUCTED: 2022

B: 1950, Diez, Germany

EDUCATION:

Carnegie Mellon University, BS (Physics), 1973

University of Wisconsin, Madison, PhD (Physics), 1980

CITATION: For pioneering the development of Scanning Electron Microscopy with Polarization Analysis (SEMPA) and its use for direct, high spatial resolution, quantitative imaging of magnetic nanostructures for both science and industry

POSITIONS HELD AT NBS/NIST:

NAS/NRC Postdoctoral Research Associate, Radiation Physics Division, National Measurement Laboratory (NML), 1980-1982

Physicist/Project Leader, Electron Physics Group, Electron and Optical Physics Division, NML/Physics Laboratory, 1982-2007

Physicist, Electron Physics Group, Center for Nanoscale Science and Technology, 2007-2018

Guest Researcher, Nanoscale Device Characterization Division, Physical Measurement Laboratory, 2018-

HONORS:

NIST Bronze Medal (1989)

Sigma Xi Young Scientist Award (1990)

Fellow, American Physical Society (1996)

Joseph F. Keithley Award, American Physical Society (2015)

MEMBERSHIPS:

American Physical Society

American Vacuum Society

Microscopy Society of America

PUBLICATIONS:

More than 105 publications and one patent including:

Unguris, J., Seiler, A., Celotta, R.J., Pierce, D.T., Johnson, P.D., and Smith, N.V., “Spin-Polarized Inverse Photoelectron Spectroscopy of Solid Surfaces: Ni(110)”, *Physical Review Letters* 49, 1047-1050 (1982)

Pierce, D.T., Celotta, R.J., and Unguris, J., *Apparatus and Method for Electron Spin Polarization Detection*, US Patent 4,760,254 (July 26, 1988)

Scheinfel, M.R., Unguris, J., Kelly, M.H., Pierce, D.T., and Celotta, R.J., “Scanning Electron Microscopy with Polarization Analysis (SEMPA)”, *Review of Scientific Instruments* 61, 2501-2527 (1990)

Unguris, J., Celotta, R.J., and Pierce, D.T., “Observation of Two Different Oscillation Periods in the Exchange Coupling of Fe/Cr/Fe(100)”, *Physical Review Letters* 67, 140-143 (1991)

Unguris, J., Celotta, R.J., and Pierce, D.T., “Magnetism in Cr Thin Films on Fe(100)”, *Physical Review Letters* 69, 1125-1128 (1992)

McMorran, B.J., Agrawal, A., Anderson, I.M., Herzing, A.A., Lezec, H.J., McClelland, J.J., and Unguris, J., “Electron Vortex Beams with High Quanta of Orbital Angular Momentum”, *Science* 331, 192-195 (2011)

NIST Gallery of Distinguished Scientists, Engineers, and Administrators - 2022

Name, Tenure, Year Inducted into Gallery

Abramowitz, Milton	1938-1958	1995
Achenbach, Paul R.	1937-1979	1995
Albus, James S.	1973-2008	2009
Alexander, Samuel N.	1946-1967	1988
Allan, David W.	1960-1992	1995
Appel, William D.	1922-1959	N/A
Arif, Muhammad	1988-2018	2019
Armstrong, George T.	1951-1982	2002
Bailey, Dana K.	1947-1955 & 1959-1965	2003
Ballou, Susan M.	2000-2020	2022
Barbrow, Louis E.	1921-1969	1988
Barnes, James A.	1957-1983	1995
Bates, Phaon H.	1910-1945	2006
Bates, Roger	1939-1969	1988
Baum, Howard	1975-2006	2007
Bay, Zoltan L.	1955-1972	2006
Beall, James A.	1982-2021	2022
Bean, Howard S.	1917-1958	2007
Beatty, Robert W.	1948-1974	2001
Beckett, Charles	1950-1976	N/A
Belecki, Norman B.	1970-1999	2020
Bennett, Herbert S.	1966-2015	2021
Bennett, John A.	1936-1976	1995
Bennett, Lawrence	1958-1996	2000
Bentz, Dale P.	1980-1987 & 1988-2018	2019
Berger, Martin J.	1952-1988	2001
Berger, Patricia W.	1976-1978 & 1979-1992	2006
Berquist, James	1978-2013	2013
Bertocci, Ugo	1971-1992	2013
Birmingham, Bascom W.	1951-1982	1988
Birnbaum, George	1946-1956 & 1975-1995	2000
Blanch, Gertrude	1938-1954	2017
Blum, William	1909-1952	1988
Boettinger, William	1972-2011	2012
Brady, Edward L.	1963-1987	1988
Branstad, Dennis K.	1973-1994	2002
Brenner, Abner	1930-1971	1988
Brickwedde, Ferdinand G.	1925-1956	1988
Brode, Wallace R.	1923-1928 & 1947-1958	1988
Broida, Herbert P.	1949-1963	1988
Brombacher, William G.	1922-1954	1988
Brown, Frederick W.	1954-1962	1988
Buckingham, Edgar	1906-1937	2006
Buntten-Mines, Elaine	1968-1997	2010
Burrows, James H.	1979-1995	1999
Cage, Marvin E.	1976-2005	2014

Name, Tenure, Year Inducted into Gallery

Cahn, John W.	1977-2006	2007
Cali, J. Paul	1966-1978	1995
Cameron, Joseph M.	1947-1977	2002
Carpenter, B. Stephen	1964-2005	2007
Carpenter, Robert J.	1955-1992	1999
Carr, Kevin	1989-2005	2014
Carter, Robert S.	1958-1989	2003
Cassidy, Esther C.	1955-1997	1999
Caswell, Randall S.	1952-1994	1999
Cavanagh, Richard R.	1979-2019	2021
Celotta, Robert J.	1971-2017	2018
Cezairliyan, Ared	1963-1997	2015
Chapman, Robert E.	1975-2016	2018
Clark, Alan F.	1964-2004	2011
Coblentz, William W.	1905-1944	1988
Collins, Belinda L.	1974-2012	2021
Colvin, Burton H.	1972-1991	2002
Cook, Richard K.	1935-1966 & 1971-1976	2006
Costrell, Louis	1946-1987	2006
Coursey, Bert M.	1972-2011	2016
Crittenden, Eugene C.	1909-1950	1988
Croarkin, M. Carroll	1955-1963 & 1973-2000	2013
Cullen, William C.	1948-1981	2002
Currie, Lloyd A.	1962-2000	2004
Curtis, Harvey L.	1907-1946	1988
Curtiss, John H.	1946-1953	1988
Curtiss, Leon F.	1926-1961	2003
Cutkosky, Robert D.	1955-1991	2015
Day, Gordon W.	1969-2003	2004
Dellinger, J. Howard	1907-1948	1988
Deprit, Andre	1979-2003	2007
Deslattes, Richard D.	1962-2001	2002
Diamond, Harry	1927-1948	1988
Didion, David A.	1960-1962 & 1971-2002	2007
Digges, Thomas G.	1920-1962	1998
DiMarzio, Edmund A.	1963-1998	2004
Dodson, Donna F.	1987-1999 & 2003-2020	2021
Dorsey, N. Ernest	1903-1920 & 1928-1943	1988
Dowd, Ellen	1967-1973 & 1980-2006	2010
Driscoll, Raymond L.	1936-1971	2016
Dryden, Hugh L.	1918-1947	1988
Dunfee, Bernadine	1943-1976	2002
Dunmore, Francis W.	1918-1949	1988
Dunn, Gordon	1961-2002	2010
Durst, Richard A.	1963-1990	2009

NIST Gallery of Distinguished Scientists, Engineers, and Administrators - 2022

Name, Tenure, Year Inducted into Gallery

Dziuba, Ronald F.	1961-2000	2007
Eberhardt, Keith	1978-2000	2009
Eby, Ronald K.	1963-1984	2003
Edmonds, Jack R.	1959-1969	2014
Egelhoff, William F.	1979-2010	2011
Eisenhart, Churchill	1946-1983	1988
Ekin, John (Jack)	1973-2007	2013
Engen, Glenn F.	1954-1986	2001
Evenson, Kenneth M.	1963-2001	2002
Fanney, A. Hunter	1977-2017	2018
Fano, Ugo	1946-1966	1988
Fickett, Frederick R.	1967-2003	2007
Fields, Richard J.	1977-2004	2009
Fischer, Louis A.	1901-1921	1988
Fletcher, Donald G.	1951-1985	2002
Foote, Paul D.	1911-1927	1988
Franzen, Douglas L.	1970-1997	1999
Frederikse, Hans P. R.	1953-1996	2006
French, Judson C.	1948-1999	2001
Frohnsdorff, Geoffrey J.	1973-2002	2005
Furlani, Cita	1981-2012	2013
Furukawa, George T.	1948-1985	2003
Gadzuk, J. William	1968-2008	2009
Gann, Richard	1976-2012	2013
Gardner, Irvine C.	1921-1959	1988
Garner, Ernest L.	1958-2000	2021
Gary, Thomas A.	1962-2000	2005
Gebbie, Katharine B.	1968-2016	2016
Gibson, Kasson	1916-1955	N/A
Gilliland, Gary L.	1986-2005	2018
Glenn, K. Robert	1987-2020	2021
Glinka, Charles	1975-2007	2012
Goldberg, Robert N.	1969-2008	2016
Green, Melville	1954-1968	2010
Greenberg, Robert R.	1976-2008	2016
Greenspan, Martin	1935-1974	2000
Gross, John L.	1983-2016	2020
Guildner, Leslie A.	1959-1982	2016
Hall, John L.	1961-2004	2005
Haller, Wolfgang	1958-1984	2017
Hamer, Walter J.	1935-1970	1988
Hamilton, Clark A.	1971-1999	2004
Han, Charles C.	1974-2002	2004
Handwerker, Carol A.	1984-2005	2006
Harman, Donna K.	1988-2005	2015
Harman, George G.	1950-2003	2004
Harris, Forest K.	1925-1971	1988
Harris, Milton	1931-1944	1988

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Harris, Richard E.	1975-2006	2008
Haynes, William M.	1970-2003	2005
Hayward, Evans	1950-1990	1995
Hayward, Raymond	1950-1986	N/A
Hebner, Robert E.	1972-1999	2004
Heinrich, Kurt F. J.	1964-1988	2008
Hermach, Francis L.	1939-1976	2001
Hertz, Harry S.	1973-2013	2014
Heydemann, Peter L. M.	1964-2001	2004
Heyl, Paul R.	1920-1942	1988
Heyman, Matthew	1978-2008	2010
Hill, James E.	1972-2007	2008
Hillebrand, William F.	1908-1925	1988
Hilsenrath, Joseph	1948-1974	2003
Hines, Verna Brown	1975-2006	2011
Hinman, Wilbur S.	1928-1953	1988
Hoer, Cletus A.	1956-1989	2001
Hoffman, James I.	1918-1962	1988
Hoffman, John D.	1954-1982	1988
Hord, Jesse L.	1961-1992	2003
Horlick, Jeffrey	1967-2006	2014
Horowitz, Emanuel	1951-1980	1988
Hougen, Jon T.	1967-2002	2003
Hudson, Ralph P.	1951-1980	1988
Huntoon, Robert D.	1941-1968	1988
Ingberg, Simon H.	1914-1947	1988
Isbell, Horace S.	1927-1968	1988
Jacox, Marilyn E.	1962-1995	2000
Jennings, Donald A.	1961-1991	2001
Jin, Deborah S.	1997-2016	2017
Johnson, Donald R.	1967-1993	2008
Johnson, Victor J.	1950-1972	1995
Jones, Sarah A.	1920-1966	1988
Judd, Deane B.	1927-1970	1988
Judson, Lewis V.	1917-1962	N/A
Julienne, Paul S.	1969-1973 & 1974-2013	2014
Kamper, Robert A.	1963-1994	1999
Kashiwagi, Takashi	1971-2001	2005
Katzke, Stuart	1975-1999 & 2001-2008	2013
Kautz, Richard	1976-1997	1999
Kayser, Jr., Richard F.	1976-2018	2019
Kelly, George E.	1970-2007	2016
Kerns, David M.	1946-1980	2001
Kessler, Karl G.	1948-1990	1999
Kim, Yong-Ki	1983-2006	2008
Kirby, Richard C.	1948-1950 & 1951-1965	2003
Kirsch, Russell A.	1951-1985	2006

NIST Gallery of Distinguished Scientists, Engineers, and Administrators - 2022

Name, Tenure, Year Inducted into Gallery

Klebanoff, Philip S.	1941-1985	1995
Kline, Gordon M.	1929-1963	1988
Kline, Margaret C.	1985-2020	2021
Koch, H. William	1949-1966	1988
Kostkowski, Henry J.	1954-1981	2001
Kramer, Samuel	1970-1997	1999
Krauss, Morris	1955-2004	2004
Kruger, Jerome	1955-1984	1998
Ku, Hsien (Harry)	1959-1985	2002
Kurylo, Michael J.	1969-2003	2015
Kushner, Lawrence	1946-1973	1988
Kusuda, Tamami	1962-1986	1998
Kuyatt, Chris E.	1960-1998	1999
Lafferty, Walter J.	1961-1995	2014
Lanczos, Cornelius	1943-1944 & 1949-1952	2010
Landon, Harry H.	1958-1972	2003
Lange, Oscar G.	1902-1937	2017
Lawn, Brian	1982-2009	2012
Leiss, James E.	1954-1986	2007
Levelt Sengers, Johanna M. H.	1963-1995	2000
Lew, Hai S.	1968-2020	2022
Lias, Sharon G.	1956-2001	2005
Lide, Bettijoyce Breen	1969-2013	2018
Lide, David R.	1954-1988	1999
Lindstrom, Richard M.	1972-2007	2012
Lippiatt, Barbara C.	1977-2013	2015
Little, C. Gordon	1958-1965	2003
Lloyd, Frances L.	1977-1989	2009
Locascio, Laurie E.	1986-2017	2018
Long, Gabrielle G.	1965-1967 & 1980-2003	2014
Lovas, Francis J.	1970-2000	2015
Lowell, Percival D.	1913-1924 & 1941-1962	1988
Lozier, Daniel W.	1969-2019	2020
Lykke, Keith R.	1997-2016	2020
Lyons, Harold	1941-1955	1988
Madden, Robert	1961-1998	2000
Madey, Theodore E.	1963-1988	2003
Mandel, John	1947-2000	2002
Mann, Wilfred B.	1951-1980	1995
Marshall, Richard D.	1968-1996	2001
Martin, William C.	1957-1998	2002
Martinis, John M.	1987-2004	2008
Marton, Ladislaus L.	1946-1970	1998
May, Willie E.	1971-2017	2017
McFadden, Geoffrey B.	1982-2021	2022
McLaughlin, William L.	1951-1996	2000
McMurdie, Howard F.	1928-1966	1998

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McNish, Alvin G.	1920-1925 & 1946-1970	1988
McPherson, Archibald T.	1923-1965	1988
Meggers, William F.	1914-1958	1988
Meinke, W. Wayne	1963-1973	1988
Menzer, James P.	1954-1976	1999
Meyerson, Melvin R.	1946-1978	2001
Miller, Janet B.	1969-1981 & 1988-2007	2017
Milligan, Dolphus E.	1963-1973	1988
Mohler, Fred L.	1917-1960	1988
Moldover, Michael R.	1972-2019	2020
Moore, Robert F.	1973-2007	2008
Morrison, Graham	1979-1993	2016
Mountain, Raymond D.	1963-2008	2018
Muchlhause, Carl O.	1958-1982	2003
Murphy, Thomas J.	1946-1986	2003
Natrella, Mary G.	1950-1987	1998
Nelson, Harold E.	1975-1992	2001
Nigro, James P.	1947-1974	1999
Nyyssonen, Diana	1969-1985	2008
O'Brian, Thomas R.	1991-2019	2022
Odishaw, Hugh G.	1946-1953	1988
Ohlemiller, Thomas J.	1979-2008	2011
Olien, Neil	1961-1991	2007
Olsen, Paul Thomas	1963-1994	2012
Olver, Frank W. J.	1961-1986	2011
Ott, William R.	1968-2011	2019
Paffenbarger, George C.	1929-1941 & 1946-1984	1988
Page, Chester H.	1941-1974	1988
Parr, Albert C.	1980-2007	2011
Parsons, Douglas E.	1923-1963	1988
Passaglia, Elio	1961-1987	1988
Peiser, H. Steffen	1957-1989	2009
Petersons, Oskars	1968-1994	2000
Pfrang, Edward O.	1966-1983	1995
Pierce, Daniel T.	1975-2007	2008
Plyler, Earle K.	1945-1963	1998
Polk, W. Timothy	1982-2018	2021
Porter, Gail J.	1978-1981 & 1991-2020	2022
Powell, Cedric	1962-2006	2010
Prather, Denise D.	1970-2021	2022
Priest, Irwin G.	1907-1932	N/A
Rabinow, Jacob	1934-1953 & 1972-1989	1988
Raby, Tawfik M.	1968-2009	2009
Radebaugh, Ray	1966-2009	2010
Reader, Joseph	1963-2014	2016
Reed, Richard P.	1956-1990	1995

NIST Gallery of Distinguished Scientists, Engineers, and Administrators - 2022

Name, Tenure, Year Inducted into Gallery

Reimann, Curt	1962-1995	1999
Roberts, James R.	1964-1999	2003
Robertson, Alexander F.	1950-1981	1999
Romanoff, Melvin	1937-1970	1995
Rosa, Edward B.	1901-1921	1988
Rosenberg, Samuel J.	1920-1964	1998
Rosenblatt, Joan	1955-1995	2000
Rosenstock, Henry	1960-1982	N/A
Rossini, Frederick D.	1928-1950	1988
Roth, Robert S.	1951-1991	2000
Rowe, J. Michael	1973-2004	2006
Rubin, Michael Rogers	1988-2009	2011
Ruegg, Rosalie T.	1970-2000	2005
Rumble, John R.	1980-2004	2017
Rush, John J.	1962-2004	2006
Saunders, Mary H.	1993-2008 & 2011-2017	2020
Saylor, Charles P.	1931-1968	1988
Schaffer, Robert	1950-1988	2001
Schooley, James	1960-1990	2010
Schoonover, Irl C.	1928-1930 & 1935-1969	1988
Schubauer, Galen B.	1929-1968	1995
Schwartz, Lyle	1984-1997	2010
Scott, Russell B.	1928-1965	1988
Scribner, Bourdon F.	1927-1973	2018
Seltzer, Stephen	1962-2010	2012
Semerjian, Hratch G.	1977-2007	2008
Shaffer, Sharon A.	1971-2006	2019
Shull, Robert D.	1979-2018	2021
Silsbee, Francis B.	1911-1959	1988
Simpson, John A.	1948-1993	1999
Sitterly, Charlotte E. Moore	1945-1968	1988
Skillington, Jr., James	1960-1977	1999
Smid, Miles E.	1978-1999	2005
Smith, Ernest K.	1951-1965	2003
Snell, Jack E.	1971-2003	2005
Snyder, Wilbert F.	1927-1969	1995
Sorrows, Howard E.	1941-1952 & 1956-1987	1988
Souder, Wilmer	1910-1913 & 1917-1954	1988
Stegun, Irene A.	1943-1983	1995
Stephenson, John C.	1971-2005	2009
Stiehler, Robert D.	1946-1981	2002
Stimson, Harold F.	1916-1960	1988
Sugar, Jack	1960-1995	2017
Sullivan, Donald B.	1967-2003	2004
Sullivan, Francis E.	1982-1993	2017

Name, Tenure, Year Inducted into Gallery

Talbott, Terri	1972-2011	2012
Taussky-Todd, Olga	1947-1957	2002
Taylor, Barry N.	1970-2001	2003
Taylor, John K.	1929-1986	1988
Taylor, Lauriston S.	1927-1964	1988
Teague, E. Clayton	1972-2011	2015
Teal, Gordon K.	1965-1967	N/A
Thomas, James L.	1927-1962	2003
Thomas, Richard N.	1957-1973	2011
Thomson, Robb	1971-1995	2000
Tilford, Charles R.	1970-2000	2014
Tilley, W. Reeves	1946-1980	1995
Todd, John	1947-1957	2002
Tsang, Wing	1962-2013	2019
Tuckerman, Louis B.	1919-1949	1988
Unguris, John	1980-2018	2022
Uriano, George A.	1961-1995	1999
Van Brunt, Richard J.	1978-1996	2003
Vinal, George W.	1904-1950	1988
Wachtman, Jr., John. B.	1951-1983	1988
Waidner, Charles W.	1901-1922	N/A
Wait, James R.	1955-1980	1995
Walleigh, Robert. S.	1943-1953 & 1957-1978	1988
Washburn, Edward W.	1926-1934	1988
Watters, Jr., Robert L.	1976-2016	2019
Wegstein, Joseph H.	1951-1984	1995
West, E. Dale	1948-1974	2002
Wichers, Edward	1917-1963	1988
Wiederhorn, Sheldon	1963-2008	2011
Wiese, Wolfgang L.	1960-2004	2005
Wildhack, William A.	1935-1969	1988
Willenbrock, F. Karl	1970-1976	N/A
Williams, Edwin Ross	1971-2008	2011
Wilson, Charles L.	1979-2006	2019
Wineland, David J.	1975-2017	2019
Wolff, Frank A.	1901-1941	1988
Wright, James R.	1960-1985	1999
Wright, Richard N.	1971-1999	2002
Wu, Wen-li	1979-2013	2013
Yates, Jr., John T.	1963-1982	2003
Youden, William J.	1948-1965	1988
Young, Russell D.	1961-1981	1988
Zeisler, Rolf L.	1978-1991 & 1996-2009	2018
Zimmerman, James E.	1970-1985	2001

N/A = not available



Portrait Gallery

