The National Commission on Forensic Science and the Organization of Scientific Area Committees

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Abstract

In early 2014, the U.S. Department of Justice (DOJ) and the National Institute of Standards and Technology (NIST) launched the National Commission on Forensic Science (NCFS) and the Organization of Scientific Area Committees (OSAC) to aid efforts in strengthening forensic science in the United States. NCFS is a two-year renewable federal advisory committee to DOJ with a diverse set of stakeholder perspectives that provide views and policy recommendations to the Attorney General. The NIST-led OSAC effort is being established to provide leadership in developing discipline-specific standards of practice. Ultimately standards and guidelines that populate an OSAC registry will enable accreditation bodies to audit forensic science service providers to these discipline-specific forensic science standards of practice.

This article describes objectives and duties, membership, and first-year activities of the NCFS and the OSAC efforts. Slides presented on this topic October 1, 2014 at the 25th International Symposium on Human Identification (ISHI) are available at http://www.nist.gov/forensics/upload/JB-NCFS-and-OSAC-ISHI2014.pdf.

Introduction

The development of a quality infrastructure for forensic science was a key component of some of the reforms anticipated in the National Academy of Sciences (NAS) 2009 report entitled "Strengthening Forensic Science in the United States: A Path Forward" (NAS 2009). In response to needs for improvement in forensic science disciplines that were cited in the NAS report and as a follow-up to efforts made from 2009 to 2012 by a White House National Science and Technology Council Subcommittee on Forensic Science (SoFS), the National Institute of Standards and Technology (NIST) and the U.S. Department of Justice (DOJ) announced a partnership in February 2013 that specified the establishment of a National Commission on Forensic Science (NCFS) and development of "guidance groups" now termed the Organization of Scientific Area Committees (OSAC) (NIST/DOJ 2013).

In my role as Special Assistant to the NIST Director for Forensic Science – a position I have had since April 2013, I have been directly involved with the formation and operation of the NCFS and OSAC organizations. Here I offer a brief review of activities and accomplishments to date for these efforts.

National Commission on Forensic Science

The NCFS is a federal advisory committee for the U.S. Department of Justice and as such follows prescribed rules that include public meetings and a balance of perspectives and interests from relevant stakeholders. The Federal Advisory Committee Act (FACA) of 1972 and its amendments (FACA 2014) provide strict rules including: (1) meeting notices are posted in the Federal Register prior to each meeting, (2) meetings are open to the public, and (3) public comments are encouraged and accepted. Meeting summaries and other relevant documents for the NCFS are available online at http://www.facadatabase.gov/ (see Committee 83353) as well as at the official NCFS website: http://www.justice.gov/ncfs.

Objectives and Duties

The objectives and scope of activities for the National Commission on Forensic Science per its charter include providing "recommendations and advice to the Department of Justice (DOJ) concerning national methods and strategies for: strengthening the validity and reliability of the forensic sciences (including medico-legal death investigation); enhancing quality assurance and quality control in forensic science laboratories and units; identifying and recommending scientific guidance and protocols for evidence seizure, testing, analysis, and reporting by forensic science laboratories and units; and identifying and assessing other needs of the forensic science communities to strengthen their disciplines and meet increasing demands generated by the criminal and civil justice systems at all levels of government" (NCFS Charter 2013).

Per its charter, the specific duties of the Commission in support of the objectives listed above are:

1. To recommend priorities for standards development to the Attorney General;
2. To review and recommend that the Attorney General endorse guidance identified or developed by subject-matter experts;
3. To develop proposed guidance concerning the intersection of forensic science and the courtroom;
4. To develop policy recommendations, including a uniform code of professional responsibility and minimum requirements for training, accreditation and/or certification;
5. To consider the recommendations of the National Science and Technology Council's Subcommittee on Forensic Science;
6. To identify and assess the current and future needs of the forensic sciences to strengthen their disciplines and meet growing demands.

The NCFS is scheduled to meet approximately four times each year – and has done so in 2014. The first four meetings were held in Washington, DC (at the Office of Justice Programs building, 810 7th Street NW) on February 3-4, May 12-13, August 26-27, and October 28-29. **Table 1** reviews topics covered in the first four Commission meetings. By FACA rules, the NCFS is a

two-year renewable committee. The submission of a renewal charter is anticipated to extend activities past April 23, 2015.

Membership

Membership for NCFS was solicited through a Federal Register notice announced at the American Academy of Forensic Sciences (AAFS) meeting on February 21, 2013 (DOJ 2013a; DOJ 2013b). More than 325 applicants submitted a curriculum vitae and letters of interest, recommendation, and employer support by the time the initial application process closed on March 25, 2013. DOJ encouraged submissions from a diverse group of applicants with respect to backgrounds, professions, ethnicities, gender, and geography. A joint press release by DOJ and NIST announced the initial NCFS membership on January 10, 2014 (NIST/DOJ 2014).

The Attorney General in consultation with the Director of the National Institute of Standards and Technology appointed the initial Commission members following input from a joint DOJ/NIST selection committee. NCFS members were selected to achieve a diversity of experiences, including federal, state, and local forensic science service providers; research scientists and academicians; federal, state, local prosecutors, defense attorneys and judges; law enforcement; and other relevant stakeholders.

Commissioners come from 21 states and represent professors of biochemistry, chemistry, pathology, physics, sociology, statistics, and law (including a Nobel laureate and National Medal of Science recipient); crime laboratory directors; judges, prosecutors, and defense attorneys; and a sheriff, detective, coroner, medical examiner, victims' rights advocate, and defendants' rights advocates. In addition to the DOJ and NIST co-chairs, the Commission is composed of 31 voting and 8 *ex-officio* Commissioners (**Table 2**). These individuals serve as Special Government Employees without compensation.

The Commission was initially led by co-chairs James Cole, Deputy Attorney General, and Dr. Patrick Gallagher, NIST Director and Acting Deputy Secretary of Commerce. When Dr. Gallagher left NIST for a new position in June 2014, Dr. Willie May, Acting NIST Director, became the new NIST co-chair of the Commission. In October 2014, James Cole announced that he is stepping down as Deputy Attorney General – and his replacement will be determined in the near future.

Commission business is primarily directed by the Vice-Chairs and day-to-day operations are conducted by support staff in DOJ and volunteers among the Commissioners. Nelson Santos, Deputy Assistant Administrator for the Office of Forensic Sciences at the Drug Enforcement Administration, and me, serve as the DOJ and NIST Vice-Chairs, respectively. Brette Steele, Senior Advisor on Forensic Science and Senior Counsel to the Deputy Attorney General serves as the Designated Federal Official (DFO), a position required under FACA rules. Robin Jones is the NCFS Program Manager and coordinates meeting details. Additional DOJ staff assists as needed and NIST staff provides support with meeting summaries and note taking.

First Year Activities

As seen in **Table 1**, a variety of topics have been discussed during the first four meetings of the Commission. With the wide-range of experiences among the Commissioners (many of whom come from outside the forensic science community), time was required in the first few meetings to provide context and background information on many of the topics under discussion. Thus, briefings have been provided to the NCFS on accreditation, certification, proficiency testing, research & development challenges, past efforts for developing guidance documents, human factors and cognitive bias issues, ethics, the most recent census of public crime laboratories, and challenges that exist with interoperability using current automated fingerprint identification systems.

Given that the Commission as a whole meets less than eight days total in the course of a year, subcommittees have been formed to deliberate and prepare work products to help move discussions forward. Six initial subcommittees were created at the first meeting and a seventh (Human Factors) was added at the third meeting based on topics discussed in the first few meetings.

Table 3 summarizes the seven subcommittees, their leadership, and the initial issues under consideration. Each subcommittee consists of about 20 members including some non-Commissioners to provide outside expertise on specific issues. Most Commissioners serve on more than one subcommittee. The subcommittee meeting deliberations are not public, but their work products are open to public comment during the time period before and after the meeting where these documents are discussed by the full Commission.

Draft and final work products of the NCFS can be seen on the Commission website: http://www.justice.gov/ncfs/work-products. As noted on the NCFS website, anyone wishing to submit written public comments on the work products while they are in draft form may go to http://www.regulations.gov and enter feedback through Docket No. DOJ-LA-2014-0006. The first NCFS work product was completed at the August 2014 meeting and is a directive advising the Attorney General to have the Bureau of Justice Statistics develop a survey instrument for assessing forensic unit capabilities in law enforcement agencies operating outside traditional forensic laboratory environments.

With the exception of the first meeting, webcasts have been provided in real-time and video archives are maintained. Meeting summaries and presentation materials provided to the Commissioners are all made publicly available on the NCFS website: http://www.justice.gov/ncfs.

Organization of Scientific Area Committees (OSAC)

As noted in **Table 4**, NIST has been actively working for the past several years to establish an infrastructure for scientific guidance groups to strengthen efforts in specific forensic disciplines. While the formal name of the Organization of Scientific Area Committees (OSAC) was announced at the first NCFS meeting in February 2014, this initial OSAC announcement came after seeking input from numerous forensic science community stakeholders.

Mark Stolorow from the NIST Special Programs Office is the Director of OSAC Affairs. John Paul Jones from NIST serves as the Associate Director of OSAC Affairs. As will be described below, a NIST planning team has met regularly over the past year to establish the operational framework for OSAC.

Input Sought and Received from Forensic Science Community Stakeholders

In June 2013, chairs of the 21 Scientific Working Groups (SWGs) met at NIST to discuss potential structures for an organization to house what at that time were termed “guidance groups.” The initial proposed organizational wiring diagrams shown to the SWG chairs came out of previous NIST work based on input from the Standards, Practices, and Protocols Interagency Working Group (SPPIWG) of the White House National Science and Technology Council Subcommittee on Forensic Science.

In September 2013, NIST issued a Notice of Inquiry (NOI) in the Federal Register to obtain input on the establishment, structure, and support of governance models for discipline-specific guidance groups in forensic science. Eighty-two submissions were received in response to the NOI in the two months that this request was open (September 27 to November 26). The compiled NOI responses may be downloaded from the NIST website (NOI 2013). The listing is 337 pages in length and represents feedback from individuals in 21 states and four countries (United Kingdom, Canada, Germany, and Australia) as well as 12 SWGs and 15 other groups including the American Society of Crime Laboratory Directors (ASCLD), the California Association of Criminalists (CAC), the Consortium of Forensic Science Organizations (CFSO), the International Association for Identification (IAI), the National Association of Criminal Defense Lawyers (NACDL), and the Innocence Project. Individuals from more than a dozen forensic science laboratories and several companies provided their perspective as well to questions asked about how guidance groups should be structured, produce impactful standards, engage stakeholders, and support forensic science disciplines.

From the NOI responses, a NIST forensic science planning team began developing an initial framework. This NIST planning team included Susan Ballou, John Butler, Rich Cavanagh, John Paul Jones, Mark Stolorow, Melissa Taylor, and Shannan Williams from the Special Programs Office (aspects of which were formerly known as the Office of Law Enforcement Standards, OLES), Christina Hacker from the Program Coordination Office, Barbara Guttman from the Information Technology Laboratory, and Gordon Gillerman and Karen Reczek from the

Standards Coordination Office. The previous SWG experience of Susan Ballou (SWGDE, SWGMAT, SWGDRUG), John Butler (SWGDAM), and Barbara Guttman (SWGDE) was helpful in understanding benefits and limitations of previous approaches to creating guidance documents for forensic science.

Some common themes that emerged from the NOI responses include (1) the benefit of membership being weighted towards practitioners who understand the problems they are facing yet including representatives of the private sector and academia (especially statisticians) to provide fresh ideas and perspectives with a goal of strengthening the scientific rigor underpinning current and future forensic science protocols, (2) the need to engage professional forensic science organizations to coordinate potential policies, standards, and research opportunities, (3) the importance of an open membership application process with term-limits for all positions to increase the number of individuals who can serve over time and replace non-performers, (4) the value of documents being transparently developed with ample opportunity for public comment, and (5) the role of accreditation bodies to adopt developed standards and accredit forensic laboratories against them.

During late 2013 and early 2014, the NIST planning team met with representatives from professional forensic science organizations including the AAFS, the Association of Firearms and Toolmark Examiners (AFTE), the International Association for Identification, the National Association of Medical Examiners (NAME), and the Society of Forensic Toxicologists (SOFT). Feedback received from these discussions was incorporated into the evolving OSAC organizational structure.

Representatives of forensic science accreditation bodies and quality assurance organizations visited NIST and provided their input as well. These accreditation bodies include the American Association for Laboratory Accreditation (A2LA), the American Board of Forensic Toxicology (ABFT), the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB), the American National Standards Institute-American Society for Quality (ANSI-AQS) National Accreditation Board/Forensic Quality Services (FQS), the College of American Pathologists (CAP), and the Laboratory Accreditation Bureau (L-A-B). A representative of the Association of Forensic Quality Assurance Managers (AFQAM) was also included in these discussions.

NIST announced the proposed OSAC structure to the National Commission on Forensic Science during its first meeting (see **Table 1**). Suggestions from the NCFS included the addition of a Human Factors resource committee, which was added into the organizational structure. At the AAFS meeting held two weeks later in Seattle, six NIST presenters gave a more detailed review of the OSAC plan. This 75-minute presentation was also webcast and the video archived at http://www.nist.gov/forensics/aafswebcast.cfm. During a 30-minute question and answer period, about a dozen questions from the audience were addressed by the presenters at this public meeting, which was attended by over 800 individuals and watched online by many more.

Throughout 2014, NIST has provided numerous outreach presentations at various scientific and professional meetings. Further details on the timeline of activities leading to the OSAC launch can be found in **Table 4**.

Objectives and Duties

The OSAC is designed to create a sustainable organizational infrastructure dedicated to identifying and fostering the development of technically sound, consensus-based documentary standards and guidelines for widespread adoption throughout the forensic science community. **Figure 1** displays the organizational structure for OSAC. A Forensic Science Standards Board (FSSB) with input from three resource committees – the Legal Resource Committee (LRC), Quality Infrastructure Committee (QIC), and Human Factors Committee (HFC) – provides direction and guidance to the overall OSAC organization. Discipline-specific subcommittees are organized along similar topics into five scientific area committees (SACs): (1) Biology/DNA, (2) Chemistry/Instrumental Analysis, (3) Crime Scene/Death Investigation, (4) Digital/Multimedia, and (5) Physics/Pattern. With the initial launch of OSAC, membership has been established for 24 discipline-specific subcommittees.

The FSSB sets policy, rules, and priorities for the OSAC organization and will approve a Forensic Science Code of Practice and manage an OSAC Registry of Approved Standards and Registry of Approved Guidelines once these are developed. The three resource committees – LRC, QIC, and HFC – will provide advice and support across the OSAC committees and subcommittees. The SACs are the public access point for the OSAC organization and manage work within a specific scientific area to create synergy in related forensic disciplines. Each SAC oversees and approves work performed in its subcommittees. Discipline-specific subcommittees identify and develop standards and guidelines for their discipline. Task groups may be formed to aid the work of a subcommittee.

For further details about envisioned roles and responsibilities of each member of the OSAC organization, see http://www.nist.gov/forensics/osacroles.cfm.

Membership

OSAC membership was solicited through an online application process where applicants reviewed roles and responsibilities for specific positions within the organization and then designated their primary and secondary interests. For example, an individual may have applied to be on the Biology SAC as a first choice or on the Wildlife Forensics subcommittee as a second choice. Applicants were also given the opportunity to self-select as a potential chair for the committee or subcommittee to which they applied. The quality infrastructure committee, with 86 applicants who selected the QIC as their primary choice, was the most sought after position within OSAC. The FSSB members were selected by NIST, in consultation with DOJ, from OSAC applicants.

During the month that the OSAC application process was initially open (April 11 to May 11, 2014), there were 1313 applicants with representatives from all 50 states and 21 foreign countries (a total of 56 individuals applied from outside the U.S.). Overall, the applicants classified their employers as state government (27%), local government (25%), federal government (18%), private sector (17%), academic (12%), or federally-funded research and development center (FFRDC) (1%). In order of decreasing frequency, job classifications for the applicants included practitioner (65%), researcher (11%), educator/trainer (8%), other (8%), quality assurance manager (4%), attorney or judge (2%), and R&D technology partner (2%).

Membership of the FSSB (announced June 26), three resource committees (announced July 16), and five SACs (announced Sept 3) was appointed by NIST with input from a joint NIST/DOJ selection committee. SAC subcommittee membership was appointed following selection by the appropriate SAC and approval by the FSSB and NIST/DOJ selection committee.

Announcement of membership in 23 subcommittees (all but digital evidence) was made on October 29, 2014 in coordination with an OSAC update presentation at the fourth NCFS meeting. Digital evidence efforts, which were initially excluded from NCFS deliberations and OSAC participation, became permissible following an announcement from the Commission Co-chairs at the third NCFS meeting on August 27, 2014. Membership applications for the digital evidence subcommittee were subsequently collected during September 2014 and decisions for subcommittee membership are being finalized as this article is being written in November 2014.

First Year Activities

Efforts with OSAC over the past year have focused on (1) establishing the operational framework, (2) informing the community of on-going activities and plans, and (3) selecting and training membership. While a number of virtual meetings have been conducted for initial training purposes, the first in-person subcommittee meetings are planned for mid-January 2015. Even though these subcommittee meetings will not be open to the public, work products will be available for public input as subcommittee documents pass through the SAC review process.

The first SAC in-person meetings will be conducted in a public forum and webcast on February 16 and 17, 2015 in Orlando, Florida in conjunction with the AAFS meeting. Those interested in these SAC meetings should look to http://www.nist.gov/forensics/osac.cfm for more details.

Efforts in Forensic DNA Standards and Guidelines

Guidance on forensic DNA issues has been provided by the Scientific Working Group on DNA Analysis Methods (SWGDAM) since 1988 when SWGDAM's predecessor TWGDAM (Technical Working Group on DNA Analysis Methods) was formed by the FBI Laboratory. SWGDAM meets

semiannually in January and July and, as noted on the SWGDAM.org website (http://swgdam.org/faq.html), plans to continue to operate with FBI funding:

> **Q:** What plans exist to transition SWGDAM from its current home in the FBI to the new Organization of Scientific Are Committees (OSAC)?
>
> **SWGDAM Response**: Due to the unique statutory relationship between SWGDAM and the FBI with regard to the FBI Director's Quality Assurance Standards (QAS) for DNA Laboratories, NIST and the FBI have agreed that SWGDAM will remain operationally with the FBI at this time. The FBI also feels strongly that the business activities of the SWGDAM Committees are critical for the operation of CODIS and plans to continue managing the SWGDAM Committees to ensure not only that the QAS are revised in an efficient manner, but also that the National DNA Index System (NDIS) Procedures are timely and appropriate for the current or emerging technologies which are used by NDIS-participating laboratories nationwide. Emerging forensic technologies such as Rapid-DNA testing and Next Generation Sequencing (NGS) are quickly becoming a reality, so the FBI must also ensure through SWGDAM that topics such as nomenclature and genetic privacy can be made fully compatible with the CODIS system. Once the OSAC has disseminated guidance for the review and approval of standards and guidelines through its Forensic Science Code of Practice, draft SWGDAM guideline documents will be submitted for review and comment to the OSAC administration and all approved SWGDAM guidelines will be provided to the OSAC for inclusion in its Registry of Approved Standards or Guidelines, as appropriate. Additionally, once the OSAC business structure has been formally memorialized, SWGDAM will review its current business process for drafting and approving guidelines which are captured in its Bylaws, and, to the extent possible, incorporate all elements of the review process designated for the OSACs. This includes a public review period for all guidelines and proposed changes to the QAS which SWGDAM has now implemented and formally incorporated into its Bylaws.

Several of the members of the Biology/DNA SAC (**Table 5**) and the DNA Analysis 1 and DNA Analysis 2 subcommittees (**Table 6**) are also regular participants in SWGDAM – so there will likely be opportunities for collaboration and interaction between SWGDAM and the OSAC DNA efforts.

Conclusions

While NCFS is a DOJ advisory group to enact policies that directly impact the FBI, DEA, and ATF laboratories, the influence of its recommendations has the potential to be felt more widely. NIST has the primary responsibility to make OSAC an on-going community effort to improve forensic science practices through developing documentary standards that can be used by accreditation bodies in future audits of forensic science laboratories. Going forward both the NCFS and OSAC have important roles that represent progress on the path to better quality forensic science in the United States.

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Points of view in this document are those of the author and do not necessarily represent the official position or policies of the U.S. Department of Justice or the National Institute of Standards and Technology.

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OSTP National Science and Technology Council Subcommittee on Forensic Science (SoFS) May 2014 http://www.whitehouse.gov/sites/default/files/microsites/ostp/NSTC/strengthening_the_forensic_sciences_may_-_2014.pdf

Table 1. Summary of first four NCFS meetings. Meeting summaries are available at http://www.justice.gov/ncfs/meetings and links to webcasts for meetings 2, 3, and 4 are available at http://www.nist.gov/forensics/ncfs.cfm.

#	Dates	Topics (Speakers)
1	February 3-4, 2014	• Welcoming remarks (James Cole, Patrick Gallagher, John Holdren) • Reflections on the NAS 2009 report (Judge Harry Edwards) • Census of Publicly Funded Crime Laboratories (Matt DuRose) • Background presentations on accreditation and certification (Patricia Manzolillo), proficiency testing (Dean Gialamas), research (Jeff Salyards), and documentary standards (Gerry LaPorte) • Announcement of the Organization of Scientific Area Committees (Mark Stolorow) • Discussion and prioritization of Commission agenda and establishment of initial subcommittees
2	May 12-13, 2014 (webcast)	• Issues of human factors and cognitive bias (Deborah Boehm-Davis, John Collins, Michael Risinger, David Kaye) • Ethics (Jamie Upshaw Downs, Rob Lesnevich) • OSAC update (Mark Stolorow, Willie May) • Subcommittee reports and discussion
3	August 26-27, 2014 (webcast)	• Human factors and cognitive bias solutions (Itiel Dror, Bill Thompson) • Latent print automated fingerprint identification systems (AFIS) interoperability (Austin Hicklin, Melissa Gische, Lauren Reed, David Russell) • Accreditation experiences (Beth Mishalanie, Roger Klein, Ross Randlett) • Lessons learned from the United Kingdom (Andrew Rennison) • Subcommittee reports and discussion • Directive recommendation for the Bureau of Justice Statistics to develop a nationally representative survey to determine capabilities of law enforcement forensic science service providers • Announcement by co-chairs to include digital evidence in Commission and OSAC activities
4	October 28-29, 2014 (webcast)	• Bureau of Justice Statistics proposal on the survey of law enforcement forensic science service providers (Erica Smith, Matt DuRose) • Update on OSAC and NIST Center of Excellence plans (Mark Stolorow) • Review of NAS report on eyewitness identification (Judge Rakoff, Thomas Albright) • Review of White House Office of Science and Technology Policy report on latent fingerprint interoperability (Tania Simoncelli, Laura Gerhardt) • Subcommittee reports and discussion • Review of initial draft subcommittee work products

Table 2. National Commission on Forensic Science (NCFS) membership by categories. The numbers indicate the 31 voting members with *ex-officio* Commissioners having an asterisk next to their name. For Commissioner biographies, see http://www.justice.gov/ncfs/members. The color coding provided below is only meant to help separate classification groups and has no specific meaning.

Voting Members		
	Leadership	
	James Cole (DOJ Co-Chair)	Deputy Attorney General - U.S. Department of Justice (**DOJ**)
	Willie May (NIST Co-Chair)	Acting Director - National Institute of Standards and Technology (**NIST**)
1	**Nelson Santos (DOJ Vice-Chair)**	Deputy Assistant Administrator - Drug Enforcement Administration (**DEA**) Laboratory
2	**John Butler (NIST Vice-Chair)**	Special Assistant to the Director for Forensic Science - **NIST**
	Brette Steele (DFO)	Senior Advisor on Forensic Science and Senior Counsel within the Office of the DAG
	Robin Jones (Program Manager)	Contractor to U.S. Department of Justice
	Department of Justice	
3	**Greg Czarnopys**	Deputy Assistant Director - Alcohol, Tobacco, Firearms and Explosives (**ATF**) Lab
4	**John Kacavas**	Prosecuting Attorney (U.S. Attorney - District of New Hampshire)
	Gerry LaPorte*	Director - Office of Investigative and Forensic Sciences, National Institute of Justice (**NIJ**)
5	**Marc LeBeau**	Senior Forensic Scientist - Federal Bureau of Investigation (**FBI**) Laboratory
	Kathryn Turman*	Assistant Director - FBI's Office of Victim Assistance
	Practitioners	
6	**Cecelia Crouse**	Laboratory Director - Palm Beach County (Florida) Sheriff's Office Crime Laboratory
7	**Dean Gialamas**	Assistant Division Director - Los Angeles County (California) Sheriff's Department
8	**Linda Jackson**	Laboratory Director - Virginia Department of Forensic Science
	Patricia Manzolillo*	Laboratory Director - United States Postal Inspection Service
9	**Michael (Jeff) Salyards**	Executive Director - Defense Forensic Science Center, Department of Defense (**DoD**)
10	**Ryant Washington**	Sheriff - Fluvanna County (Virginia) Sheriff's Office
11	**Phil Pulaski**	Former Chief of Detectives (retired) - New York City Police Department
	Medical Examiner/Coroner	
12	**Vince Di Maio**	Consultant in forensic pathology; Medical Examiner (retired) - Bexar County (San Antonio), Texas
13	**John Fudenberg**	Assistant Coroner - Clark County (Las Vegas), Nevada Office of the Coroner/Medical Examiner
	Legal Community and Officers of the Court	
14	**Ted Hunt**	Prosecuting Attorney (Kansas City, Missouri)
15	**Matt Redle**	Prosecuting Attorney (Sheridan County, Wyoming)
16	**Pam King**	Defense Attorney (State of Minnesota Public Defender)
17	**Julia Leighton**	Defense Attorney (Washington DC Public Defender Service)
18	**Judge Barbara Hervey**	Judge (Texas State Court of Criminal Appeals)
19	**Judge Bridget Mary McCormack**	Judge (Michigan State Supreme Court)
	Judge Jed Rakoff*	Judge (Senior U.S. District Judge for the Southern District of New York)
	Academic and/or Researchers	
20	**Suzanne Bell**	Professor of Chemistry (West Virginia University)
21	**Frederick Bieber**	Professor of Pathology (Harvard Medical School)
22	**Thomas Cech**	Professor of Biochemistry (University of Colorado-Boulder)
23	**M. Bonner Denton**	Professor of Chemistry and Geosciences (University of Arizona)
24	**Andrea Ferreira-Gonzalez**	Professor of Pathology (Virginia Commonwealth University)
25	**Stephen Fienberg**	Professor of Statistics and Social Science (Carnegie Mellon University)
26	**S. James (Jim) Gates, Jr.**	Professor of Physics (University of Maryland)
27	**Troy Duster**	Professor of Sociology (University of California-Berkeley)
28	**Jules Epstein**	Professor of Law (Widener University School of Law)
29	**Paul Giannelli**	Professor of Law (Case Western Reserve School of Law)
	Marilyn Huestis*	Chief of Chemistry and Drug Metabolism - National Institute of Drug Abuse, NIH
	Mark Weiss*	Director of the Behavioral and Cognitive Sciences Division - National Science Foundation
	Additional Stakeholders	
	David Honey*	Assistant Deputy Director - National Intelligence for Science and Technology
30	**Susan Howley**	Director of Public Policy - National Center for Victims of Crime (Advocate for Victim's Rights)
31	**Peter Neufeld**	Defense Attorney and Co-Founder of the Innocence Project (Advocate for Defendant's Rights)
	Frances Schrotter*	Senior Vice President and Chief Operating Officer - American National Standards Institute (ANSI)

Table 3. NCFS initial subcommittees, leadership, and issues under consideration

	Subcommittee	Co-chairs	Issues Under Consideration
1	Accreditation and Proficiency Testing	Linda Jackson Patricia Manzolillo	• Universal accreditation of all forensic science service providers • Issues of proficiency testing and terminology • Critical steps or pathways to achieve accreditation
2	Interim Solutions	Dean Gialamas Peter Neufeld	• Core definitions (e.g., forensic science and forensic science service providers) • National code of ethics and its enforcement • AFIS interoperability • Root cause analysis • Transparency of quality records
3	Medicolegal Death Investigation (MDI)	Vince Di Maio John Fudenberg	• Accreditation of all MDI offices • Certification of all MDI staff • Funding strategies • Networking MDI offices • Increasing the supply of forensic pathologists
4	Reporting and Testimony	Judge Rakoff Matt Redle	• Presentation of expert testimony • Pretrial discovery in forensic evidence cases • Report content and uniform terminology • Use and expression of probabilistic statements • Problematic or misleading terms
5	Scientific Inquiry and Research	Suzanne Bell Jeff Salyards	• Criteria for quality forensic scientific literature • Educational programs in forensic science • Transition of research into laboratory practice • Methods for measuring impact of research
6	Training on Science and Law	Judge Hervey Jim Gates	• Uniform programs for educating the legal community on forensic science (through a science-based common core curriculum) • Individualized training for judges • Uniform programs for educating forensic scientists on legal issues • Delivery methods for developed curricula
7	Human Factors	Judge McCormack Troy Duster	• *Just getting started and have not met as a full subcommittee as of early November 2014*

Table 4. Timeline of activities leading to OSAC launch

Date	Event
Aug 2010	Standards, Practices, and Protocols Interagency Working Group (SPPIWG) of the White House National Science and Technology Council Subcommittee on Forensic Science (SoFS) proposes that a Scientific Working Group Program Management Office (SWG PMO) be established and run by the National Institute of Standards and Technology (NIST) in order to coordinate the activities of individual SWGs
Feb 2013	The Department of Justice (DOJ) and NIST announce plans to form the National Commission on Forensic Science (NCFS), as a federal advisory group to DOJ, and to establish scientific guidance groups that will be administered by NIST; one of the duties in the NCFS charter is "to consider the recommendations of the National Science and Technology Council's Subcommittee on Forensic Science"
June 2013	NIST meets with the chairs of current Scientific Working Groups (SWGs) to discuss potential structures for an organization to house the guidance groups
Sept 2013 to Nov 2013	NIST gathers information from a public Notice of Inquiry regarding aspects of guidance groups; 82 responses are received including input from the United Kingdom, Canada, Germany, and Australia
Dec 2013	NIST planning team develops a proposed infrastructure for the guidance groups
Jan 2014	Discussions are held between NIST planning team and forensic professional organizations including AAFS, AFTE, IAI, NAME, and SOFT
Feb 2014	At the first NCFS meeting, which is held in Washington, DC, NIST announces a proposed structure for the scientific guidance groups called the Organization of Scientific Area Committees (OSAC)
Feb 2014	NIST planning team met with representatives of forensic science accreditation bodies
Feb 2014	At the American Academy of Forensic Sciences (AAFS) meeting in Seattle (and via webcast), NIST presenters provide a detailed description of the planned OSAC structure
Mar 2014 to Nov 2014	Outreach presentations sharing planned OSAC structure are given at numerous scientific and professional meetings including: Bode West, FIU Forensic Symposium, ASCLD Symposium, CAC, AFTE, MAAFS, Bode East, Green Mountain DNA Conference, IAI, ANZFSS, NAME, SAFS, ISHI, MAFS, IAFS, SWAFS, SOFT, NWAFS, and NEAFS
April & May 2014	Initial 30-day application period results in over 1300 applicants to positions within OSAC
June 2014	NIST planning team meets with representatives of various Standards Development Organizations (SDOs)
June 2014	Forensic Science Standards Board (FSSB) membership appointed
July 2014	Legal Resource Committee (LRC), Quality Infrastructure Committee (QIC), and Human Factors Committee (HFC) membership appointed
Aug 2014	First FSSB in-person meeting occurs
Sept 2014	Membership appointed for five Scientific Area Committees (SACs)
Sept 2014	Applications received for digital evidence subcommittee
Oct 2014	Membership appointed for 23 OSAC subcommittees
Dec 2014	Membership appointed for digital evidence subcommittee
Jan 2015	First in-person subcommittee meetings held
Feb 2015	First public SAC meetings held

Table 5. OSAC initial membership for SAC Biology/DNA committee and Wildlife Forensics subcommittee. Recent participants in SWGDAM activities are highlighted in yellow.

Scientific Area Committee for Biology/DNA

	Name	Agency	OSAC Role or Classification
1	George Herrin, Jr., Ph.D.	Georgia Bureau of Investigation-Division of Forensic Sciences	SAC Biology/DNA Chair
2	Kimberly Murga	Las Vegas Metropolitan Police Department	DNA Analysis 1 Sub Chair
3	Robyn Ragsdale, Ph.D.	Florida Department of Law Enforcement	DNA Analysis 2 Sub Chair
4	Katherine Moore	U.S. National Oceanic & Atmospheric Administration, National Marine Fisheries Service	Wildlife Sub Chair
5	Angelo Della Manna	Alabama Department of Forensic Sciences	State Practitioner
6	Deedra Hawk	Wyoming Game and Fish Department Wildlife Forensic & Fish Health Laboratory	State Practitioner
7	John Butler, Ph.D.	National Institute of Standards and Technology	Researcher
8	Thomas Callaghan, Ph.D.	Federal Bureau of Investigation	Researcher/Federal Practitioner
9	Robin Cotton, Ph.D.	Boston University School of Medicine Biomedical Forensic Sciences Program	Researcher
10	Phillip Danielson, Ph.D.	University of Denver	Researcher
11	Antonio Possolo, Ph.D.	National Institute of Standards and Technology	Statistician
12	Bruce Weir, Ph.D.	University of Washington	Statistician

Wildlife Forensics Subcommittee

	Name	Agency	OSAC Role or Classification
1	Katherine Moore	NOAA, National Marine Fisheries Service	Wildlife Sub Chair
2	Barry Baker	U.S. Fish & Wildlife Service, National Fish & Wildlife Forensics Laboratory	Federal Practitioner
3	Mary Burnham-Curtis, Ph.D.	US. Dept. of Interior - US Fish and Wildlife Service Office of Law Enforcement	Federal Practitioner
4	Benjamin Paul (Trey) Knott, III	NOAA/Northwest Fisheries Science Center/Forensics laboratory	Federal Practitioner
5	Pepper Trail, Ph.D.	U.S. Fish and Wildlife Service / National Fish and Wildlife Forensics Laboratory	Federal Practitioner
6	Tasha Bauman	Wyoming Game & Fish Wildlife Forensic and Fish Health Laboratory	State Practitioner
7	Kimberly Frazier	Wyoming Game and Fish Department	State Practitioner
8	Christina Lindquist	UC Davis Veterinary Genetics Laboratory Forensic unit (VGL-Forensics)	Academic/Researcher
9	Steven Hoofer, Ph.D.	Sedgwick County (Kansas) Regional Forensic Science Center	Local Practitioner
10	Jason Byrd, Ph.D.	University of Florida	Academic/Researcher
11	David Foran, Ph.D.	Michigan State University	Academic/Researcher
12	Jenny Giles, Ph.D.	NOAA National Marine Fisheries Service Forensic Unit/ UC Davis Veterinary Genetics Laboratory Forensic Unit	Researcher
13	R. Christopher O'Brien, Ph.D.	University of New Haven (Connecticut)	Academic/Researcher
14	Lee-Ann Collins Hayek, Ph.D.	Smithsonian Institution	Statistician

Table 6. OSAC initial membership for DNA1 and DNA2 subcommittees. Recent participants in SWGDAM activities are highlighted in yellow.

DNA Analysis 1 Subcommittee

	Name	Agency	OSAC Role or Classification
1	Kimberly Murga	Las Vegas Metropolitan Police Department	DNA Analysis 1 Sub Chair
2	Debra Glidewell	Defense Forensic Science Center – USACIL	Federal Practitioner
3	Robert Sean Oliver	Armed Forces DNA Identification Laboratory (AFDIL)	Federal Practitioner
4	Steven Weitz	Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) Laboratory	Federal Practitioner
5	Caroline Zervos	FBI Laboratory	Federal Practitioner
6	Jason Befus, Ph.D.	Maryland State Police-Forensic Sciences Division	State Practitioner
7	Kathleen Mayntz-Press	Arizona Department of Public Safety Crime Laboratory	State Practitioner
8	Margaret Sanger, Ph.D.	Kentucky State Police Forensic Laboratory	State Practitioner
9	Taylor Scott III, Ph.D.	Illinois State Police	State Practitioner
10	Kristine Kadash, Ph.D.	Jefferson County (Colorado) Regional Crime Laboratory	Local Practitioner
11	Eugene Lien	NYC Office of Chief Medical Examiner, Department of Forensic Biology	Local Practitioner
12	Stacy McDonald, Ph.D.	Dallas County Southwestern Institute of Forensic Sciences	Local Practitioner
13	Amy McGuckian	Palm Beach County Sheriff's Office	Local Practitioner
14	Amy Jeanguenat	Bode Technology Group	Private Practitioner
15	Elisa Wurmbach, Ph.D.	NYC Office of Chief Medical Examiner, Department of Forensic Biology	Researcher/Local Practitioner
16	Eric Buel, Ph.D.	Self-employed consultant (retired director of Vermont Forensic Lab)	Consultant/Researcher
17	Susan Greenspoon, Ph.D.	Virginia Department of Forensic Science	Researcher/State Practitioner
18	Bruce McCord, Ph.D.	Florida International University	Academic/Researcher
19	Daniele Podini, Ph.D.	George Washington University	Academic/Researcher
20	Peter Vallone, Ph.D.	NIST Applied Genetics Group	Researcher

DNA Analysis 2 Subcommittee

	Name	Agency	OSAC Role or Classification
1	Robyn Ragsdale, Ph.D.	Florida Department of Law Enforcement	DNA Analysis 2 Sub Chair
2	Todd Bille	Bureau of Alcohol, Tobacco, Firearms and Explosives Laboratory	Federal Practitioner
3	Susannah Kehl	FBI Laboratory	Federal Practitioner
4	Timothy McMahon, Ph.D.	Armed Forces DNA Identification Laboratory	Federal Practitioner
5	Joel Sutton	Defense Forensic Science Center – USACIL	Federal Practitioner
6	Rebekah Kay	Utah Bureau of Forensic Services	State Practitioner
7	Jeff Nye	Michigan Department of State Police Forensic Science Division	State Practitioner
8	Margaret (Peg) Schwartz, Ph.D.	Vermont Forensic Laboratory	State Practitioner
9	Carl Sobieralski	Indiana State Police Laboratory	State Practitioner
10	Lisa Marie Brewer	Glendale (California) Police Department	Local Practitioner
11	Kathleen Corrado, Ph.D.	Onondaga County (New York) Center for Forensic Sciences	Local Practitioner
12	Bill Gartside	San Bernardino County (California) Sheriff's Department	Local Practitioner
13	Shawn Montpetit	San Diego Police Department Crime Laboratory	Local Practitioner
14	Mechthild Prinz, Ph.D.	John Jay College of Criminal Justice	Academic/Researcher
15	Michael Coble, Ph.D.	NIST Applied Genetics Group	Researcher
16	Catherine Grgicak, Ph.D.	Boston University School of Medicine	Academic/Researcher
17	Charlotte Word, Ph.D.	Self Employed as a Private Consultant	Consultant/Researcher
18	Christian Westring, Ph.D.	NMS Labs	Private Practitioner/Researcher
19	Julie French	GE Healthcare Human Identity Division	Technology Partner
20	Sandy Zabell, Ph.D.	Northwestern University	Statistician

Figure 1. Organizational structure of the Organization of Scientific Area Committees (OSAC) as of November 2014.