

FY 2010 Scientific Working Group Semi-Annual Report

SWG Name: Scientific Working Group on DNA Analysis Methods (SWGDM)

Meeting Date: January 11-13, 2011

Meeting Location: Marriott Residence Inn and Conference Center, Fredericksburg, Virginia

I. Agenda:

Please see Attachment A.

II. Meeting Synopsis:

Tuesday, January 11, 2011

The Chairman was delayed because of flight cancellations. Ms. Heather Seubert, Vice-Chair conducted the meeting on Tuesday. Ms. Seubert reviewed the agenda, the status of SWGDAM work products and their publication, the Y-STR Bulletin on the confidence interval (which was elaborated on by Dr. Carmody later in the morning), and the concept of a Conflict of Interest statement for SWGDAM members.

Dr. Robert Hanner of the International Barcode of Life presented information on his agency and their efforts to develop biological barcodes for all the plant and animal species. Currently, 1.7 million species of plants and animals have exhibited known biodiversity and there are estimated to be 10 to 100 million species. Dr. Hanner explained that DNA barcoding is a large scale, high-throughput, standardized approach to automated species identification by reading a short fragment of their DNA (using mtDNA analysis).

Dr. George Carmody explained the Clopper and Pearson 'Exact' Confidence Intervals. Dr. Carmody began his presentation with a definition of confidence interval as "a statistical range with a specified probability that a given parameter lies within the range." Dr. Carmody graphed a comparison of the various confidence intervals in use: Standard, Clopper-Pearson, Wilson and Agresti-Couli. This graph demonstrated that the last three confidence intervals were more conservative than the Standard interval currently referenced in SWGDAM's Y-STR guidelines. Dr. Carmody also demonstrated and explained a macro developed by Steven Myers for calculating the Clopper-Pearson confidence limit.

Ms. Jennifer Luttman, Chief of the FBI's CODIS Unit, explained the status of the NDIS enhancement review process, including the presentation of proposed revisions to the FBI Director's Quality Assurance Standards for Forensic DNA Testing Laboratories (Forensic QAS) at the CODIS Conference. Ms. Luttman noted that the revisions were distributed to the SWGDAM Executive Board and additional suggestions were provided by the Board. Ms. Luttman reviewed the proposed revisions relating to the definition of a contract employee, qualification for a technical reviewer, increased flexibility for NDIS participating laboratories to conduct a search of outsourced DNA data before performing a technical review, and alternatives for conducting on-site visits of vendor laboratories. There was additional discussion of the proposed revisions and suggestions for refining the revisions. It was determined that those suggestions would be incorporated during the lunch break and re-presented to the membership in the afternoon.

Ms. Heather Seubert noted that with her promotion to Chief of the FBI's Firearms and Toolmarks Unit, this would be her last meeting as Vice-Chair and a member of SWGDAM.

In the afternoon, SWGDAM invited three commercial entities, Applied Biosystems, Promega and TrueAllele (a fourth, a representative of the Army Crime Lab's Expert System was unable to make the meeting because of flight cancellations) to present an update on the development of their systems for assisting in allele designations for casework. Each presenter was given 30 minutes for the presentation followed by 10 minutes for questions and answers.

Ms. Jennifer Luttman presented the final proposed revisions to the Forensic QAS, incorporating the suggestions made by SWGDAM members and invited guests from the morning presentation. The SWGDAM membership voted to recommend the revisions to the FBI Director for his consideration; the SWGDAM recommended revisions are available at <http://www.fbi.gov/about-us/lab/codis> where the public is invited to comment until March 1, 2011. Ms. Luttman explained that the next step would be to ensure such revisions were reflected in the Forensic QAS Audit Document and the revised Audit Document may be distributed to the SWGDAM membership and invited guests for an e-mail vote. Once the Forensic QAS were addressed, the CODIS Unit would make conforming change to the Databasing QAS and submit them to SWGDAM for review and consideration.

Wednesday, January 12, 2011

The following Committee meetings were held during the day:

CODIS Committee
Enhanced Detection Methods Committee
Mass Spectrometry/MtDNA Committee
Missing Persons and Mass Disaster Committee
Mixture Committee
Rapid DNA Committee
Ad Hoc Working Group on Communications

A round table discussion was held in the evening and presentations were made by Dr. Thomas Parsons (International Commission of Missing Persons) on Haiti (1 year anniversary) and the establishment of SWGDVI and Ms. Dawn Herkenham (SAIC) on a review of the provisions contained in Senator Leahy's draft legislative proposal on The Criminal Justice and Forensic Science Reform Act of 2011. Additionally, Mr. Ken Konzak led a discussion of technical issues submitted by participants, including Applied Biosystem's plans to discontinue support of the 3100 and 3130 instruments in favor of the 3500 (with a presentation by Dr., John Butler).

Thursday, January 13, 2011

Mr. Ted Staples opened the meeting Thursday and announced that this would be his last meeting as SWGDAM Chair. Additionally, Mr. Staples noted that Anthony Onorato, Chief of the FBI's Nuclear DNA Unit had been designated to succeed him as Chairman of SWGDAM.

Dr. Ingo Bastisch presented an update on the activities of the European Network of Forensic Scientists that included work on the development of a population database for the new ESS and development of an international production standard for consumables. Dr. Bastisch noted that work continues on the implementation of an international database for known contaminants and the recommended option is with the International Commission on Missing Persons.

Dr. Cecilia Hageman, the technical leader of the Centre of Forensic Sciences updated SWGDAM on her laboratory's operations including plans for building a new facility and the laboratory's major service expansion to address 2008 legislation that expanded the offenses for which DNA sample collection would be authorized. Additionally, Dr. Hageman shared their research on trace DNA sampling with fabric gloves, hats and fingernails demonstrating the most success in recovering DNA for PCR DNA analysis.

Mr. Sylvain Lalonde of the Royal Canadian Mounted Police provided a retrospective of the National DNA Databank of Canada on its tenth anniversary covering the following: history of the National DNA Data Bank, scientific developments and other advancements, interesting facts, changes in the volume of work, and investigative success stories.

Dr. Thomas Callaghan, Chief Scientist with the FBI Laboratory's Biometric Analysis Section provided an update on the Rapid DNA project, including development of the following vision statement: Advance the state of the art in the collection and processing of known subject DNA. This will provide the Nation's law enforcement agencies the capability to collect and develop an arrested individual's DNA during the normal time it takes to process a subject at intake. Such processing would initiate a search of the subject's DNA against the Combined DNA Index System (CODIS) to determine if it matches evidence from unsolved cases. Rapid DNA will assist in preventing future crimes by expeditiously linking individuals to cold cases. Additionally, Dr. Callaghan described the activities of the Rapid DNA group (given Committee status at the January 2011 meeting) including discussions of the need for validation guidelines.

Dr. Douglas Hares, NDIS Custodian, presented an update on the National DNA Index System (NDIS). Dr. Hares reported that NDIS now contains over 9.5 million DNA profiles and there have been reported over 129,000 investigations aided. Dr. Hares noted that over 1 million Convicted Offender profiles have been contributed to NDIS over the past year and that there are almost 50% more Arrestee profiles at NDIS than this time last year. Additionally, Dr. Hares explained that the FBI web site on CODIS now features a set of FAQs on CODIS and NDIS and reviewed the topics covered in the FAQs. Dr. Hares also provided an update on the CODIS Core Loci Working Group and reviewed the criteria identified by the group in their review of loci. Dr. Hares concluded with an update on the activities of the CODIS Committee at the meeting including development of definitions for dispositions.

Each Committee provided an update of its progress toward the tasks and objectives.

At the conclusion of the meeting, Mr. Ted Staples presented Ms. Heather Seubert with a token of SWGDAM's appreciation for her service as Vice-Chair. Ms. Heather Seubert presented Mr. Staples with a plaque acknowledging his leadership of SWGDAM from 2008 until 2011. Additionally, Dr. Alice Isenberg, Chief of the FBI's Biometric Analysis Section, thanked outgoing Chair Ted Staples for his many contributions and read a letter of commendation from FBI Laboratory Director Dr. Hassell.

III. Attendees:

Please see Attachment B.

IV. Status Update on Progress toward Goals and Objectives:

The Committees continue work on their tasks for the next meeting in July, 2011.

V. Current and Planned Standards/Best Practices/Guidelines Development Activities:

The CODIS and Mass Spectrometry/MtDNA Committees continue to work on their tasks that do not, at this time, include standards or guidelines.

The Enhanced Detection Methods Committee continues to identify the tasks in connection with their plan for recommending validation guidelines for the use of enhanced detection methods.

The Missing Persons/Mass Disaster Committee outlined a plan for guidelines addressing the relevant issues laboratories need to consider in missing persons casework in conjunction with the new functionality provided with CODIS 7.0

The Mixture Committee will be working on training guidelines for mixture interpretation for use by the DNA community.

The Rapid DNA Committee may develop standards to address the use of the rapid DNA system.

The Ad Hoc Working Group on Communications recommended revision of SWGDAM guidelines on training, validation and Y-STR interpretation that will be addressed at the July 2011 meeting.

VI. Next Meeting:

The week of July 11th, 2011 has been requested for the next SWGDAM meeting but has yet to be confirmed.

VII. Additional Information:

As mentioned in Section II., effective for the July 2011 meeting, the SWGDAM Chair will be Anthony Onorato.

Attachment A



SCIENTIFIC WORKING GROUP DNA ANALYSIS METHODS

AGENDA January 11-13, 2011

Tuesday: January 11, 2011

8:30 a.m.	Welcome and Introduction	Heather Seubert
9:00 a.m.	International Barcode of Life (iBOL)	Robert Hanner
10:00 a.m.	<i>iBOL</i> Q/A	
10:15 a.m.	BREAK	
10:30 a.m.	Clopper/Pearson	George Carmody
11:00 a.m.	NDIS Enhancement AdHoc Committee Update	Jennifer Luttman
12:00 p.m.	LUNCH	
1:40 p.m.	Applied Biosystems	
2:20 p.m.	Promega	
3:00 p.m.	TruAllele	
3:40 p.m.	BREAK	
4:00 p.m.	NDIS Enhancements	Jennifer Luttman
4:30 p.m.	Wrap up/Adjourn	Heather Seubert
5:00 p.m.	Executive Board Meeting	

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NIJ Interagency Agreement 2006-DN-R-094

SCIENTIFIC WORKING GROUP



DNA ANALYSIS METHODS

Wednesday: January 12, 2011

8:30 a.m. Committee Meetings in designated rooms
12:00 p.m. Lunch
4:00 p.m. Committee Meetings adjourn
5:30 p.m. Roundtable (*presentations from invited guests*)

Thursday: January 13, 2011

8:30 a.m. Announcements Ted Staples
8:45 a.m. ENFSI Update Ingo Bastisch
9:15 a.m. CFS Update Cecilia Hageman
9:45 a.m. RCMP Update Jeff Modler & Sylvain Lalonde
10:15 a.m. BREAK
10:30 a.m. Rapid DNA Update Thomas Callaghan
11:00 a.m. NDIS Update/CODIS core loci Douglas Hares
11:30 a.m. Committee Updates Committee Chairs
12:00 p.m. LUNCH
1:30 p.m. Committee Updates Committee Chairs
3:00 p.m. Wrap up-Adjourn Ted Staples

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Attachment B

**SWGDM January 2011 Meeting
Members and Invited Guests**

SWGDM Chair

Ted Staples

SWGDM Vice-Chair

Heather Seubert

SWGDM Executive Board

Philip Kinsey

Margaret (Peg) Schwartz

Angelo Della Manna

Ken Konzak

Taylor Scott

SWGDM Executive Secretary

Dawn Herkenham (IG)

SWGDM Members & Invited Guests

Jack Ballantyne (IG)

Suzie Barritt-Ross (IG)

Ingo Bastisch (IG)

Todd Bille (IG)

John Butler (IG)

Thomas Callaghan (IG)

George Carmody (IG)

Chris Carney (IG)

Jodi Dahl (IG)

Tina Delgado (IG)

Arthur Eisenberg (IG)

Valerie Evanoff (IG)

Connie Fisher (IG)

Russell Gettig (IG)

Ann Marie Gross

Richard Guerrieri

Cecilia Hageman (IG)

Douglas Hares (IG)

Bruce Heidebrecht (IG)

Brian Hoey (IG)

Catherine Knutson (IG)
Sylvain Lalonde (IG)
George Li
Eugene Lien
Jennifer Luttmann
Beth Ann Marne
Cathy McCord
Amy McGuckian
Jeff Modler (IG)
Tamyra Moretti (IG)
Steven Myers (IG)
Jeffrey Nye (IG)
Anthony Onorato
Thomas Parsons (IG)
John Planz
Eric Pokorak
Deborah Polanskey (IG)
Ayva Sammel (IG)
Joanne B. Sgueglia (IG)
Gary Sims
John Stewart (IG)
John Tonkyn
Peter Vallone (IG)
Russell Vossbrink (IG)
Tim Zolandz (IG)