

SWGDM Update



November 2021



Responsibilities

- Recommend revisions, as necessary, to the *Quality Assurance Standards for Forensic DNA Testing Laboratories* and the *Quality Assurance Standards for DNA Databasing Laboratories*.
- Serve as a forum to discuss, share, and evaluate forensic biology methods, protocols, training, and research to enhance forensic biology services.
- Recommend and conduct research to develop and/or validate forensic biology methods (Section I).



Organization

- Chair: Anthony Onorato, FBI Laboratory
- Vice Chair: Russell Vossbrink, Arizona DPS
- Executive Board: Chris Carney, Ann Marie Gross, Eugene Lien, Gary Molina, Shawn Montpetit
- Executive Secretary: Dawn Herkenham
- Members are technical leaders, CODIS Administrators, or forensic scientists from local, state and federal crime laboratories
 - 37 Regular Members
 - 3 year membership term(s)
- Two regular meetings per year in January and July
- Invited Guests participate in meetings
 - Invited Guests have full participatory/voting privileges in Committee and Committee of the Whole Sessions
 - Invited Guests do not vote when the SWGDAM Membership considers documents for final approval (SWGDAM Bylaws, Section II.D)



SWGDAM Members

- Suzie Barritt-Ross
- Thomas Callaghan
- Chris Carney
- Dorothy Catella
- Angelo Della Manna
- Brenda Danosky
- Russell Gettig
- Ann Marie Gross
- Brian Harmon
- Bruce Heidebrecht
- Bill Hudlow
- Deedra Hughes
- Elizabeth Johnson
- Kristine Kadash
- Marla Kaplan
- Susannah Kehl
- Jason Kokoszka
- Eugene Lien
- Beth Ann Marne
- Charla Marshall
- Justin Maxwell
- Amy McGuckian
- Scott McWilliams
- Gary Molina
- Shawn Montpetit
- Tamyra Moretti
- Steven Myers
- Jeff Nye
- Anthony Onorato
- Dixie Peters
- Evelyn Ridgley
- Juliet Rolando
- Lisa Schiermeier-Wood
- Christie Smith
- Melissa Suddeth
- Joel Sutton
- Russell Vossbrink



Standing Committees

- Autosomal STR Interpretation
- CODIS
- Laboratory Operations
- Lineage Marker
- Next Generation Sequencing
- Quality Assurance
- Rapid DNA



Working Groups

- Forensic DNA Casework Expert System
- Investigative Genetic Genealogy



Joint Collaborations

- Joint NIJ/SWGDAM DNA Efficiency Improvement Group

- Joint OSAC/SWGDAM DNA Process Mapping Group



Committee of Detail

- Missing Person DNA Casework
- Participants include: Ann Gross, Chair, Patty Aagard, Tom Callaghan, Mark Desire, Connie Fisher, Lisa Grossweiler, Doug Hares, Bill Hudlow, Marla Kaplan, Charla Marshall, and Dixie Peters
- Tasks:
 - Review the 2020 Quality Assurance Standards (QAS) to identify current gaps and/or obstacles to outsourcing DNA testing for missing person casework with an emphasis on non-routine techniques (i.e., mitochondrial DNA, SNPs, X-STRs) and new DNA technologies (i.e., Rapid-DNA, Investigative Genetic Genealogy),
 - Review the 2014 SWGDAM Guidelines for Missing Person Casework and recommend if this guidance document should be renewed, revised, or archived,
 - Determine if a Technical Session on the missing person DNA casework should be considered for a future Regular SWGDAM Meeting, and
 - Recommend what, if any, future work SWGDAM should consider on the subject of missing person DNA casework.



Committee of Detail

- Probability Genotyping
- Participants include: Tamyra Moretti, Chair, Shawn Montpetit, Co-Chair, John Ballantyne, Todd Bille, Jerrilyn Conway, Ann Gross, Marla Kaplan, Susannah Kehl, Lauren Lu, Jeff Nye, Mike Smith, Joel Sutton, Jeanette Wallin, Ray Wickenheiser, and Lisa Schiermeier-Wood
- Tasks:
 - Draft a public SWGDAM response to the *NISTIR 8351-DNA Mixture Interpretation: A NIST Scientific Foundation Review* in the form of a statement or letter,
 - Draft a scientific response to the report in the form of a Letter to the Editor or other similar vehicle with or without other individual(s) or forensic organization(s) as co-author(s),
 - Recommend if the Technical Session at the January 2022 Regular SWGDAM Meeting should be used for this topic and, if so, propose an agenda, and
 - Recommend what, if any, future work SWGDAM should consider on this topic.



Scheduled Meetings

- Two 2021 Regular SWGDAM Meetings
 - January 12-14, 2021 (Virtual)
 - July 13-15, 2021 (Virtual)
 - SWGDAM Update (To be held virtually in advance of the 2021 CODIS Conference)
- Two 2022 Regular SWGDAM Meetings
 - January 11-13, 2022 (YTBD)
 - July 12-14, 2022 (YTBD)
 - SWGDAM Update (To be held in advance of the 2022 Annual CODIS Conference)



January 2021 Meeting

- Held virtually January 12 - 14 with 91 participants that included 4 international, 36 federal, and 51 state and local forensic DNA professionals.
- A Plenary Session featuring Nobel laureate Dr. Walter Gilbert was held on Tuesday.
- Committee of the Whole Sessions were held on Tuesday and Thursday to review the proposed *Joint OSAC/SWGDAM DNA Process Mapping Group DNA Process Map*, the proposed changes to the *SWGDM Interpretation Guidelines for Y-chromosome STR Typing by Forensic DNA Laboratories*, the proposed changes to the *SWGDM Validation Guidelines for DNA Analysis Methods*, and the Joint NIJ/SWGDAM DNA Efficiency Improvement Working Group publication.
- On Wednesday, SWGDAM Committees and Working Groups Breakout Sessions and a Round Table Session were held.



July 2021 Meeting

- Held virtually July 13-15 with 81 participants that included 6 international, 28 federal, and 47 state and local forensic DNA professionals.
- A Technical Session on *Quantitative Y-STR Genetics* was held on Tuesday.
- Committee of the Whole Sessions were held on Tuesday and Thursday to review the proposed changes to the *SWGDM Interpretation Guidelines for Y-chromosome STR Typing by Forensic DNA Laboratories* and new *YSTR Supplemental Information (FAQs)*, the proposed changes to the **SWGDM Validation Guidelines for DNA Analysis Methods** and the new *Modified Rapid DNA Internal Validation Guidance Module for Single Source Samples*, and new proposed *SWGDM Validation Guidelines for the Use of an Expert System with Forensic Samples*.
- On Wednesday, SWGDAM Committee and Working Group Breakout Sessions were held and a Round Table Session was convened to review the National Institute of Standards and Technology's (NIST) draft report *NISTIR 8351-DNA Mixture Interpretation: A NIST Scientific Foundation Review* with Dr. John Butler.



SWGDM Update 2021

- Reviewed the SWGDAM Guidance documents currently under development.
 - SWGDAM Response to the National Institute of Standards and Technology's (NIST) draft report NISTIR 8351-*DNA Mixture Interpretation: A NIST Scientific Foundation Review*
 - *Interpretation Guidelines for Y-chromosome STR Typing by Forensic DNA Laboratories* and new *YSTR Supplemental Information (FAQs)*
 - *Validation Guidelines for DNA Analysis Methods* and new *Modified Rapid DNA Internal Validation Guidance Module for Single Source Samples*
 - *Validation Guidelines for the Use of an Expert System with Forensic Samples*
- SWGDAM would like to thank the FBI's CODIS Unit for again inviting SWGDAM to be a part of the program surrounding the 2021 CODIS Conference and for its continued logistical support for this important outreach opportunity.



Recent Business



NISTIR 8351 Response

- SWGDAM submitted substantive comments to the National Institute of Standards and Technology (NIST) during the public comment period for its NISTIR 8351-DRAFT entitled *DNA Mixture Interpretation: A NIST Scientific Foundation Review*.
- This response was submitted in letter format as a 10 page narrative summary with a 28 page table containing specific comments.
- This letter is available on SWGDAM.org



Public Comment Periods

- The new *SWGDM Validation Guidelines for the Use of an Expert System for Forensic Samples* are currently available for public comment. This document gives guidance for laboratories to use already available expert systems to analyze single-source forensic samples. This document will be available for Public Comment through at least October 8, 2021. [**Note: This document cannot take effect until revisions are made to the *Quality Assurance Standards* and *NDIS Operational Procedures Manual*.**]
- The proposed changes to the 2014 *SWGDM Interpretation Guidelines for Y-Chromosome STR Typing by Forensic DNA Laboratories* and the new proposed *Supplemental Information for the SWGDM Interpretation Guidelines for Y-Chromosome STR Typing by Forensic DNA Laboratories* are currently available for public comment. These documents will be available for Public Comment through at least September 9, 2021.



Correction

- SWGDAM was made aware of a typographical error present in a formula within the *SWGDM Interpretation Guidelines for Autosomal STR Typing by Forensic DNA Testing Laboratories* (Rev 01/12/2017) via a question submitted through SWGDAM.org
 - The affected formula was in Section 4C.4 and is the correction factor for population substructure for the Probability of Exclusion.
 - The formula was incorrectly stated as $PE = 1 - [p^2 - p(1 - p)\theta]$
 - The correct formula is $PE = 1 - [p^2 + p(1 - p)\theta]$
- The STR Committee discussed this issue with the submitter and developed a correction.
- This correction was reviewed and approved by the SWGDAM Executive Board.
- This error has been corrected in the *SWGDM Interpretation Guidelines for Autosomal STR Typing by Forensic DNA Testing Laboratories* (Rev 06/16/2021).



DNA Databasing

- SWGDAM has embedded additional subject matter experts (SME) within its CODIS Committee to more comprehensively discuss matters related to DNA databasing.
- These new Invited Guests will fully participate in the activities of the CODIS Committee and meet as needed to:
 - Serve as a forum to share information regarding the high-throughput processing of DNA reference samples by law enforcement laboratories conducting forensic DNA testing.
 - Recommend and develop guidance for inclusion in SWGDAM guidance documents for high-throughput processing of DNA reference samples by law enforcement laboratories conducting forensic DNA testing.
 - Review and recommend revisions to the FBI's Quality Assurance Standards (QAS) and the NDIS Operational Procedures Manual for the consideration of SWGDAM.



Future Business



SWGDM Bylaws

- The SWGDAM Executive Board has initiated a review of the 2014 SWGDAM Bylaws and have proposed preliminary conforming changes to incorporate current business elements to kick-off this review.
- The SWGDAM EB has emphasized the review of Section II Membership to ensure it continues to align with the needs of SWGDAM and consider the necessary and proper role of the SWGDAM Membership Committee.
- The changes proposed by the EB will be forwarded to the SWGDAM Body for collection of additional proposed changes in advance of the January 2022 Regular SWGDAM Meeting.



QAS Activities

- The SWGDAM Executive Board discussed the increasing scope and complexity of SWGDAM's activities to support the FBI's management of the Quality Assurance Standards with the chairs of the CODIS and QA Committees at its June 7, 2021 meeting.
- The Board will continue this discussion to determine what, if any, formal organizational, tasking, and/or procedural solutions may facilitate the curation, actioning, and archiving of QAS-related inquires, suggestions, etc.



Outreach

- Forensic DNA Casework Expert System Working Group Chair Amy McGuckian presented on SWGDAM's new proposed *Casework Expert System Validation Guidelines* at the 2021 CODIS State Administrators Meeting (May 2021).
- The annual SWGDAM Update was held in advance of the 2021 Virtual CODIS Conference (November 2021).
- Rapid-DNA Committee Chair Douglas Hares provided an update on the activities of SWGDAM at the European Network of Forensic Science Institutes (ENFSI) DNA Working Group (September 2021).



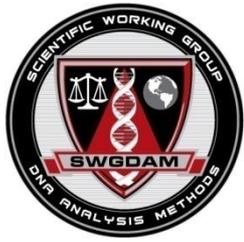
Outreach

- Forensic DNA Casework Expert System Working Group Chair Amy McGuckian presented on SWGDAM's new proposed *Casework Expert System Validation Guidelines* at the 2021 CODIS State Administrators Meeting (May 2021).
- The STR Committee invited a representative of the Department of Forensic Science of Virginia Commonwealth University to a virtual meeting to discuss the *SWGDM Interpretation Guidelines for Autosomal STR Typing by Forensic DNA Testing Laboratories* (May 2021).
- Investigative Genetic Genealogy Chair Tom Callaghan provided an update on the activities of the Investigative Genetic Genealogy Working Group at the National Institute of Justice's (NIJ) Federal Laboratory Network Technical Working Group (FLN-TWG) (March 2021).



Outreach

- Marla Kaplan and Jason Kokoszka held a teleconference with the Technical SETA Support representative from the Office of the Director of National Intelligence, Intelligence Advanced Research Projects Activity (IARPA) for its Proteos Program that is researching protein-based approaches for human identification to brief it on the activities of SWGDAM's Biological Fluid Identification Working Group (February 2021).

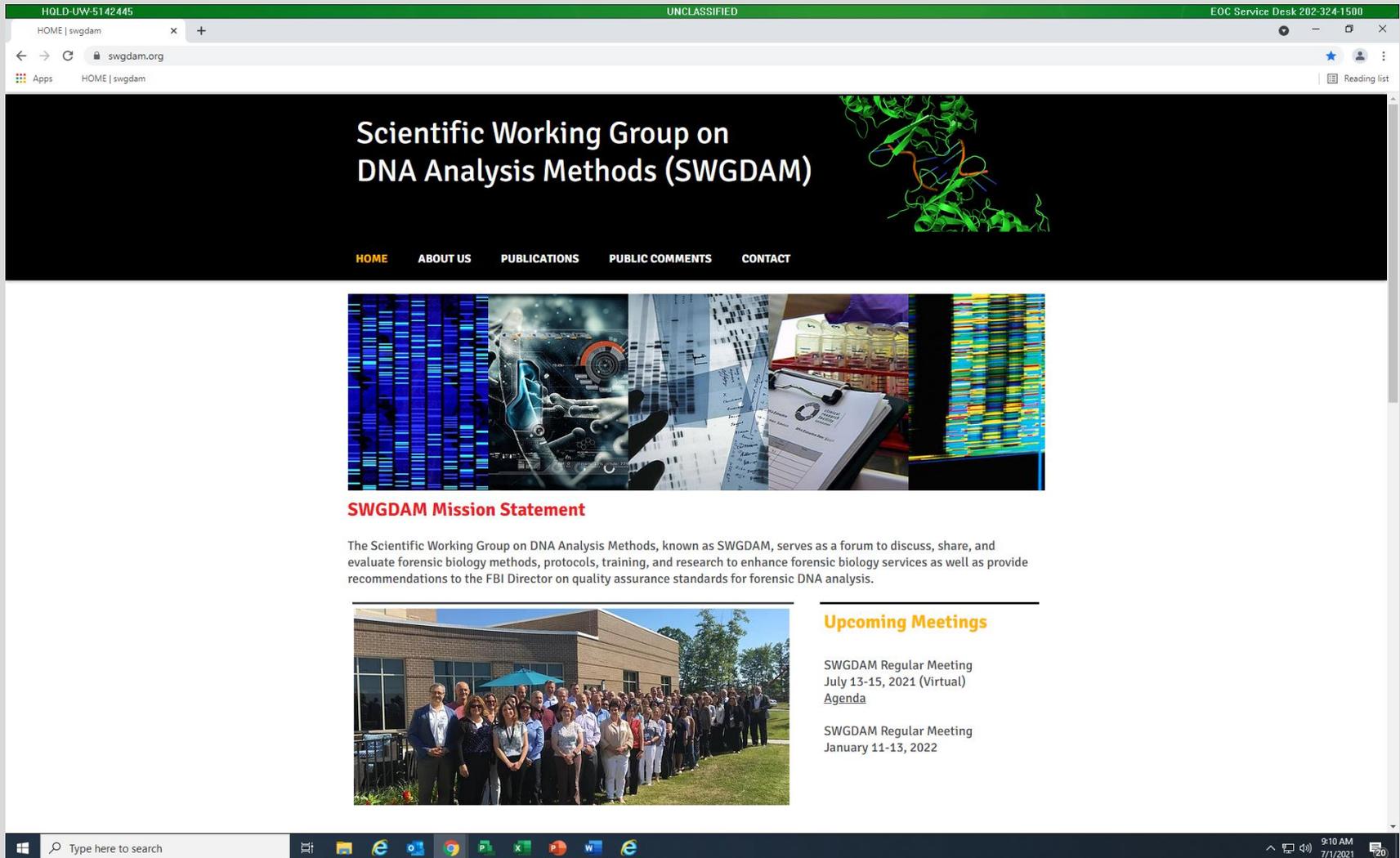


SWGAM

Website

www.SWGDAM.org

Since July 2015: Over 130,000 visits



The screenshot shows a web browser window displaying the homepage of the Scientific Working Group on DNA Analysis Methods (SWGDAM). The browser's address bar shows the URL swgdam.org. The page features a dark header with the group's name and a navigation menu. Below the header is a large banner image depicting DNA analysis, including a 3D protein structure, DNA sequencing data, and laboratory equipment. The main content area includes a mission statement and a list of upcoming meetings.

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Reading list

Scientific Working Group on DNA Analysis Methods (SWGDAM)

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SWGDAM Mission Statement

The Scientific Working Group on DNA Analysis Methods, known as SWGDAM, serves as a forum to discuss, share, and evaluate forensic biology methods, protocols, training, and research to enhance forensic biology services as well as provide recommendations to the FBI Director on quality assurance standards for forensic DNA analysis.



Upcoming Meetings

SWGDAM Regular Meeting
July 13-15, 2021 (Virtual)
[Agenda](#)

SWGDAM Regular Meeting
January 11-13, 2022

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www.SWGDAM.org

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