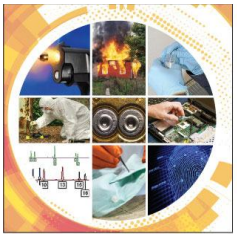

FORENSICS @ NIST
November 28-30, 2012 • #NISTForensics

Forensics@NIST 2012 Symposium – DRAFT AGENDA

November 28, 2012 - Forensic Biology/DNA, Firearms Analysis & Fire Research Sessions

8:30-9:00 **Introduction to Symposium and Sessions– NIST Personnel**

DNA Stability, Extractions and Quantitation

9:00-9:05 Overview of DNA Programs at NIST – John Butler

9:05-9:25 Stability Studies – Margaret Kline

9:25-9:40 DNA Extraction – Erica Butts

9:40-10:00 DRAGON (NIST Forensics Grand Challenge Project) – David Ross

10:00-10:20 Digital PCR & DNA Quantitation –Ross Haynes

10:20-10:35 **Break and Poster Viewing/Exhibitor Displays**

STRs, mtDNA, Rapid DNA

10:35-10:55 STR Kits & New Loci – Becky Hill

10:55-11:15 STRBase and Information Resources – John Butler

11:15-11:35 Mixture Interpretation & True Allele – Mike Coble

11:35-11:55 mtDNA base composition – Kevin Kiesler

11:55-12:15 Rapid DNA – Pete Vallone

12:15-1:45 **Lunch and Poster Viewing/Exhibitor Displays**

Firearms Analysis: Measurement of Identification for Firearms and Toolmark Evidence

1:45-2:00 Overview of Firearms Projects at NIST – Robert Thompson

2:00-2:20 Bullet Signature Identification Using Topography Measurements and Correlations; the Unification of Microscopic and Mathematical Comparisons – Wei Chu

2:20-2:40 2D/3D Topography Comparisons of 10 Consecutively Manufactured Chisels and Punches through the Cross Correlation Function – Alan Zheng

2:40-3:00 NIST Bullet SRM 2460 Replication and Validation Using an Improved Vacuum Casting Method and Potential Evidentiary Use – Thomas Brian Renegar

3:00-3:20 **Break and Poster Viewing/Exhibitor Displays**

Firearms Analysis: National Ballistic Search System; Improving Accuracy and Quality Assurance

3:20-3:40 Standard Reference Material 2461 Standard Cartridge Case – T.V. Vorburger

3:40-4:00 The National Ballistic Imaging Comparison Parts 1 and 2 – Alan Zheng

4:00-4:20 Statistical analysis of Manufacturer effects on Ballistics Correlation Scores – James Yen

4:20-4:40 Establish a "National Ballistics Evidence Search Engine (NBESE)" Based on 3D Topography Measurements on Correlation Cells (NIST Forensics Grand Challenge Project) – John Song

Fire Research at NIST

4:40-5:00 Verification and Validation of Fire Models Used for Forensic Reconstructions – Kevin McGrattan

Posters

DNA

1. DNA Sequencing Error Estimation and SNP Validation for Microbial Forensics Applications
2. Characteristics of 24 Commonly Used Autosomal STR Loci
3. Population Statistics on the Proposed Expanded U.S. Core Loci
4. Concordance Testing Comparing STR Multiplex Kits with a Standard Data Set
5. SE33 Variant Alleles: Sequences and Implications
6. Evaluation of Additional Y-STR Loci to Resolve Common Haplotypes
7. An Evaluation of Additional Y-STR Loci in the PowerPlex Y-23 Kit
8. Direct PCR Amplification of STR Loci: Protocols and Performance
9. Rapid Amplification of Commercial STR Typing Kits
10. Validation of PowerPlex 16 HS in Comparison to Identifiler Plus on the ABI 3500 Genetic Analyzer
11. Setting Interpretation Thresholds and Results with Low-Level DNA Analysis
12. The New SRM 2391c: PCR-based DNA Profiling Standard

13. Using SRM 2372 Human Quantitation Standard: Are there differences between qPCR assays?
14. Forensic Performance of Insertion-Deletion Marker Systems
15. Candidate Reference Family Data: A Tool for Validating Kinship Analysis Software

Firearms

1. "Mathematical Comparisons of Bullets and Cartridge Casings Using 2D and 3D Topography" by A. Zheng, R. Thompson, W. Chu, J. Song, J. Yen, B. Renegar and R. Silver
2. "The National Ballistics Imaging Comparison" by R. Thompson, S. Ballou, T. Vorburger, J. Song, J. Yen, A. Zheng, B. Renegar, R. Silver – NIST; M. Ols – ATF

Fire Research

1. Analysis of a Fatal Wind-Driven Fire in a Single-Story House – Adam Barowy and Daniel Madrzykowski
2. Fire Pattern Repeatability – Daniel Madrzykowski and Charles Fleischmann

---

November 29, 2012 - Trace Analysis/Collection Session

8:30-9:00 **Keynote Remarks: Netherlands Forensic Institute - Tjark Tjin-A-Tsoi (CEO)**

9:00-9:30 **Introduction to Session and Overview of Trace Analysis at NIST –Steel/Gillen**

Trace Sampling

9:30-9:50 Enabling Forensics Investigations of Biothreat Incidents through Sampling Standards – Jayne Morrow

9:50-10:10 Surface Wipe Sampling for Trace Narcotics and Explosives Collection – Jennifer Verkouteren

10:10-10:30 Aerodynamic Sampling – Matt Staymates

10:30-10:50 **Break and Poster Viewing/Exhibitor Displays**

Standard Test Materials/Operational Protocols

10:50-11:10 Production of Seized Drug Analysis Standards by Inkjet Printing (NIST Forensics Grand Challenge Project) – Jeanita S. Pritchett

11:10-11:30 Nuclear Forensics Reference Materials (NIST Forensics Grand Challenge Project) – Kenneth Inn

11:30-11:50 Following the Scent – Development of Canine Training Aids – Bill MacCrehan

11:50-12:10 Performance Validation for Trace – Mike Verkouteren

12:10-12:30 NIST Trace Explosives Test Bed – Marcela Najarro

12:30-12:50 Mass Spec Reference Libraries for Forensics: Past, Present and Future - Steve Stein

12:50-2:20 **Lunch and Poster Viewing/Exhibitor Displays**

Technique Development for Trace Evidence

2:20-2:40 Automated Particle Analysis – Nicholas Ritchie

2:40-3:00 Combined IMS and Biometrics – Jessica Staymates

3:00-3:20 Atmospheric Pressure MS - Tim Brewer

3:20-3:40 Improvements in Trace Involatile Vapor Analysis – Tom Bruno

3:40-4:00 Unified Organic, Inorganic, and Morphological Analysis of Forensic Samples via SEM-based, High-Resolution X-ray Spectroscopy – W. B. Doriese

4:00-5:00 **Optional Open House and Trace Analysis Lab Tours of NIST Facilities**

4:00-5:00 **Poster Viewing/Exhibitor Displays**

Posters

1. **Ethanol in Water Standard Reference Materials to Support Forensic Testing,** Michele M. Schantz, Analytical Chemistry Division, NIST, Gaithersburg, MD 20899
2. **Towards improvement of trace detector screening for the analysis of illicit drugs**, L.T. Demoranville, J.R. Verkouteren, G. Gillen, NIST
3. **Nano Particle Generation from Heated Explosives,** Robert Fletcher, Marcela Najarro, Tim Brewer, Matthew Staymates and Greg Gillen, NIST
4. **Techniques for the Production of Standard Explosive Test Particles,** Matthew Staymates*, Michael Verkouteren, Jessica Staymates, Robert Fletcher, Tim M. Brewer, and Greg Gillen, NIST
5. **Analysis of Trace Quantities of Explosive Materials Using Laser Diode Thermal Desorption-Atmospheric Pressure Chemical Ionization- Tandem Mass Spectrometry**, Eric Windsor, NIST
6. **Forensic Applications of DART MS,** Ed Sisco, Usacil/NIST
7. **Electrostatic Effects in Swipe Sampling** , R. Fletcher, NIST
8. **Age Dating of Fingerprints**, Ed Sisco, NIST
9. **Forensic Analysis Methodology and Database of Statistically Combined HME Thermal, Mass, and Spectral Signatures** – Ashot Nazarian
10. **Surrogate Controls for Confidence in Field Measurements** – Vang
11. **HPLC for Quant of Explosives and Narcotics Standards-** Tim Brewer
12. **SRMS for Trace Explosives** – Bill MacCrehan
13. **Inkjet Printing for Trace Detection Standards** – Greg Gillen
14. **Micro CT Scanning of Explosives** – Greg Gillen

15. **Confocal Raman of Single Particles** – Chris Michaels
16. **Fundamental Measurements for Trace Detection of Energetic Materials and Fire Debris** - Tara M. Lovestead, Jason A. Widegren, Samuel Allen, and Thomas J. Bruno
17. **Reproducible Dynamic Vapor-Time Profiles of Explosives and Non-explosive Canine Training Aids,** Bill MacCrehan, Michele Schantz, Stephanie Moore; Chemical Sciences Division, MML

November 30, 2012 – Computer & Multimedia Forensics and Fingerprints & Biometrics Sessions

8:30-9:00 **Opening/Keynote Remarks - TBD**

9:00-9:15 **Introduction to Sessions and Overview of Forensics and Information Technology at NIST – Martin Herman**

Computer and Multimedia Forensics

9:15-9:30 Overview of Computer Forensics at NIST – Barbara Guttman

9:30-9:50 National Software Reference Library and Diskprint Research – Mary Laamanen & John Tebbutt

9:50-10:10 File Identification in iOS – Michael Ogata

10:10-10:30 Computer Forensic Tool Testing (CFTT) at NIST – James R. Lyle

10:30-11:00 **Break and Poster Viewing/Exhibitor Displays**

11:00-11:20 Mobile Device Tool Testing – Richard Ayers

11:20-11:40 Developing a Forensic Image Examination Rating Scale – Charles Fenimore

11:40-12:00 Instance search, copy detection, and semantic indexing at TRECVID - Soboroff

12:00-1:30 **Lunch and Poster Viewing/Exhibitor Displays**

Fingerprints & Biometrics

1:20-1:30 Overview of Fingerprint and Biometric Activities at NIST – Mike Garris

1:30-1:50 Overview of the NIST Evaluation of Latent Fingerprint Technologies (ELFT) Project – Michael Indovina

1:50-2:10 Fingerprint Quality – Elham Tabassi

2:10-2:30 Biometrics & Forensics: The role of standards in data exchange – Brad Wing

2:30-2:50 Metrics for Enhancement of Latent Fingerprint Images (NIST Forensics Grand Challenge Project) – Andrew Dienstfrey & Mary Theofanos

2:50-3:10 **Break and Poster Viewing/Exhibitor Displays**

3:10-3:30 Transcending PSNR: SIVV as a Comprehensive Image Fidelity Metric – John M. Libert

3:30-3:50 Challenges in Forensic Face Recognition – P. Jonathon Philips

3:50-4:10 Human Assisted Speaker Recognition – Craig Greenberg

4:10 **Conference Concludes**

Posters

1. Computer Forensics (includes NSRL and CFTT)
2. Human Assisted Speaker Recognition
3. Using Attack Graph and Evidence Graph in computer Forensics Examinations
4. Instance Search, Copy Detection, and Semantic Indexing at TRECVID
5. Developing a Forensics Image Examination Rating Scale
6. Evaluation of Latent Fingerprint Technologies (ELFT)
7. Evaluation of Fusion Methods for Latent Fingerprint Matchers
8. Biometrics Research Lab to Support Standards Development and Measurement Science
9. Biometric Sample Quality – The Push Towards Zero Error Biometrics
10. ITL – Standards Development Organization (SDO) of ANSI/NIST-ITL Biometric Interchange Standard – 25 Years of Building Community Consensus with Global Impact
11. Using Challenge Problems to Advance Face and Iris Recognition
12. Assessing Uncertainty in Measurement