STATISTICS TASK GROUP: NEVER HAVING TO SAY YOU’RE CERTAIN
Karen Kafadar, Chair, STG
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David Banks, Duke: Vice-Chair
William Guthrie, NIST: Executive Secretary
STG Mission

- Provide advice to OSAC units on proper use & explanation of statistical concepts used in standards posted on OSAC registry
- Serve as members on OSAC units to ensure practical advice relevant to units’ disciplines
- Ensure consistent statistical advice across OSAC units
- Collaborate with forensic practitioners to develop proper, validated, and practical statistical procedures
- Provide other statistical advice as requested
- Serve as advisers, not as intruders
STG: OSAC statisticians & affiliates

- Karen Kafadar (UVA), FSSB

- SAC Statisticians:
  - Biology: Bruce Wier (UW), Simone Gittelson (University of Technology - Sydney)
  - Chemistry: William Guthrie (NIST)
  - Crime Scene: Jerry McGwin (UAB)
  - Digital/IT: Abhyuday Mandal (U-GA)
  - Physics/Pattern: Hal Stern (UCI)
SAC/Subcommittee Statisticians:  
(15 of 25 SubSACs have statisticians)

- Chemistry: Will Guthrie, NIST
  - Gunshot Residue: Cliff Spiegelman, Texas A&M
  - Materials/Trace Evidence: Cédric Neumann, South Dakota State Univ
  - Geological Materials: Martin Wells, Cornell

- Crime Scene:
  - Fire & Explosion: Mark Johnson, Univ of Central Florida
  - Medico/Legal Death Investigation: Gerald McGwin, Univ AL
- Physics/Pattern Evidence: Hal Stern, UC-Irvine
  - Blood Stain: Haonan Wang, Colorado State Univ
  - Footwear & Tire: Steven Lund, NIST
  - Firearms & Toolmarks: Max Morris, Iowa State Univ
  - Questioned Documents: Chris Saunders, South Dakota State Univ; Mark Lancaster, Northern Kentucky Univ

- Others: David Kaye, PSU (LRC), Bill Thompson, UCI (HFC), Alicia Carriquiry, ISU
Statistics: *Raison d’être*

- Help to define the problem (J.W. Tukey: “Often finding the question is harder than finding the solution”)

- Draw valid inferences from data
  - Understand how the process can be “measured”
  - Identify sources of variability: what influences might affect the data? (materials, methods, personnel, ...)
  - Help to assign quantitative measures to qualitative outcomes
  - Work with forensic scientists to understand, characterize, and quantify sources of uncertainty in the process
  - Design studies to understand sources of variability in the forensic process; factors that influence the targets (measurements, configurations, etc.) & quantify their effects
Work Products

■ Comments on proposed Standards, including seized drugs (E2548-11) and glass standards (E2926-13: XRF; E2330-12: ICP-MS; E2927-16: LA-ICP-MS)

■ Participate in other Task Groups (e.g., Conclusions Task Group; Interpretations for testimony)

■ Confer on best practical guidance

■ Many STG members participate widely in forensic statistics (CSAFE, SAMS, journal referee, etc.)
Submitting inquiries

- Send to unit statistician (most knowledgeable about the area); suggest you copy the statistician at next level (e.g., subcommittee and SAC)

- Please do not hesitate to send reminders. We are used to being referees for journal article submissions

- For faster response, please direct reviewer to specific section(s) of most (statistical) concern
QUESTIONS?

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