Trace Evidence: Part of a Path Forward

Vincent J. Desiderio
A Tale of Extinction
A Tale of Extinction
A Tale of Extinction
A New Era of Challenges
Real-life CSI
Jeffrey Toobin on the trouble with forensic science

A hundred million copies sold!
Dana Goodyear on the cult of Paulo Coelho

To catch a smuggler
Patrick Radden Keefe on the looting of India

Plus: Ian Frazier on idiocy · Hilton Als on Ralph Ellison · Sasha Frere-Jones on Björk
Debunking the Shaky Science of Ballistics, Fiber Analysis, Fingerprinting & Other CSI Myths
“Microscopic hair comparison evidence should be abandoned. Instead, mitochondrial DNA testing of hairs should be conducted in any hair evaluation of importance.”
### Hair: Microscopy and Mito

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MAKING THE CASE FOR A HIGHER STANDARD

PROFESSORS WEIGH THE MERITS OF NON-DNA EVIDENCE

By Jennifer Nislow

DNA is considered the gold standard in forensic science. But what of the other types of evidence gathered at crime scenes that do not contain genetic materials, such as fingerprints, shell casings, teeth marks, glass, paint chips and documents? Two seasoned experts at John Jay have agreed to disagree on the value and reliability of these and other traditional types of criminalistics analysis.

Professors Lawrence Kobilinsky and Adina Schwartz come at the issue from very different disciplines. Kobilinsky, who chairs John Jay’s Department of Sciences, is a serologist and a DNA expert. Schwartz is an associate professor in the College’s Department of Law, Police Science and Criminal Justice Administration as well as an attorney who has been serving as an expert witness since 2001 in cases involving evidence drawn from firearms and tool marks.

Their views converge in a shared belief that resources are needed to bring other types of analysis to the level of standardization and scientific solidity that has been achieved with DNA. Where the two part company is over whether criminals at this point contribute anything to forensic analysis they testify on non-DNA evidence.

Kobilinsky believes they do. Schwartz contends that if the forensic evidence is not DNA, “you don’t have a case.”

“This debate is cutting edge,” he said. “There have been papers published in these areas that have been criticized because of claims of total reliability and no human error. Total reliability can’t be backed up. To declare an analysis has been totally objective and accurate is something we have not as yet achieved.”

Other types of analysis cannot and should not be phased out, according to Kobilinsky. Among other things, usable quantities of intact DNA may not be present at every crime scene. Criminalists have to extract as much information as possible from evidence that may include soil, glass, paint or a blood spatter. They have to try to associate the suspect or the victim with the crime scene.

“The question is, can you trust these other areas of scientific analysis and the answer is, up to a point. We need to do more work,”
Schwartz contends that if the forensic evidence is not DNA, "you don’t have a case."
The Gold Standard
Everything Else
A Dangerous Road
The DNA Monoculture
The Utility of Trace Evidence

- Paint
- Hairs
- Fibers
- Glass
- Polymers
- Tape
- Adhesives
- Soil
- Pollen
- Building Materials
- Ropes and cordage
- Gunshot residues
- Chemical Unknowns
- Ignitable Liquids
- lubricants
- Explosives
- Headlamp filaments
- Shoe prints
- Tire prints
- Fracture matches
- Fabric Impressions
Don’t Put All of Your Eggs in One Basket!

We are the last Dodos on the planet, so I've put all of our eggs safely into this basket...

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How Do We Correct This?

• Education is key
• We need to rise to the challenges that are presented
  – Symposia
  – Research
  – Better training
• We need to respond
  – Initiate dialogue and confront the challenges head on
Brief History

• Idea initially conceived in 2008 at SWGMAT
• Further developed at AAFS 2009
• Finally became official at the 2009 Trace Evidence Symposium
Brief History

• Currently:
  – Over 250 Official members
  – Representation from:
    • Federal
    • State
    • Local
    • Private
    • Academia
    • International
Mission/Goals

• Support the growth of Trace Evidence as a Forensic Discipline
• Disseminate relevant information to practitioners
• Provide education to practitioners, non-trace forensic scientists, attorneys, and the public on the various trace disciplines and what they offer the criminal justice system
• Support research
• Promote professionalism and high ethical standards within the field
Website

(www.asteetrace.org)
ASTEE at a Glance

2011 is shaping up to be a big year for Trace Evidence and ASTEE. We have quite a bit going on this year with some things requiring a prompt response from as many members as possible, so please take time to read through this newsletter.

2011 AAFS Meeting in Chicago
We started off the year with a reception at the AAFS meeting in Chicago. This event, generously sponsored by CRAIC Technologies, Gateway Analytical, and Bruker Forensics, was attended by over 35 of our members. We would like to specifically thank Dr. Paul Martin, Arlene Adolfo and Saya Yamaguchi from CRAIC and Linda Batykefer from Gateway for helping to make this reception a reality. A good time was had by all at the reception.

As the AAFS meeting progressed, not only did an informative meeting unfold, but one of our members, Mike Trimp, received the prestigious Mary Cowen Distinguished Service Award from the Criminalistics section. Congratulations Mike on a well-deserved award!

For the past few years, there have been grumblings about the lack of trace evidence content and trace evidence examiner participation at AAFS meetings. With the various trace-related workshops offered and presentations given, along with a strong showing from the ASTEE membership, the 2011 meeting seemed to be a start at reversing that trend. In order to further our field and demonstrate the utility of trace evidence as a forensic discipline, it is important for us to attend this meeting. Therefore, we are looking to continue this social tradition and will hopefully be hosting another reception at next year’s AAFS event in Atlanta. Perhaps we could entice a few more people from our field to attend and have an even stronger showing in 2012.

2011 Trace Evidence Symposium
The 2011 Trace Evidence Symposium is quickly approaching. It will be held August 8-11 in Kansas City, Missouri. Registration and a agenda can be found on the event website: [http://projects.astee.org/trace/2011/index.htm](http://projects.astee.org/trace/2011/index.htm). The theme for this year’s Symposium is Advancing Science, Significance, and Impact. From the looks of the workshops and scientific sessions offered, this meeting will be very informative.
Events

AAFS 2011
Chicago, IL

Photographs Courtesy of Peter Dziczuk, Graham Rankin, and Vincent Desiderio
Training

• ASTEE organized events
  – Develop and offer several core workshops
  – Develop and offer specialty workshops
  – Rotate around the United States

• Scholarships/Funding for training courses
  – Support workshops at regional meetings
Awards

• ASTEE Scholarship Award
  • 2011 Award Recipient

Emily Schenk

Florida International University
Awards

The Edmond Locard Award for Excellence in Trace Evidence

2011 Recipient

Scott Ryland

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The Future

• Develop the organization into a significant forensic entity

• Growth of finances in order to accommodate higher levels of training, provision of scholarships, and disbursement of seed money for trace related research projects
Acknowledgements

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- Robin Gall
- Jocelyn Williams
- Margaret Black
Questions

Vincent Desiderio
Vfornsic@yahoo.com
WWW.ASTEETRACE.ORG