

# NEAFS Newsletter

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NEAFS PO Box 135  
Hawthorne NY 10532  
[president@neafs.org](mailto:president@neafs.org)

President-Elect: Larry Quarino  
Cedar Crest College  
100 College Drive  
Allentown, PA 18104  
610-606-4661  
[presidentelect@neafs.org](mailto:presidentelect@neafs.org)

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Massachusetts State Police Crime Laboratory  
124 Acton Street  
Maynard, MA 01754  
[secretary@neafs.org](mailto:secretary@neafs.org)

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PO Box 80378  
Springfield, MA 01138-0378  
[treasurer@neafs.org](mailto:treasurer@neafs.org)

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Nassau County Office of the Medical Examiner  
2251 Hempstead Tpke. Bldg. R  
East Meadow, NY 11554-1856  
[director1@neafs.org](mailto:director1@neafs.org)

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Office of Forensic Sciences  
1200 Negron Drive  
Hamilton, NJ 08691  
[director2@neafs.org](mailto:director2@neafs.org)

Director: Samantha Cernoguz  
Westchester County Forensic Lab  
PO Box 135 Hawthorne NY 10532  
[director3@neafs.org](mailto:director3@neafs.org)

# Staff 2014

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Burlington Laboratories  
199 Main Street  
Burlington, VT 05401  
Phone: 802-863-4105  
[pastpresident@neafs.org](mailto:pastpresident@neafs.org)

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PO Box 135  
Hawthorne, NY 10532  
[publications@neafs.org](mailto:publications@neafs.org)

Executive Secretary: Elizabeth Marks  
Suffolk County Crime Laboratory  
PO Box 6100  
Hauppauge, NY 11788  
[executivesecretary@neafs.org](mailto:executivesecretary@neafs.org)

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NYC Office of the Medical Examiner  
[awards@neafs.org](mailto:awards@neafs.org)

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10 Sheffield Drive  
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[education@neafs.org](mailto:education@neafs.org)

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New York, NY 10019  
[ethics@neafs.org](mailto:ethics@neafs.org)

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PO Box 135  
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[exhibits@neafs.org](mailto:exhibits@neafs.org)

Membership Chairperson: Holly O'Connor  
NEAFS  
PO Box 135  
Hawthorne, NY 10532  
[membership@neafs.org](mailto:membership@neafs.org)

Membership Dues Contact:  
Sheauling Kastor & Sherri Anderson  
NEAFS  
P.O. Box 581  
Maynard, MA 01754  
(978) 451-3804  
[dues@neafs.org](mailto:dues@neafs.org)

Merchandise Chairperson: Sandra Viens  
Westchester County Toxicology Laboratory  
10 Dana Rd  
Valhalla, NY 10595  
[merchandise@neafs.org](mailto:merchandise@neafs.org)

Certification Chairperson: Michael Portzer  
New York State Police  
Forensic Investigation Center  
1220 Washington Ave., Bldg. 30  
Albany, NY 12226-3000  
Phone: 518-457-9592  
[certification@neafs.org](mailto:certification@neafs.org)

Site Chairperson: Janine Kishbaugh  
Cedar Crest College  
100 College Drive  
Allentown, PA 18104  
Phone: 610 606 4661  
[sitechair@neafs.org](mailto:sitechair@neafs.org)

Webmaster: Keith A Mancini  
PO Box 135  
Hawthorne, NY 10532  
[webmaster@neafs.org](mailto:webmaster@neafs.org)



# President's Message

As I finally have time to slow down and reflect on the year of planning for the 2013 Annual Meeting, I realize how lucky I am to be part of an organization with so many dedicated individuals. With over 300 attendees at various workshops and scientific sessions, it took a great team to help me bring the meeting together. From the Corporate Liaisons, to session chairs, workshop coordinators, speakers, instructors and every position in between, the meeting could not have happened without you. For that, I will always be extremely grateful.

NEAFS strives to advance our field by continuing to provide affordable professional development for its members. Given the current fiscal climate, labs within our region have been struggling to provide the necessary training for their staff. The Board of Directors and Education Committee will dedicate plenty of time and resources to help members with their professional development during 2014.

We are currently putting the final touches on an advanced STR and Y-STR mixture statistics workshop to be held in Westchester County, NY in May. This 2-day workshop will cover trending topics in Forensic DNA analysis as it relates to statistics. A day and a half will be allotted to advanced autosomal DNA mixture statistics and a half day will be allotted to an overview of Y-STR Mixtures. Two more training workshops are being planned for later in the year, and we will pass on information when it is finalized. I would encourage you to look into taking one (or more) of these if possible. We will update the website as more details become available.

Expanding on educational opportunities, the NEAFS Annual Meeting provides another great opportunity to get your yearly continuing education. NEAFS has always provided inexpensive, high quality workshops at the Annual Meetings and this year's meeting in Hershey, PA will be no different. Program – Chair, Dr. Larry Quarino, has an exceptional meeting in store for us. Five workshops will be offered at the meeting including Alternative Matrices for Toxicological Analysis, Trace Evidence on Bullets, Chemometrics without Equations, Photography, and an additional workshop for the DNA community provided by Life Technologies. Along with sessions in Drug Chemistry, Biology, Trace / Pattern Evidence, Toxicology, and both General and Plenary Sessions, it's shaping up to be a great meeting. Please check the NEAFS website over the coming months for updates regarding the 2014 Annual Meeting.

Students, be aware that the Awards Committee is accepting applications for the George W. Neighbor Memorial Scholarship, both graduate and undergraduate, until June 30th. Also, The Carol De Forest Research Grant provides full time undergraduate or graduate forensic science students with financial assistance to conduct research. The deadline for the Carol De Forest Research Grant is April 30<sup>th</sup>. Scholarships / grants given out during the 2013 Annual Meeting totaled \$5500. I encourage all students to consider taking advantage of these scholarships and grants.

I look forward to serving as NEAFS President for 2014. Please feel free to contact me about any concerns or suggestions you might have concerning NEAFS.

Kevin MacLaren  
NEAFS 2014 President

# TRANSCEND

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## 2014 NEAFS ANNUAL MEETING ANNOUNCEMENT



NOVEMBER 3<sup>RD</sup>, 2014 - NOVEMBER 6<sup>TH</sup>, 2014

LOCATION:



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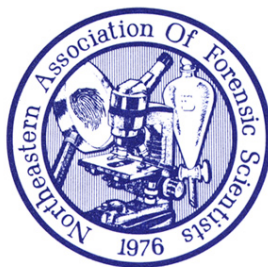
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LARRY QUARINO AT [PRESIDENTELECT@NEAFS.ORG](mailto:PRESIDENTELECT@NEAFS.ORG)





# NEAFS 40<sup>th</sup> Annual Meeting

November 3<sup>rd</sup> – 6<sup>th</sup>, 2014

## CALL FOR PAPERS – ABSTRACT FORM

**DEADLINE: October 1, 2014**

Title:

Presenting Author:

Affiliation:

Phone Number:

Email:

Co-Authors and Affiliation:

Scientific Session: ☐ Biology ☐ Trace and Pattern Evidence ☐ Drug Chemistry  
☐ Toxicology ☐ Poster ☐ Educator's Forum

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Audio-Visual equipment needed:

☐ PowerPoint Version \_\_\_\_\_ Other (please specify) \_\_\_\_\_

Time needed for presentation: ☐ 10 min ☐ 20 min ☐ 30 min

**Instructions:** Complete this form and email to the Program Chair and appropriate Session Chair. Also, if this is an abstract for a student in the Collegiate Competition, please email a copy of the abstract to the Chair of the Collegiate Competition.

You will be notified prior to the deadline whether your abstract is approved as is, approved with suggested modifications, or rejected. It is recommended that abstracts be from 150 to 250 words and must accurately reflect the content of the presentation.

**Program Chair:**

**Trace/Pattern Evidence Session Chair:**

**Drug Chemistry Session Chair:**

**Forensic Biology Session Chair:**

**Toxicology Session Chair:**

**Poster Session Co-Chairs:**

**Educator's Forum Chair:**

**Collegiate Competition Chair:**

Larry Quarino

Brooke Kammrath

Tom Brettell

David Fisher

Karen Scott

Dan Nemeth

Donna Nemeth

John Drewac

Ed Bernstine

[laquarin@cedarcrest.edu](mailto:laquarin@cedarcrest.edu)

[bkammrath@newhaven.edu](mailto:bkammrath@newhaven.edu)

[tabrette@cedarcrest.edu](mailto:tabrette@cedarcrest.edu)

[dfisher@ocme.nyc.gov](mailto:dfisher@ocme.nyc.gov)

[scottk@arcadia.edu](mailto:scottk@arcadia.edu)

[dnemeth@monroecounty.gov](mailto:dnemeth@monroecounty.gov)

[dontanemeth@monroecounty.gov](mailto:dontanemeth@monroecounty.gov)

[jdrawec@wne.edu](mailto:jdrawec@wne.edu)

[ebornstine@baypath.edu](mailto:ebornstine@baypath.edu)

**All presenters must register for the meeting.**

## ABSTRACT

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## **NEAFS would like to Welcome the following New Members**

Allen Flavors Inc.  
Gina Parada

Bay Path College  
Malinda Lovic, Adrian Garcia Sega

Boston University School of Medicine  
Kolby Spiker

Commonwealth Labs & Willow Labs  
Gianna Mancuso

Connecticut State Police Forensic Lab  
Jessica Best, Angela Przech

DEA Lab  
Thomas Blackwell

FTox Consulting, LLC  
Sabra Botch-Jones

Genetic Services, Inc  
Heidi Tinchler

John Jay College  
Jennifer Leonard

Massachusetts State Police Crime Lab  
Brittany Fox, Rebecca Pontes, Keri LaBelle, Arielle  
Burdulis, Heather Mowatt, Claire Rimkus, Nicole  
Cronan

MassBay Community College  
Bruce Jackson

Monroe County Crime Laboratory  
Bryn Joslyn

Nassau County Crime Lab  
Stephanie Minero

Nassau County OME  
Robyn Fishkin

NJSP South Regional Lab  
Lewis Smith

NYC OCME  
Khadija Harris, Yvette Rada, Samantha Taylor

NYPD Lab  
Jennifer Lady, Jeffrey Suckow, Erika Chen, Nicole  
Capitali

NYSP Forensic Investigation Center  
Amber Losavio, Carrie Pettit, Megan Ralbovsky,  
Lisa Palombo, Seth Tracy

Pennsylvania State University  
Rachel Bower

SUNY Albany Dept. of Chemistry  
Gregory McLaughlin, Justin Bueno, Igor Lednev,  
Ashton Lesiak

Suffolk County Crime Lab  
Bosko Matthew

Travelers Insurance  
Christine Lopol, Frank Evans

University of Maine  
Irving Kornfield

University of New Haven  
Stephanie Tedeschi, Anthula Vadoros, Emily Fuller,  
Alex Schilling

US Treasury, Bureau of Fiscal Service  
Everett Wayne

Vermont Forensic Laboratory  
Rebecca Mead, Hillary Boucher

Westchester County Forensic Lab  
Sandra Viens

Western New England University  
Samantha Mulhern



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# **A Worthy Recipient of the 2013 NEAFS Meritorious Service Award: Vincent Desiderio**

By:  
Larry Quarino

There are only a few people I would place in the category of “tireless advocate for the profession of forensic science.” For over a decade Vinnie has shown himself to be more than worthy to be in this group. The word “impressive” is not strong enough to describe the various contributions he has made. He is a Past President of NEAFS, a current member of the Board of Directors of the American Board of Criminalistics, a founding member and Past President of the American Society of Trace Evidence Examiners, a fellow with the Criminalistics Section of the American Academy of Forensic Scientists, adjunct lecturer, thesis reviewing for forensic science students, and a Past President of the New Jersey Association of Forensic Scientists. The list is seemingly endless. I describe him as the “east-coast distributor” of involved. It was my good fortune to work with Vinnie on the NEAFS Board of Directors and was witness to his hard work in organizing the 2011 annual meeting which I believe was one of our best ever.

Recently, I saw Vinnie in one of his finest moments as a professional. Vinnie was the Chair of an ad-hoc committee to evaluate the feasibility of dividing the Criminalistics Section of the American Academy of Forensic Science into separate biology and chemistry disciplines. A split was strongly advocated by some who believe that the Section could have far greater influence within the American Academy of Forensic Sciences if two separate entities were created. As Chair of the committee, Vinnie addressed the Criminalistics Section during its business meeting at the 2014 annual meeting in Seattle and clearly outlined the advantages and disadvantages of both. Although ultimately reaching the decision not to split the section, Vinnie’s address made a collegial effort to those with an opposite viewpoint by ensuring that credit was given for valid points they presented in their argument. In reaching the committee’s decision, Vinnie spoke of the need for collaboration of practitioners in the field and the significant historical role that Criminalistics plays in forensic science and that such a split would damage and dilute this history. Although he may disagree, it was the epitome of professionalism. As an academician, I wish my students would have seen it as an example of how to handle a potentially contentious situation in such a professional manner.

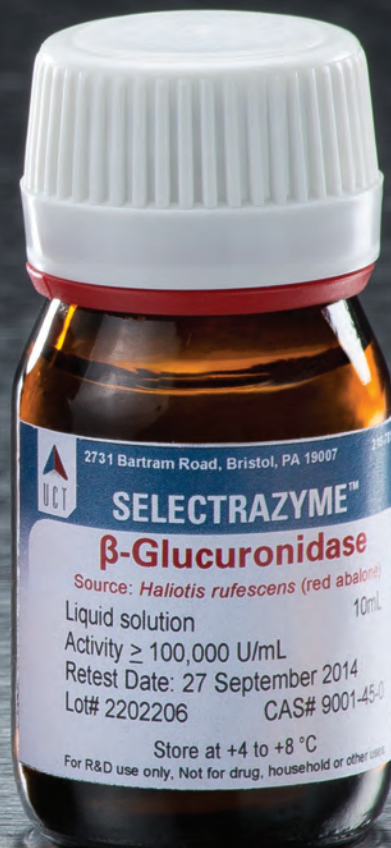
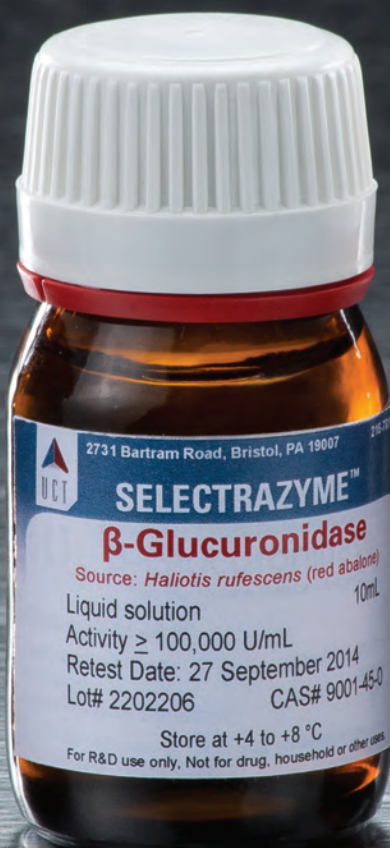
Vinnie is far from done. He continues to work for NEAFS in his role of helping to devise administrative rules for our organization and he has plans on being an author of a textbook. I cannot think of a more worthy recipient of this award and I proud to call him a colleague and a friend.

If you are interested in nominating someone, please fill out the application on the NEAFS homepage and send it in to the awards chair, [awards@neafs.org](mailto:awards@neafs.org).



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## 2013 George W. Neighbor Jr. Memorial Scholarship Winners

### Ashton Lesiak

Ashton has served as a Teaching Assistant for both General Chemistry and Advanced Forensic Chemistry. She graduated *magna cum laude* from Converse College in Spartanburg, South Carolina and interned both at the Greenville South Carolina County Forensic Laboratory and at the NIST. She believes that her academic success as an undergraduate and graduate student has prepared her for a career path in forensic science.

At the 2012 NEAFS annual meeting, she presented data on the characterization of synthetic cannabinoids in Spice by DART-MS. She has also been a co-author on three publications (first author on two), in *The Journal of Forensic Science*, *Rapid Communications in Mass Spectrometry*, and most recently in *Analyst*, all on the analysis of synthetic drugs. She has also been acknowledged by the University at Albany chemistry department and is the recipient of the Harry L. Frisch Memorial Award for high academic achievement and the Arthur O. Long Teaching Assistant Award for excellence in teaching and scholarship.

After completing her graduate studies, it is her desire to work in the area of drug chemistry and trace evidence, either as a forensic chemist in a regional forensic laboratory or as post-doctoral fellow at a research institution. She believes it would be a rewarding challenge to be part of a research facility that works to improve current analytical techniques for forensic labs, in response to the 2009 NAS report, and furthering forensics through development of novel methods or techniques. Her eventual career goal would be to work in a larger government agency such as the FBI, or DEA. She hopes to gain enough experience in a position as a criminalist to share her knowledge through teaching coursework later in her career. She was inspired to work in the forensic field by an undergraduate professor and she wants to share her love for forensic science.

“Firstly, I would like to thank the NEAFS committee for the honor of being the graduate recipient of the 2013 George M. Neighbor Memorial Scholarship. I am so grateful to be a member of this organization and for the opportunities that this scholarship and organization afford for my future.

I am currently finishing my third year in the PhD program at the University at Albany and my research projects have included development novel mass spectrometric techniques for the detection of illicit compounds and “legal” alternatives to commonly abused substances. As a member of Dr. Rabi Musah’s research lab, I am working on the analysis of legally obtained plants that have been used as alternatives to common illicit drugs like marijuana or opiates. The goal of this research is to be able to characterize plant material found at crime scenes in order to rapidly identify botanical evidence, which is often difficult to accomplish with current methods.

Once again, I would like to thank the NEAFS organization for their graciousness and I look forward to being an active member and attending the 2014 Annual Meeting.”

# Emily Fuller

Emily is currently working towards her educational and career goals. At this time in her life, she has no greater goal than to be educationally successful, with the hopes of laying down a strong foundation for her future career. She has gained a lot of personal satisfaction from her educational achievements.

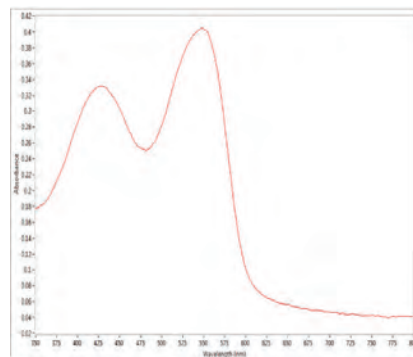
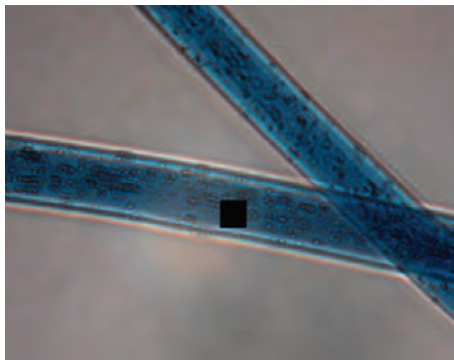
“I am a current senior, graduating in May 2014 at the University of New Haven. I had a full-time, unpaid summer internship at AxioMx, Inc, a biotechnology company in Branford, CT last summer where I conducted research that has now lead to my first publication (the manuscript is in preparation) and has been used for grant applications. Since then, I have continued to work at AxioMx once a week as a lab aide while being enrolled full-time in school. My current cumulative GPA is 3.95 and have been on the Dean’s list for each semester I have attended (currently 7 consecutive semesters). I am now working on job/internship/fellowship applications for various police departments, crime labs, biotech companies, etc. for laboratory work.”

Emily remains on track to complete a B.S. degree in Forensic Science, a B.S. degree in Biology and a minor in Chemistry all within four years of undergraduate studies.

To apply for the 2014 George W. Neighbor Jr. Memorial Scholarship visit <http://neafs.org/index.php/scholarship-award-grant-application>



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# 2013 Carol De Forest Student Research Grant Winner

## Rachel Bower

After completing the Master's program at The Pennsylvania State University, Rachel would like to continue her journey in the area of forensic science. Her career goal is to work in a crime laboratory utilizing her background in both forensic science and analytical chemistry. Her ultimate career goals are to become highly proficient in an area of forensic science and to be able to be utilized as an expert witness and an educational resource to various populations. Rachel would also like to be a role model in the scientific community as a highly motivated and ethical scientist.

Rachel is always interested in learning new things and being able to utilize that information to solve problems. One of the problems that she saw in the area of forensic science was a lack of knowledge in the area of decomposition. Unfortunately, a major area and one of the reasons for forensic science even existing is criminal activity in the form of murder. A problem within this crime is that many of the perpetrator's will try to hide their acts by concealing the victims. When the bodies are not readily evident to the investigators, they are considered clandestine burials and decomposition can become a factor. These burials are a twofold problem; it impedes the investigation and thus creates a longer timeframe that the friends and families of the victims must wait for answers and closure. Working towards establishing a more complete profile of the temporal evolution of volatile organic compounds (VOCs) released during the decomposition process will impact and improve models which predict interval since death, insect succession, and possibly, lead to alternate methods for identifying clandestine burial sites.

***Rachel presented her research titled "Investigating the Molecules of 'Death'" at the 2013 NEAFS annual meeting.***

To apply for the 2014 Carol De Forest Student Research Grant visit <http://neafs.org/index.php/scholarship-award-grant-application>



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### Making a Custom Microscope Shield

Daniel Rothenberg

Westchester County (New York) Forensic Laboratory\*

Microscopists, especially those in the forensic field, face two main challenges: contamination and loss of sample. With training and practice, these challenges are generally overcome. However, technological advancements continue to extract information from smaller and smaller samples. Full DNA profiles are now developed from a single hair root and even from just a few cells.

While a skilled microscopist is able to manually minimize sample loss and contamination, there is still a need to be cleaner and safer. This is paralleled by the increase in personal protective equipment used in a laboratory. But there is an overriding concern of never having enough protection for your sample.

The very use of a microscope puts the microscopist in close proximity to the sample. The sample is generally exposed for best viewing and sample preparation, especially when it is under a stereomicroscope. Exhaling, sneezing or sighing may blow away a small sample from the microscope stage. Talking may cause minute amounts of saliva to fall on the sample and contaminate it. Therefore, additional protection for the sample is preferred.



TDI International

**Figure 1.** Commercial microscope shields available from science supply companies cannot be custom fitted for any microscope. This shield from TDI International retails for \$38.

Safety glasses or a face shield are not practical when using a microscope. Instead, a microscope shield provides an ideal barrier of protection. The least expensive microscope shields available from science supply companies sell for around \$40 (Figure 1). These shields have fixed dimensions and cannot be customized. This “Tricks of the Trade” method explains how to make an inexpensive alternative that can be easily fitted on any microscope.

A microscope shield can be created with custom dimensions from one transparency sheet (typically used for overhead projector presentations), a marker and scissors (Figure 2) for a fraction of the cost. A package of 100 transparency sheets can be purchased for less than \$40.

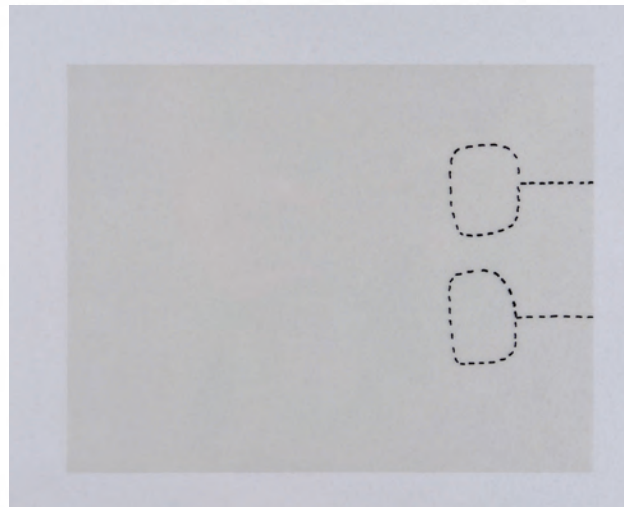
To make a shield, hold a blank transparency up to the eyepieces of the microscope. Note the approximate center and diameter of each eyepiece. For stability, make sure there is at least a 1.5-inch margin at the top. Draw circles around each eyepiece; these circled outlines will later be cut out. From the center of each circle, draw a line to the top edge of the transparency sheet. The transparency should resemble the example

---

\*10 Dana Road, Valhalla, NY 10595



**Figure 2.** Transparency sheets used for overhead projector presentations are an inexpensive alternative to commercial shields and can easily be customized to fit any microscope.



**Figure 3.** A blank transparency is marked with the approximate diameter of each microscope eyepiece. The two straight lines indicate where the sheet will open and fasten onto the microscope.



**Figure 4.** A finished microscope shield made from a plastic transparency.

in Figure 3.

Cut along the marked lines to produce two eye holes and fit the eye holes over the eyepieces of the microscope. The two straight cuts at the top make this fitting easier. The eye hole cutouts should be large enough to allow adjustment of the eyepieces. The length of the shield is customized by cutting off a desired amount of the transparency sheet from the bottom. The finished shield is shown in Figure 4.

I prefer a shield with two eye holes, but some microscopists may choose to cut one oblong hole so the shield resembles the product in Figure 1. For about 40 cents per transparency, it is inexpensive and worthwhile to try different shapes and cutouts until you find the best fit for your microscope.

The transparencies may be discarded or cleaned and reused. To clean the shield, use bleach instead of alcohol-based products, which cause transparencies to become cloudy.

#### ACKNOWLEDGMENT

Thank you to Keith Mancini for taking the photographs in Figures 2-4.

Originally published in "The Microscope" 58(4) pp175-176 [www.mcrl.org](http://www.mcrl.org)  
If you have a tip or trick you would like to share please send it to [publications@neafs.org](mailto:publications@neafs.org).



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# 2012/2013 Training Scholarship Fund-Course Summary

Tiffany Ribadeneyra

On June 7, 2013, the American Bar Association (ABA) presented the 4<sup>th</sup> Annual Prescription for Criminal Justice Forensics at the McNally Amphitheatre, Fordham University School of Law. Cosponsors included the American Academy of Forensic Scientists (AAFS), American Society of Crime Laboratory Directors (ASCLD), Innocence Project, Inc., John Jay College of Criminal Justice, and The Federal Defenders, Inc. This event brought together academics, prosecutors, defense lawyers, judges, scientists, and others to discuss forensic evidence issues in the criminal justice arena. Topics included admissibility of evidence, cutting edge research, hair analysis, ethics and quality control, DNA mixture interpretation and computer crimes. The following summary is intended to inform NEAFS Newsletter readers about the information disseminated during this training event. Moreover, it shall serve as insight to the lively discussions that ensued when controversial issues were addressed amongst forensic scientists and legal representatives. The program commenced with a welcome address by Mathias Heck, the chair-elect of the ABA Criminal Justice Section. The mission of the criminal justice section is to be “the unified voice of criminal justice.” The nearly 20,000 members include representatives from various aspects of the criminal justice system including prosecutors, public defenders, criminal defense lawyers, attorney generals, law students and professors of law. The ABA Criminal Justice Section offers a wide array of events and continuing legal education (CLE), including several national institutes, conferences on forensics and sentencing, committee-sponsored events, and programs during the ABA annual meeting. For more information on the ABA Criminal Justice Section and upcoming events, visit [http://www.americanbar.org/groups/criminal\\_justice.html](http://www.americanbar.org/groups/criminal_justice.html).

The first panel addressed *New and Continuing Developments in Admissibility of Forensic Science Evidence*. Judge Nancy Gertner of Harvard Law School focused on the admissibility of trace evidence in legal proceedings. She reverberated the 2009 National Academy of Sciences (NAS) Report’s concerns about whether underlying research justified forensic scientist claims in handwriting, ballistics and fingerprint cases. In 2010, Judge Gertner issued Procedural Order: Trace Evidence at 3, No. 1:08-cr-10104-NG (D. Mass. Mar. 8, 2010) requiring that the admissibility of trace evidence “ought not to be presumed; that it has to be carefully examined in each case, and tested in the light of the NAS concerns, the concerns of Daubert/Kumho case law, and Rule 702 of the Federal Rules of Evidence.” She also raised concerns about the abuse of discretion of evidence admissibility at the local/district court level and discussed the civil side of the criminal justice system, which generally has more resources to litigate issues than the criminal side. The comparison she presented for consideration was the admissibility of accelerant-detection canine handler testimony in criminal matters versus insurance cases. In general, a canine handler’s testimony is easily admissible in arson criminal cases, whereas handlers are subject to more rigorous scrutiny when testifying in insurance cases because resources are more abundant.

Judge Gertner’s presentation raises a valid concern about the involvement of forensic scientists in the criminal justice system. It is imperative that we, as forensic scientists, serve as educators to judges and lawyers within our reach. Consider establishing a Continuing Legal Education (CLE) program with your local jurisdiction and welcome meaningful dialogue regarding the methodologies utilized in your forensic laboratory.

Professor Paul Giannelli of Case Western Reserve University discussed the Federal Rules of Evidence (FRE), notice and demand statutes, the primary purpose test, nonhearsay rationale, calibration certificates,

no declarant cases (“instrumental” declarants) and autopsy reports. He compared *U.S. v. Oates*, 560 F.2d 45 (2d Cir. 1977), where a lab report identifying a controlled substance was inadmissible under FRE 803(8), with *U.S. v. Baker*, 855 F.2d 1353 (8th Cir. 1988), in which the court ruled the lab report for routine analyses of controlled substances admissible as business records under FRE 803(6). In the *William v. Illinois* (2012) case, Justice Thomas rejected the hearsay argument that limited a DNA report, comprised of the state lab and Cellmark’s analysis, being admitted into evidence. The justification for this decision was that the Cellmark report was not prepared for the primary purpose of accusing a “targeted individual.” Irrespective, Professor Giannelli stated that Cellmark’s accreditation could be considered hearsay if solely the state lab’s testimony is offered in court. Lastly, Professor Giannelli discussed no declarant cases, as in *U.S. v. Washington*, 498 F.3d 225 (4<sup>th</sup> Cir. 2007). The argument was that an expert testimony based on machine-generated reports of raw data and technicians who operated the chromatograph need not be called as witnesses. This can be a useful tool for those who serve as “surrogate witnesses” and testify to the compilation of work conducted by technicians. Such is often the case in toxicological and biological analysis.

The second panel of speakers addressed *Cutting Edge Research in Forensic Science*. Dr. Mary Bush and Peter Bush, both of the University of Buffalo School of Dental Medicine, presented their research on bite mark analysis. Dr. Bush’s experiments investigate bite mark uniqueness and skin as a suitable medium for the transfer of bite marks using cadaver models. Thus far, this research has determined that the distortion of skin due to bite marks is irreproducible. Further, Professor Bush presented the challenges associated with cognitive bias and perception. To the dismay of some attendees, these studies discredited the reliability and validity of bite mark analysis. Forensic odontologists questioned the application of this research and argued that cadavers were inappropriate models to use when drawing such conclusions. Professor Keith Findley of the University of Wisconsin Law School discussed the ongoing attempts to define shaken baby syndrome (abusive head trauma). Conclusions concerning this syndrome can only be drawn by evaluating case facts due to the inability to conduct empirical studies. Lastly, Professor Cliff Spiegelman of Texas A & M discussed the flaws of firearm and tool mark experiments, proficiency tests and validation studies. He emphasized the need for standardized methods, or standard operating procedures, delineating criteria of how matches were made or not made as well as a need for random selection of examiners. Professor Spiegelman argued that no statistically valid conclusions can be drawn from experiments lacking such qualifications.

The third panel deliberated *Lab Ethics and Quality Control*. Speakers included defense attorney Betty Layne DesPortes, retired Virginia laboratory director Peter Marone and prosecuting attorney Matt Redle. The first discussion entailed the selection of evidence to be submitted and/or analyzed by the laboratory and minimizing bias. Unless all evidence is collected and submitted for analysis, bias will be interjected at each decision point. As many of us know, the evidence selection process is a necessary evil we must encounter if we want to keep manageable caseloads. In order to minimize this bias, laboratories must teach investigators how to collect evidence and inform them of the types of analysis that can be conducted. Furthermore, proper communication and chains of command must be implemented to limit the dissemination of unnecessary information to those performing laboratory analysis. Laboratory management may want to consider what is done with investigative information such as controlled substance field test results or accelerant-detection canine indications. A later discussion addressed defense requests for independent analysis. It is generally understood that the prosecution may only request analysis on as much evidence, if any, to prove the case. Thus, the onus to investigate what other evidence exists is shifted to the defense, especially in cases involving confessions.

The impact of a failed proficiency test was also discussed. From a laboratory perspective, a root cause analysis will be conducted to try and identify the reason(s) for the failure. This is discoverable information and must be handled appropriately by the laboratory as well as counsel. Redle iterated that disclosure does not necessarily mean admissibility in court. DesPortes also cautioned that misconduct unassociated with analysis, such as falsifying time sheets, may be discoverable as it speaks to an analyst's honesty and integrity. The panelist collectively agreed that the culture within a laboratory can be improved by increasing transparency.

The fourth panel discussed *DNA Mixture Interpretations and Statistics*. The session commenced with Dr. John Butler of the National Institute of Science & Technology (NIST) giving a brief overview of forensic DNA mixture analysis and SWGDAM guidelines for autosomal STR typing. For more information about mixture interpretation, visit <http://www.nist.gov/oles/forensics/dna-analyst-training-on-mixture-interpretation.cfm>. Dr. Adele Mitchell presented her work on developing likelihood ratio software for the New York City Office of the Chief Medical Examiner. Dr. Mark Perlin presented the TrueAllele® system, which aids crime laboratories to determine if the defendant's or victim's DNA profile is included or excluded in a mixture interpretation. If a DNA profile is included, there must be a statistic to demonstrate the significance of the inclusion and these software packages have the ability to generate such information. Prosecutor Anne Marie Schubert urged the attorneys in the audience to understand DNA mixture interpretations and promoted comprehensive discussions with the laboratories. Alternately, public defender Jennifer Friedman anticipates admissibility issues with mixture interpretation and varying inclusion statistics.

The final panel discussion focused on *What the Government's New War on Computer Crimes Means for Privacy Interests*. Speakers included Neal Pollard of PricewaterhouseCoopers, assistant U.S. attorney Erez Liebermann, and private attorneys James Berger and Nicholas Goldin. The following hypothetical situation was discussed in order to demonstrate the level of probing that can occur with modern day computer crimes. An improper debit complaint to the U.S. Attorney's Office results in an investigation which reveals that the debit card was previously used to purchase Wi-Fi. The user logged onto their Gmail account, retrievable via Google, and an e-mail review reveals stock manipulation activity. This prompts an investigation into a brokerage. Cell phone records and IP addresses are used to confirm the exchange of information between the perpetrator and broker dealers. In this case, investigators were able to identify the perpetrator without violating the 4<sup>th</sup> Amendment. Apparently all information is fair game when investigating computer crimes. Hard drives, cell phone records, photos, GPS locations and social media can all be salvaged and reviewed. The concept of privacy is rapidly changing, leaving one to ponder what the future holds.

It is imperative for forensic scientists to be aware of the information being disseminated to legal practitioners. The NEAFS Training Scholarship Fund allows for reimbursement of such training and workshops. In closing, I hope this summary proves to be useful to my peers and strongly encourage members to take advantage of the scholarship opportunities afforded to us by NEAFS.

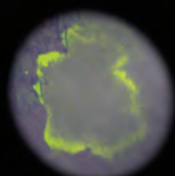
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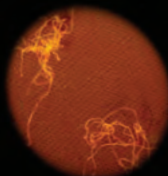
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# Forensic Training 2014 and Beyond

Jim Wesley  
Drug Chemistry Supervisor  
Monroe County Crime Lab  
Rochester, NY

## The difference between forensic training and effective forensic training.

Although I have been actively involved in NEAFS since 1993 and have presented over 150 talks and workshops since then, I often think, did any of these talks really improve the knowledge or skills of our scientists? Many scientists love to go somewhere and get “a week of training” but how much of this huge expense translates into skills? And how much (if any) is passed on to coworkers when they return?

### Three Types of Training

1. Academic forensic science programs in theory provide the basic information needed for employment in a forensic laboratory.
2. In-house training should be designed to prepare new forensic scientists for entry into the workplace and case analysis.
3. Training (through continued education/professional development) should expose staff and management to new and developing procedures and reinforce concepts that they need to know to perform current procedures.

A review of the 2009 NAS report and in particular a review of the IG report on the Hinton lab points to a need for “better training”. In fact, training at all three levels needs to be dramatically improved. With organization and planning, improvements can be achieved but it will require the guidance and support of staff scientists and forensic lab management.

Now that the new Forensic Science Commission has formed, along with the (OSAC) Organization of Scientific Area Committees, there is an excitement that huge sums of money will become available for training. Regardless of whether this comes to pass, the public is looking for a better quality “forensic product”. Effective training can and should be a cornerstone to achieving this product.

We need to totally rethink training. Effective training **must fulfill objectives** and it is up to us as forensic professionals to define these objectives and require they be met through the training.

### Objectives

- The training improves the understanding of the theory and principles of a technique, procedure or instrument that is currently being used by forensic labs.
- The training improves the understanding of the application of the technique, procedure or instrument that is currently being used by forensic labs (Relates to Operating Procedures).
- The training improves the ability of the scientist to present the material in court including addressing both direct examination and defense cross-examination of the technique, procedure or instrument that is currently being used by forensic labs. (This should always be included with all training).
- The training improves the understanding of the theory, principles and application of a new developing technology that has forensic applications.

## Training Options

### The Annual Meeting

How much discipline specific training can be accomplished at an annual meeting? Actually quite a lot. At NEAFS, several one day workshops will guarantee one full day of training on Wednesday. And Thursday is normally packed with dozens of presentations in each discipline. Regional meetings are also an inexpensive way to meet and interact with professionals in our region and these interactions can be invaluable in solving problems and cases. These meetings also provide an opportunity to present papers, and meet vendors who may have new technologies or equipment that can be of benefit to your operation.

## Pack and Go

Many people that I have spoken with regarding training feel that the new forensic commission will make available millions of dollars to train forensic scientists at week long workshops. Academic institutions in particular want to latch on to this approach. Unfortunately, although employees love to go away for training, labs cannot afford to send large numbers of their people to these trainings. Because of this it will take many years to train the majority of scientists, one week at a time. The end result is sporadic training and an inconsistent base of training across the industry.

## Vicinity Training

A topic expert presents a one day training that is accessible to several crime labs. Logistically, the driving distance would be less than 90 minutes. This type of training offers several advantages over the one week training. One day has minimal effect on staffing allowing several scientists from each lab to attend. The end result is that many more employees can be trained on a particular technique and the training can be spread across many crime labs in short order. The disadvantage is that it is only one day, but that said, a lot can be accomplished in one well-designed day.

## Webinars

Webinars are not everyone's favorite training device. I hear constant complaints from staff regarding webinars. "I didn't learn anything". "There is no interaction or hands-on". "It's just someone reading PowerPoint slides". "How much can you learn in two hours staring at a computer?"

But like it or not, webinars are the future of training and that future is NOW. Webinars are really the only way that we can provide mass training and ensure a base of training to our entire industry in a short amount of time. There is a lot of frustration with the slow pace of improvements in crime labs. Well-designed webinars can dramatically step up the pace of training and ensure almost universal training of core concepts. That said it's time to get busy and improve on this training device.

## Training Documents

Without good documents, it's just "training" and not effective training. It is incomplete and not up to par with what forensic labs need. By documents, I do not mean the PowerPoint slide hand-outs, six up per page. That is what we normally receive from a workshop. Often, especially from short presentations, we don't even get that! What we need is an MS Word or .pdf training document that explains the key points or theory of the talk in such a way that we can add it to our training back at the lab. This is a huge concept and an important one as we go forward in developing effective training.

## In house + Distribution

We need to improve our in-house training and once improved, we need to make this available to other crime labs. Typical discipline specific training for new hires involves reading selected references and then answering question after question using information from the references. In my opinion, this often results in inconsistent training as different references may be selected to achieve the answer. The new employee may also become frustrated, turning to a seasoned employee for answers. Again, there is no guarantee that answer provided will be the best answer. Management needs to carefully write the training documents so that the base information is contained in the training document. Court related questions, then need to be added to each training module. The best time to prepare for court is when you are involved in specific training on that subject. This also avoids an “emergency moot court” for a new employee that has started one type of case and gets a short dated subpoena.

## Training Topic Ideas

Keeping our objectives in mind, what training would you like to attend? Regarding Drug Chemistry (Controlled Substances) I have received some feedback already. Agilent GC/MS maintenance, Auto tune vs. Standard tune and MS spectral interpretation and Botanical Identification of Marijuana.

Please email any training ideas to:

[education@neafs.org](mailto:education@neafs.org)



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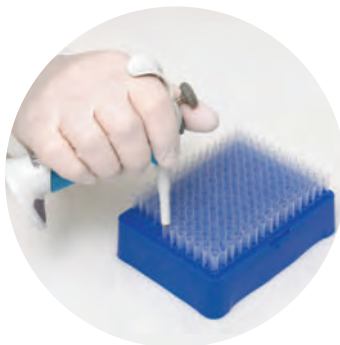


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## 2014 Training Scholarship Fund

The Northeastern Association of Forensic Scientists (NEAFS) is proud to offer its members a 2014 Training Scholarship Fund. Regular members, in good standing, are eligible to receive up to \$200 towards training, workshop or non-NEAFS meeting registration expenses. Detailed instructions and application forms are available on the NEAFS website. Simply click the “Training” link at the top of the screen and scroll down to the “NEAFS Training Scholarship Forms”.

The current application period is January 1<sup>st</sup>, 2014 to December 31<sup>st</sup>, 2014. Reimbursements will be issued on a first come, first serve basis and funding is limited. If you plan to attend a non-NEAFS meeting workshop, training or course during this application period and will not be funded by your agency or any other non-NEAFS related entity, we highly encourage your swift application for the 2014 Training Scholarship Fund.

Please visit the NEAFS [training](#) website to take advantage of this great NEAFS opportunity and to view upcoming training opportunities!

## Upcoming Training

Marshall University Forensic Science Center in Huntington, West Virginia will be offering “Forensic Relationship Training: Session 1 - General Relationships” on the following dates: April 28 - 29, 2014 and May 5-6, 2014. For more information please visit: <http://forensics.marshall.edu/>.

The McCrone Research Institute in Chicago, Illinois will be hosting the Inter/Micro: 66th Annual Applied Microscopy Conference - [www.mcri.org](http://www.mcri.org) during June 2-6, 2014. Inter/Micro is an internationally recognized conference that attracts microscopists from all areas of light and electron microscopy. Research presentations during the first three days cover techniques and instrumentation, environmental and industrial microscopy, and forensic and chemical microscopy. The final two days will be a hands on microscopy workshop (subject/topic TBA). Contact Julie Antia for information: e-mail: [intermicro@mcri.org](mailto:intermicro@mcri.org); This email address is being protected from spambots. You need JavaScript enabled to view it. phone: 312-842-7100; fax: 312-842-1078.

The Northwestern University Center for Public Safety in Evanston, Illinois will be offering a course titled “Shooting Incident Reconstruction I” during June 23-25, 2014. Contact Ruthy at NWU for more info at (847) 467-7546.

## ABC Reimbursement

The NEAFS Board of Directors has voted to reimburse the American Board of Criminalistics exam sitting fees for five NEAFS members (regular or associate) in good standing who pass the ABC exam. This offer is for any ABC exam taken in 2014. There will be an exam offered at the NEAFS Annual meeting in Hershey. After passing the examination, please fill out the ABC Examination Reimbursement Form ([www.neafs.org](http://www.neafs.org)) and email the completed form with proof of passing the exam to the NEAFS Certification Chair Mike Portzer at [certification@neafs.org](mailto:certification@neafs.org). The reimbursement is based on a first come first served basis. Remember you must pass the ABC exam to be considered for reimbursement.

## *Missing Something*

Be sure to check the NEAFS website for the latest **Job Opportunities**.

**B.O.D. Meeting Minutes and Financial Statements** will now be placed in the Member Area of the NEAFS website. If you have trouble logging in please contact the web master, [webmaster@neafs.org](mailto:webmaster@neafs.org).

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