Hello fellow ASTEE members,

What can I say. This has been a difficult period of time for most of us with lots of uncertainty going forward. Many of us are adapting to new schedules because of the pandemic, working from home or with limited time in the lab or around others. Added to that most in-person conferences have been cancelled leaving many of us to seek out online sources of continuing education that help us keep current with research and developments in our field. Hopefully many of you are starting to check out the new forum on the updated website and have seen some of the links to webinars that some of our sponsors have provided. The forum is a members-only section of the website where we are trying to add content helpful to your continued professional development. We’d love to hear what else we can add that will be of use to you all. Our members are the core drivers of who we are as a professional society and we are continually trying to improve and grow. The annual surveys help us to plan for the future so if you didn’t get a chance to participate this year, please consider taking part in the survey next year or sending an email if you have suggestions for any of our committees.

The NEAFS/ASTEE combined meeting is currently working to move forward with the
Message from the President continued...

conference this October as a virtual meeting. Stay tuned for updates on the schedule and workshops! As we find out more information on how the meeting will proceed and when registration opens we will provide updates. Hopefully we will all get through this pandemic safely and can come together as a community again soon, once it is safe to gather in larger groups. Until then, stay safe, healthy, and if you have a bit of teleworking time that you can devote to ASTEE please consider writing up an interesting case, small research project, or share some information in a discussion post on the forum.

Sandy Koch
2020 ASTEE President
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“I appreciate that the instructors are practicing scientists. I really enjoyed the times the instructors or other students told stories about their personal experiences because it helped put things in perspective for the real world.”
— M. Shannon, Miami-Dade Police Department
ASTEE Crossword (see page 9 for answers)

**Across**

3. This 1960s movie is referenced in Ed Suzuki’s short piece on Polymer Analysis on the ASTEE website.

7. You asked, they listened – fewer email blasts! However, this service remains the best way to stay up-to-date on all things ASTEE, and can be signed up for under User Settings on the ASTEE Forum website.

11. Summer time! If things are safe, time to socially distance at the beach! And if your quarantine buddy falls asleep on the sand, this activity is a must. (Hint – one of the three main elements found in a characteristic GSR particle).

12. All this stress from coronavirus is making my hair fall out. What root stage will these hairs most likely be in?

13. With so many stores shut down due to coronavirus, seems like the only type of shopping people can do these days is window shopping at their favorite stores (miss you, Barnes and Noble!). But it makes you wonder...what type of glass are these windows made out of?

14. *Achoo!* Oh no! Is it allergies or coronavirus? This sub-discipline studies a common allergen that plagues many, and can be found detailed by Vaughn M. Bryant on the ASTEE website.

**Down**

2. If you’re experiencing the symptom that shares the same name as this popular song written in 1956, stay home!

1. Have membership questions? As the Chair of Membership, this ASTEE member is here to help! (Last name)

5. Oh no! The store is still out of Clorox cleaning sprays! But you don’t have to worry, because you can use your chemical mixing skills to make your own cleaning spray with water and this commonly used chemical.

3. This 1960s movie is referenced in Ed Suzuki’s short piece on Polymer Analysis on the ASTEE website.

4. A great resource when you log in to the ASTEE website is access to the Member List – time to make new friends! Speaking of the member list, you can use it to find out information like this – what institution does our current ASTEE president work for?

6. This piece of PPE has become an especially popular fashion staple this year. Just remember – wash it after each use!

8. Have a coworker that’s interested in joining ASTEE? Great! Just keep in mind, applications are processed this frequently.

9. According to ASTEE history, what acronym was deemed “a little too edgy” and removed from consideration?

10. Did you know that once you login to the ASTEE website, you have access to the Forum? This category currently has the most posts.

15. Summer is here! Time to go online shopping for some new swimsuits. What is one of the most common textiles swimsuits are made out of? Hint – they exhibit medium birefringence under cross-polars.
ASTEE at a Glance – Committee Updates

Awards Committee
Watch for updates to the ASTEE Awards web page. Due to current restrictions on travel and gatherings some of our upcoming training awards may be postponed or canceled.

Communications Committee
The American Society of Trace Evidence Examiners is proud to announce the new and improved version of its website at [https://www.asteetrace.org](https://www.asteetrace.org). Hopefully everyone has had a chance to sign on and look around, but if not, here are the directions to log in to the website and the ASTEE Forum for the first time:

- All members in good standing already have an account on the new website. To log in for the first time, please go [HERE (1)](https://www.asteetrace.org) and type in your ASTEE contact email address. You will receive an email containing a password reset link. Once your password is reset, go [HERE (2)](https://www.asteetrace.org) and enter your email address and new password to access your account.

- In addition to the website, you will need to create a separate account to use the new ASTEE Forum. Register for a Forum account [HERE (3)](https://www.asteetrace.org). Once you register, a Forum Administrator will check your ASTEE membership status and approve your Forum account for use. Please read the Forum Code of Conduct before using the Forum.

Important Tips and Updates:

- Do you have a burning Trace Evidence question for the community at large? Is there a Trace Evidence job opening at your agency? Do you know about a new Trace Evidence journal article, book, or upcoming training opportunity that you’d like to recommend? You are encouraged to post it in the ASTEE Forum! Under any category or subcategory, select “New Topic” to begin your first post.

- Once you register for a Forum account, you can access your User Settings (upper right corner). Please subscribe to the Forum Email Digest on a daily or weekly basis, so you will be kept in the loop about new posts and announcements from ASTEE. As of 6/1/2020, the amount of email blasts has been reduced, so the Email Digest is the best way to stay up-to-date on all things ASTEE.

- The 2020 dues payment deadline was extended to 6/1/2020 due to COVID-19, but next year’s deadline will be 3/31/2021. If you want to set up a recurring payment for next year’s dues, we request that you please wait until next year prior to 3/31 so that your payment can be counted toward the correct year’s dues.

- When you create a recurring dues payment on the ASTEE website, you will be charged once immediately, and then again annually on the date that the initial payment was made.

- If you set up a recurring dues payment and then decide to cancel it, the initial payment does not get automatically refunded. So if you were to cancel the recurring payment any time before the following year’s dues are collected, you would not have to submit another payment for the current year.

Please email [asteetrace@gmail.com](mailto:asteetrace@gmail.com) if you have any questions or encounter any issues using the new website or the Forum.
ASTEE Newsletter—July 2020

ASTEE at a Glance – Committee Updates continued...

Education Committee

Thank you to those who attended the PDQ webinar on April 8th! We had over 135 attendees for this informative presentation. Reminder that if you missed it, the webinar has been archived on the FTCoE website (you need an account to view the content; https://forensiccoe.org/webinar/identifying-an-unknown-paint-system/).

Our next webinar will take place on Thursday, July 16, 2020 at 1 pm ET and is entitled “Intact Low Explosives Analysis with an Emphasis on Microscopical Methods”. The instructor is Wayne Moorehead who has over 30 years of experience in numerous trace evidence disciplines. Please visit the FTCoE website to register for this exciting event (https://forensiccoe.org/webinar/intact-low-explosives-analysis/).

The Center for Forensic Science Research and Education is hosting the 3rd annual Current Trends in Forensic Trace Analysis online symposium July 27-31, 2020 from 9 am-12 pm ET each day. This year’s topics include, interpretation of glass evidence, discrimination of human head hairs, and Raman spectroscopy for forensic science. Per the website (https://www.forensicscienceeducation.org/forensic-education/courses-and-workshops/2020-online-forensic-symposium-current-trends-in-forensic-trace-analysis/), they have hit capacity for this year’s symposium, but are hoping to add additional “seating”. If you are not already registered, please sign up to be notified when additional seats are made available.

Be sure to visit the new ASTEE member forum! We have been posting various journal articles, conference materials, and online resources for your enjoyment. Please post anything you would like to share with the membership! If you have any questions, please contact the committee at the e-mail listed below.

If you or your laboratory are interested in hosting a workshop, if you have ideas for potential webinars, or you can recommend someone who may be able to offer a workshop or webinar, please send an e-mail to astee.edu.committee@gmail.com.

Elections Committee

Upcoming Elections

ASTEE will be holding elections in October for the following 2020 Board of Directors positions:

- President-Elect (1-year term, then serves as President for 1 year): Fulfills the President’s duties should the president be absent, leave office or become incapacitated. The President’s duties include: presiding at meetings; conducting the business of the Society, and promoting the fulfillment of the Society’s objectives.

- Treasurer (2-year term): Keeps Society financial records, safeguards its funds, keeps the membership list current, notifies the membership chair of address changes, deposits all monies received by the Society in accounts approved by the Board, files the Society (Corporate) Annual Report, and submits the corporate renewal fee.

- Director (3-year term): Act at the direction of the executive board (President, President- Elect, Treasurer, and Secretary) to carry out assigned tasks on behalf of the Society. Directors are voting members of the Board.

Serving on the ASTEE Board is a great way to contribute to this organization and to have a positive impact on the forensic science community. If you are interested in serving on the ASTEE Board of Directors in any of these positions, please send a photo along with a brief bio detailing your qualifications and the reasons why you would like to serve on the board to Katie Igowsky, Katherine.Igowsky@state.mn.us, by September 01, 2020. The election will take place via electronic ballot in October.
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Innovation with Integrity
ASTEE at a Glance – Committee Updates continued...

Publications Committee

Newsletter

Did you see the COVID-19 cartoons scattered throughout the ASTEE Newsletter? These were provided by Jairo. Thank you for sharing with the ASTEE community! If you have any contributions to the ASTEE Newsletter or any “News You Can Use” ideas please email the publications committee chair, Kiersten Coffin @ Kiersten.Coffin@dps.texas.gov.

JASTEE

Results from the recent survey provided some excellent responses from the ASTEE membership regarding JASTEE. Thank you to those who provided valuable feedback.

A few respondents inquired about the peer review status of the Journal. All manuscripts submitted to JASTEE undergo a true double-blind peer review process. The manuscript authors do not know the identity of those who perform the peer reviews and reviewers do not know the identity of the manuscript authors. Each manuscript submitted to JASTEE is sent to at least two different reviewers who are experts within the relevant trace evidence examinations. Additionally, there have been times when non-forensic individuals have been asked to do a peer review if the submitted manuscript contains content which justifies this approach. This additional step is taken to ensure the specialized technical content or statistical methods employed during data analysis were used and interpreted appropriately. The Editor relies heavily on the recommendations of all peer reviewers for submitted manuscripts. The goal of JASTEE is to publish high quality, scientifically valid papers which will benefit and advance the discipline of trace evidence analysis.

Other respondents asked about the impact JASTEE has on the scientific community. While JASTEE may not have a strong impact factor compared to other journals (the frequency in which a given article in a Journal is cited by other publications per year), JASTEE is extremely valuable to the trace evidence community. It is the only journal solely dedicated to publishing research, case studies, and other content specific to forensic trace evidence examinations. When authors chose to submit their manuscripts to JASTEE they know for certain the material is being provided to analysts who are actually affected by the content of their manuscripts. As such, the impact of JASTEE will always increase as more authors chose to submit their trace evidence manuscripts to JASTEE for publication.

Others mentioned their personal lack of experience in writing technical papers related to research they have performed. The JASTEE staff can help guide authors through the process of organizing their data and putting together manuscripts for submission. We know it seems like a daunting task but it’s not as difficult as you might think.

Multiple respondents to the survey stated they had material which could be included in a manuscript but they simply have not made the commitment to compile it into a manuscript. Each trace evidence examiner has been made better by the work and experiences of others. Taking the time to put your work into a manuscript has the potential to have a broad and lasting impact upon the entire trace evidence community. Please consider this opportunity and don’t hesitate to contact the JASTEE Editor or anyone on the JASTEE staff to assist in this process.
ASTEE at a Glance – Committee Updates continued...

Membership Committee

The Membership Committee is so excited about the new and improved version of the ASTEE website! Need to upgrade your membership? It is now as easy as determining if the questioned material is a hair or a fiber! If you know anyone who would like to become a member, please encourage them to apply online as it is a quick and easy process.

Thank you Communications Committee for creating the new website!

Sponsorship Committee

The Sponsorship Committee was able to gather webinars offered by our sponsors and has posted them on the ASTEE website for members to participate in while social distancing at home. McCrone, Hooke, Foster and Freeman, EDAX, and Craic all sent links that can be found on the ASTEE website. Just login (or create a login) and follow Home ➔ Educational Resources ➔ Online Resources ➔ Online Resources from ASTEE’s Sponsors. We hope membership takes advantages of these great resources!

ASTEE Crossword Answers
Your Instrument, Your Solution

From the UV-VIS of fibers and paints, to refractive indices of glass fragments, or the vibrational spectra of drugs and chemicals, CRAIC Technologies has the instrument for your specific application. Offered as integrated units, modules, or upgrades to older instruments, all CRAIC products are designed for ease of use and rapid analysis.

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OSAC Update -

Development of the term “exclusionary difference” and a more uniform use of spectral comparison language

By Diana M. Wright, PhD, F-ABC, Chemistry Unit, FBI Laboratory, Quantico, VA

When the Materials (Trace) Subcommittee of OSAC was first established in 2014, much of the language used to describe differences between items being compared centered around the term “significant.” A significant difference was defined as “a difference between two samples that indicates that the two samples do not have a common origin.” Obvious examples would be a marked difference in appearance, composition, or chemistry; such as a natural fiber versus a synthetic fiber, sheet glass versus container glass, human hair versus animal hair, an automotive paint versus an architectural paint, a black duct tape versus a black electrical tape, or a spectrum containing calcium carbonate versus one containing talc.

At an OSAC meeting in 2015, it was discussed that the term “significant difference” tends to convey to the wider forensic and legal communities that a statistical method was used to evaluate comparative data, particularly given the prevalence of DNA analysis and testimony where statistics are common. Therefore, a separate term was developed to describe differences that are observed through traditional non-statistical means. Such evaluations could include microscopy or the visual comparison of a spectrum for an unknown material that does not fall within the range of variation exhibited by the known material when the spectra are overlaid. This term “meaningful differences” was defined as “a feature or property of a sample that does not fall within the variation exhibited by the comparison sample, considering the limitations of the sample or technique, and therefore indicates the two samples do not share a common origin.” This definition was later adapted to include a final sentence “The use of this term does not imply the formal application of statistics” in order to distinguish it from eliminations that were based on statistical methods of comparison.

The Materials (Trace) Subcommittee began to implement both the “significant difference” and “meaningful difference” definitions into guidance documents being drafted for the trace evidence community. However, there were members of both the legal and statistical resource committees within OSAC who were concerned that the use of two definitions could be confusing in court and that there was a risk that they might not be used appropriately across the forensic community, particularly beyond the trace evidence disciplines that had become familiar with the use of both terms. Therefore, in 2019, a new term and definition were introduced and approved by the Materials (Trace) Subcommittee for use in all documents.

The new term is “exclusionary differences” and is defined as “a difference in a feature or property
OSAC Update continued...

between compared items that is substantial enough to conclude that they did not originate from the same source.” Included with this definition are two notes that are used to further clarify the inclusion of both statistical and non-statistical evaluations within the context of this term. The first note reads as: “An exclusionary difference is statistically supported when an appropriate statistical analysis shows a result outside the range of what usually occurs when the items originate from the same source.” The second note is: “When a statistical analysis is not suitable, an exclusionary difference can be determined by expert judgment.”

The use of the word “exclusion(ary)” is intended to align with the legal community’s understanding of this term: to indicate that two or more items could not share a common source. The two notes were added so that it is clear that regardless of how the exclusion is made, the expert opinion is an elimination of common origin.

This term is being included throughout all current draft documents originating from the Materials (Trace) Subcommittee and will be used to replace the term “meaningful differences” in previously issued documents as well. It is expected to also be implemented in other OSAC disciplines, where applicable.

Of course, defining an exclusion is only one piece of the interpretation guidance necessary to compare data. Most trace evidence is still evaluated exclusively or in part using visual comparison of the data, usually in the form of spectral data collected through the use of spectrometers, chromatograms, or other physical parameters (e.g., TLC elution bands). As scientists and particularly those that interact with the legal community, it is imperative that the decision criteria used to inform an expert opinion on distinguishability is as objective and transparent as possible.

To this end, the Materials (Trace) Subcommittee has developed and approved a template of language to describe how spectral overlays are evaluated for distinguishability. Regardless of the methodology used to collect spectral data, the following process is being inserted into the spectral evaluation section of the Materials (Trace) guidance documents to explain how spectral comparisons are assessed and how that data fits into the overarching analytical scheme used to examine and compare materials.

Guidance to evaluate the comparison of spectral data:

A specific analytical technique is one part of a multi-step comparative approach. Though spectral data (collected by a given technique) alone can be used to distinguish sources, it is not used independent of data obtained from other analytical techniques to reach an overall conclusion of indistinguishable sources. If suitable spectra are produced, spectral comparisons can provide information regarding the potential relationship between the sources of the samples.
**OSAC Update continued...**

**Distinguishable sources:**

Sources are distinguishable when differences in detected peaks or relative peak intensities between compared sets of spectra: 1) are outside the variability of spectra originating from the same source; and 2) are not explained by considerations such as sample heterogeneity, contamination, different sample conditions, or different sample histories.

**Indistinguishable sources:**

Sources are indistinguishable by spectral comparisons when differences in detected elements or relative peak intensities between compared sets of spectra: 1) are within the variability of spectra originating from the same source; or 2) can be explained by considerations such as sample heterogeneity, contamination, different sample conditions, or different sample histories.

This language will be forthcoming in guidance documents open for balloting within ASTM in the coming months. It is hoped that more consistent language across trace evidence technique-based documents will provide clarity as to the strengths and limitations of the science. Feedback on this language is welcome and can be directed to dmwright@fbi.gov.

Diana Wright is currently a forensic examiner and Technical Lead in the Paints and Polymers group within the Chemistry Unit of the FBI Laboratory in Quantico, VA. She is also the current Chair of the Materials (Trace) Subcommittee of the OSAC. This is publication number 20-62 of the FBI Laboratory Division. Names of commercial manufacturers are provided for identification purposes only, and inclusion does not imply endorsement of the manufacturer, or its products or services by the FBI. The views expressed are those of the authors and do not necessarily reflect the official policy or position of the FBI or the U.S. Government.

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**Important Dates**

- **July 16**
  - “Intact Low Explosives Analysis with an Emphasis on Microscopical Methods” webinar

- **July 27 - 31**
  - 3rd annual Current Trends in Forensic Trace Analysis online symposium

- **September 1**
  - Deadline for ASTEE Board of Directors positions

- **October**
  - ASTEE Elections

- **October**
  - NEAFS/ASTEE combined meeting
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May We Introduce You To...

Amy Reynolds

Occupation: Criminalist IV, Boston Police Department Crime Laboratory

What Trace Evidence sub-discipline(s) are the focus of your work? Hairs, Fibers, Glass, Tape, Paint, pGSR, and general unknowns.

Who has been a mentor to you and how have they helped you? My mentor was my first boss, Mrs. Elizabeth Ziolkowski. She taught me everything I know and more. She also encouraged me to join committees, take certification examinations and to present at conferences. She is an extremely knowledgeable and forethinking individual and I, along with anyone else who has been fortunate enough to be trained by her, have definitely benefited.

What do you like to do in your down time? In my down time I enjoy staying active with my family, which includes going on bike rides, hikes, swimming, traveling, etc.

What is the most interesting place you have been? I lived in Saudi Arabia for 6 years of my childhood, and was able to travel the world with my family, so I have been to many different countries.

Kristy Sekedat

Occupation: Laboratory Manager (Trace Evidence Unit Supervisor with the Michigan State Police)

What Trace Evidence sub-discipline(s) are the focus of your work? The bulk of my day is spent doing management stuff, but I also am the only fiber examiner in my unit so when I can do casework I focus that backlog! Every once in a while I get a fun “miscellaneous” case 😊.

Who has been a mentor to you and how have they helped you? In my 16 years in this field, I have met many people who have influenced me. At the start there was Dr. DeForest, who ran the grad school program I attended at John Jay College and sparked my love for microscopy; Dr. Tom Kubic, my thesis advisor who pushed me to be a better analytical chemist; and Nick Petraco, Sr, who taught me to appreciate trace analysis and characterizing dust particles during the eight years I sat next to him at the NYPD Crime Lab. However, I think the people who left maybe an even greater impact are the bench scientists that I worked side by side with every day, who constantly challenged me (and still do!) to be the best trace examiner I can be. I’d love to recognize a few of them: Melvin Shaw, Craig Huemmer, Heidi Prough, and Troy Ernst.

What is the top activity on your bucket list? I’ve always wanted to travel to Poland to learn more about that side of my family tree.

What do you like to do in your down time? I love to hang out with my family, read, and workout at Orangtheory (although during these days, this last one means following their posted videos and working out in my backyard!).
WWW.ASTEETRACE.ORG