Message from the President

As my year as President draws to a close, I look back and feel like the organization has a lot to be proud of. Many of our accomplishments are detailed in the Committee Updates that follow. At the risk of being redundant, I will highlight some of the events that left the biggest impression on me personally.

We held our first ever joint professional meeting in 2014, partnering with MAFS. It was a huge success from my perspective, with over 60 ASTEE members attending. The ASTEE members in attendance benefitted from what I considered to be a very strong trace evidence program, including nine trace evidence workshops. We plan on continuing this meeting model in the future, namely holding joint meetings with regional organizations, and our hope is to hold meetings in several different regions of the country. We will try to give as many of our members as possible a chance to attend an ASTEE meeting close to home in the next few years.

During 2014 ASTEE members had an opportunity to attend an ASTEE-sponsored cordage workshop free of charge. In addition, we provided training funds for four members to attend the joint ASTEE/MAFS meeting, and we funded one member’s attendance at a McCrone Research Institute course. We also held two networking events with considerable support from CRAIC, Inc. One coincided with the 2014 AAFS Annual Meeting in Seattle, WA, and was attended by 55 members. The second was in St. Paul, MN during the joint ASTEE/MAFS meeting, and was attended by over 60 members. We continued to publish our peer-reviewed JASTEE journal, edited by Robyn Weimer, along with our newsletter, edited by Larry Wayne. Both of these individuals dedicated a large amount of their time to these activities, and deserve our thanks.

I believe that the above activities all contributed significantly to the exchange and dissemination of ideas and information in our field, one of ASTEE’s primary objectives. The mentoring program proposed by incoming President Jeff Dake will provide yet another means of achieving this goal in the coming year (see Page 4).
This year we began to think more seriously about another one of ASTEE’s objectives, namely stimulating research and development in our field. While we already disseminate research through our journal, we wanted to do more. Our first attempt at this was the newly created ASTEE Research Award, which was awarded to Tamara Hodgins in its inaugural year. She will be looking into the ability of forensic scientists to search the PDQ database based on data that they collect from actual automotive paint samples. Her research will help the trace evidence community understand the accuracy of the PDQ as currently used by practitioners, and will lay the foundation for future automotive identification proficiency tests. We hope to step further into the research arena in future years, as detailed by incoming President Jeff Dake elsewhere in this newsletter.

On a national level, ASTEE compiled comments and suggestions from its members on a draft Senate bill on forensic science, and submitted a letter with this feedback to the appropriate Senate committee. If the bill does materialize, we are optimistic that our input will have an impact on it. We are also very well represented in the new Organization of Scientific Area Committees (OSAC) that NIST has put together this year. Altogether there are 46 ASTEE members in the OSAC, including eight on the Chemistry / Instrumental Analysis SAC, two on the Physics / Pattern SAC, and multiple members on five different subcommittees, specifically Blood Stain Pattern Analysis, Fire Debris and Explosives, Geological Materials, Gunshot Residue, and Materials (Trace). As an organization we are well-positioned to have a significant impact on a wide range of forensic science standards that will be written in the coming years. I would encourage all ASTEE members who are in the OSAC to send draft standards to the ASTEE membership for comment. I would also ask them to keep the ASTEE Communications Committee up to date with important developments. Some of the OSAC positions will open up to new members in two years; if you are interested in participating please follow the progress of these committees in the meantime and get ready to apply when the opportunity arises. (editor’s note- I’m advised that applications can be made now)

We held our third annual elections (see Page 6), and it is my pleasure to welcome Chad Shennum, Robyn Weimer, and Kristine Olsson, our new Treasurer, Director, and President-Elect, respectively. They are well-qualified (as were all the candidates), and I have tremendous confidence that they will be able to do great things on behalf of ASTEE in the coming years.

On a personal note, I could not have asked for a better experience serving ASTEE this past year. I had an opportunity to interact with dozens of ASTEE members in ways both big and small. It was truly a pleasure to work with all of the individuals on the 2014 ASTEE Board of Directors. I could easily take up several pages detailing the contributions of each individual. In the name of brevity, however, I will simply say that ASTEE members should feel proud of the people they elected to represent them, and that the organization is in great hands for the future.

Andy Bowen
President, ASTEE

JASTEE Update

Unfortunately, there were not enough articles to release a July/August JASTEE issue, but since then the submissions have increased. We hope you look forward to the next longer issue which will be released in January. For those ASTEE members who presented at the joint MAFS/ASTEE meeting or any of the regional meetings this year, remember that JASTEE is another opportunity to share your work with other trace evidence examiners which were unable to make it to the meeting. We want to know what you’ve learned! Please contact Robyn Weimer with questions or to submit a manuscript – Robyn.Weimer@dfs.virginia.gov.
Dear Fellow ASTEE Members,

I am honored to serve ASTEE this coming year as the President. I am looking forward to continuing to work with our capable board members, as well as our new President-Elect, Director and Treasurer in order to further expand the impact that ASTEE has on the Trace Evidence and Forensic Communities.

Chris Bommarito, Past-President, has been a teacher and mentor to me since my days at Michigan State University and his guidance has been invaluable. I also want to take a moment to thank our departing board members. Scott Maye, Treasurer, made my job so much easier because of the fantastic job he has done managing the finances for ASTEE and keeping all of the documentation in order for the annual audit. The positive, pro-active attitude that Jenny Smith, Director, always brings to the table has made it such a pleasure to work with her on both the Communications and Audit Committees. All three of these individuals deserve kudos for the hard work they have put in to helping ASTEE grow into the organization it is today.

Our sponsors have been a huge part of making ASTEE successful, and I want to thank them all: Craic Technologies, Foster + Freeman, Gateway Analytical, Leica, and McCrone Research Institute. They provide funds for training and education, research scholarships, and the networking events that help us to meet our goals. But the relationship isn't just financial. Our sponsors are linked to the Trace Evidence community and are eager to help us on many fronts. They're interested in hearing about our technical needs and analytical problems, and they have resources to help us get the tools we need to meet job requirements. Our newest sponsor, RTI International, just hosted the first webinar in a series devoted to Trace Evidence, “Evaluating Transfers of Materials” by Chesterene Cwiklik, which had over 150 registrants. These webinars are a great opportunity for all of us to present information pertinent to the Trace Evidence community to a wide audience.

The combined MAFS-ASTEE meeting this past October was a huge success, and ASTEE members represented our organization admirably at all levels. At the ASTEE reception, I was overwhelmed with the number of members who were interested in contributing more to the organization but didn’t know where to start. In light of that, it is my objective in 2015 to focus on expanding member participation in ASTEE. The success of the organization is dependent upon the communal efforts of our members. As our elected officials take on new responsibilities, the resulting gaps in some of our committees will need to be filled in order for them to accomplish their goals. If you are interested in participating on any of the committees that currently exist, please contact the committee chairs to ask what they need help with; I know they would appreciate it. If you have done research or validation studies, submit them to the Journal for peer-reviewed publication.

I’m excited to announce that we are planning at least three new committees in 2015, focused on increasing ASTEE activity and impact - specifically in the first two objectives listed in our by-laws. A brief description of each follows:

The first will be focused on fostering mutually beneficial relationships between practitioners and research institutions in order to improve the applicability and value of research projects. This committee will also be involved in coordinating with grant organizations to generate a list of research needs in Trace Evidence and providing qualified practitioners to perform grant proposal reviews.
The second committee will focus on creating a mentoring network within ASTEE. The goal will be to pair examiners with varying experience levels from different laboratory systems. This will hopefully provide both scientific and professional mentorship to less experienced examiners (outside of the power structures of their own laboratories) while also strengthening professional networks and cross-pollinating ideas between laboratories.

The third committee planned will be focused on expanding ASTEE’s footprint at professional meetings. This committee will evaluate partners for future joint meetings (similar to the MAFS-ASTEE meeting in 2014), encourage and inform ASTEE members regarding opportunities to present at scientific meetings, and assist with planning ASTEE networking functions.

If anyone is interested in volunteering for these committees, please contact me. Further, if you have ideas for other needs that ASTEE could be addressing within the community, do not hesitate to bring them to the board’s attention.

More good news on the horizon, those of you who were disappointed that funding prevented a Trace Evidence Symposium from being held in 2013 will be happy to hear that it appears that the symposium will be back in 2015. The symposium will fuse the Trace Evidence disciplines with the Impression and Pattern Evidence disciplines for one combined conference. The plan is for a 3 day conference to be held sometime in August. The Communications Committee will be sending out updates as we learn more, so stay tuned!

This will be a big year for ASTEE, and I challenge all of our members to step forward and find a way to contribute. You handle some of the most challenging problems in the field of forensics; you employ a breadth of knowledge, a myriad of analytical techniques, and thoughtful inquisitiveness to tackle these issues. In the coming year, I ask you to turn those skills towards the tasks that ASTEE will be engaging in to advance the field of Trace Evidence analysis. And for those of you who didn’t know, your Communications Chair is a Photoshop Champion, and made the accompanying image for your enjoyment.

Best Regards,

Jeffrey Dake
Incoming President

ASTEE at a Glance

The fall was a very busy time for ASTEE. We held our first ever meeting, partnering with MAFS this past October. ASTEE members Kristin McDonald, Susan Gross, and Sarah Walbridge-Jones were instrumental in planning and executing the meeting, so they deserve our appreciation. In addition to a great trace evidence program put together by Susan and Sarah, we held a highly successful networking event that was supported by CRAIC, Inc. (see photos on Page 24). The nine trace evidence workshops were well-attended and made it worth the trip for the dozens of ASTEE members who travelled from places as far away as Arkansas, Georgia, Oregon, California, and Canada, to name a few. Sandy Koch, the chair of our Education Committee, provided input into the workshop topics based on a survey of ASTEE members’ training needs that was taken a couple of years ago. She is such a dedicated committee chair that she also came out to St. Paul to teach a workshop herself. Sandy, Tammy
Jergovich, and the rest of our Education Committee have done a wonderful job of providing training opportunities for our members in 2014 while also planning future events several years into the future. Stay tuned for announcements as these events begin to crystallize in the coming months.

We held our third annual elections this past October, with results shown on Page 7. As a result of Kelly Brinsko’s efforts, the process went very smoothly and we are pleased to welcome Chad Schennum, Robyn Weimer, and Kristine Olsson to the ASTEE Board of Directors. The board will be busy getting our new members up to date and transitioning to new President Jeff Dake’s upcoming reign of terror. He has big ideas for moving the organization forward. If you haven’t already, please send him an email letting him know what committee you are interested in joining, and cancel that vacation you had planned...

It was also a very busy time for the Awards Committee, who selected the winners of our now numerous awards (see Page 10). Michelle Palmer has done an exceptional job of running this committee. One of ASTEE’s objectives is to recognize outstanding members of the trace evidence community, and thanks to Michelle we continue to achieve this every year.

Earlier this month, NIST announced the names of the new OSAC subcommittee members, and not surprisingly ASTEE has a large number of members in the organization. This representation speaks volumes about the breadth of knowledge and experience possessed by ASTEE members.

While Larry Wayne, the Membership Committee chair, deserves some credit for his hard work coming up with ideas to grow the membership, he has also been working with our Communications Committee to update our members’ contact information database and consolidate member data from various functional areas into a single master database.

Speaking of our Communications Committee, you are probably well aware of how much they have accomplished this year. Perhaps they have been a bit over-productive, given how full my inbox has gotten. The Communications Committee has changed a lot this year, in large part thanks to the new chair Matney Wyatt and his trusty sidekick Daniel Mabel. Their efforts are critical to the success of ASTEE, because we cannot serve our members well without communicating to them all of the events and opportunities we are trying to provide.

Our 2013 audit has finally wrapped up with the help of Andy Bowen, Jeff Dake, and Jenny Smith. They were not surprised to confirm what they already knew; namely that Treasurer Scott Maye did an exceptional job of managing ASTEE’s finances that year. Not only does he pay our bills on time, but he keeps excellent records of how all your dues are spent, making the audit committee’s job that much easier. The audit results were recently published in the members-only area of our website.

Finally, we need to thank our sponsors: CRAIC, Inc., Foster & Freeman, Gateway Analytical, Leica, and McCrone Research Institute. Without them we would not have been able to provide our members with the networking events, travel awards, research funds, tuition-free workshops, scholarship awards, etc. that were available in 2014.
YOUR SOLUTION FOR TRACE EVIDENCE

Advanced technology solutions for fibers, paints, glass, polymers, explosives, drugs and more. Call us today to learn how we can help you solve your case quickly and accurately.

- UV-visible-NIR Microspectroscopy
- UV-Visible-NIR Fluorescence Spectra
- Raman Microspectroscopy
- UV-Visible-NIR Polarization Spectra
- Glass Refractive Index
- Glass Color Spectra
- UV-visible-NIR Microscopic Imaging
- UV-Visible-NIR Fluorescence Imaging
- UV-Visible-NIR Polarization Imaging

For more information, call 877.UV.CRAIC or visit our website at www.microspectra.com

©2011 CRAIC Technologies, Inc. San Dimas, California (USA).
## Committee Reports

### Elections Committee Update

As Chair of the Elections Committee, I’d like to thank all of the Committee members for their help and support generating an outstanding slate of candidates. Cassandra Burke, Chris Bommarito, Vinny Desiderio, Amy Michaud, and Chris Taylor all proved to be invaluable resources for selecting and recruiting candidates.

I also want to thank all of the candidates who ran for office. ASTEE is very lucky to have members who are willing to contribute their time and their talents to this organization. I know that the newly elected board members will bring lots of new ideas in the coming years, and I look forward to seeing them in action!

Kelly Brinsko,

P.S.: This is the second year in a row that Troy Ernst has appeared as a write-in for President-Elect. I think someone is trying to tell us something, so Troy, perhaps you should officially run next year!

### 2014 Election Results

#### President-Elect

<table>
<thead>
<tr>
<th>Option</th>
<th>Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kristine Olsson</td>
<td>118 (58.7%)</td>
</tr>
<tr>
<td>Larry Wayne</td>
<td>82 (40.8%)</td>
</tr>
<tr>
<td>Write-in (Troy Ernst)</td>
<td>1 (0.5%)</td>
</tr>
<tr>
<td>Abstain</td>
<td>2 (1.0%)</td>
</tr>
</tbody>
</table>

**VOTER SUMMARY**

Total 203

#### Treasurer

<table>
<thead>
<tr>
<th>Option</th>
<th>Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amy Lawrence (Withdrew)</td>
<td>136 (71.6%)</td>
</tr>
<tr>
<td>Chad Schennum</td>
<td>54 (28.4%)</td>
</tr>
<tr>
<td>Write-in</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Abstain</td>
<td>13 (6.4%)</td>
</tr>
</tbody>
</table>

**VOTER SUMMARY**

Total 203

#### Director

<table>
<thead>
<tr>
<th>Option</th>
<th>Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robyn Weimer</td>
<td>100 (51.0%)</td>
</tr>
<tr>
<td>Sarah Walbridge-Jones</td>
<td>96 (49.0%)</td>
</tr>
<tr>
<td>Write-in</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Abstain</td>
<td>7 (3.4%)</td>
</tr>
</tbody>
</table>

**VOTER SUMMARY**

Total 203
Communications Committee update:

This year has been a busy one for the Communications Committee. I'd like to thank Jeff Jagmin, Supervising Forensic Chemist with the Washington State Patrol in Seattle, WA, and Daniel Mabel, Forensic Scientist with the Cuyahoga County Forensic Science Laboratory in Cleveland, OH. Both of these gentlemen have contributed mightily both time and effort to the continued success of ASTEE.

Mr. Jagmin played an integral part in reaching out to the membership to update contact information. Every time ASTEE sends out a membership-wide email, we typically would receive approximately 30 returned emails from addresses that were no longer in service. This could be because the local organization changed their email account, the individual moved to another lab, or the individual left forensics altogether. Mr. Jagmin was able to reach out to the membership and update the contact information for each of these "missing members" and, through his efforts, has dropped the number of undeliverable emails to under ten! Let this serve as a reminder, if you change email address, job, etc., please be sure to keep ASTEE updated with your contact information so that we can get information out to you....most importantly, the election ballot which goes out via email each fall!

Mr. Mabel has been hard at work collecting information for the website. If you haven't checked out the website's "Trace 101" section, go take a look at http://www.asteetrace.org/WebPages.cfm?action=viewCat&BIZ_UNL_id=3458. This section of the website serves as our outreach to the community on what trace evidence is all about. We have received requests from educators looking to learn a little bit more about trace evidence and this section of our website has served them well. Mr. Mabel has been searching the country with vigor trying to find subject matter experts who can write a short blurb about their particular sub-discipline. Each section also includes references to foundation documents within each particular sub-discipline. You will certainly recognize some of the names of the contributors. Mr. Mabel is still trying to find contributors, so if you know someone who is big in the field of one of our missing sections, reach out to them or let us know who they are so we can find willing contributors.

In addition to bugging everyone with constant emails including job announcements, advertisements, meeting information, etc., the Communication Committee is also responsible for updating the website and logging in each of you when you request an online login. If you haven't setup an online login name, go to the website and register a login name. Go to http://www.asteetrace.org/ and click on the little blue button at the upper right of the website titled "Member Log In" then select "create an account."

The Members Only section is an area of growth that we hope to expand in the near future. Our vision is to have the Members Only section include areas free from public scrutiny where members can ask questions for case assistance, look up member contact information, as well as share data and collaborate on research projects. This last area, research collaboration, is where ASTEE hopes to focus our efforts in the future. If you have a good research idea, please consider ASTEE as a source for collaboration, idea sharing, and other assistance. We expect great things to happen in the Members Only section in the near future, so, stay tuned...

If you have any questions for ASTEE, you can email a board member directly, send your question to the ASTEE email at asteetrace@gmail.com, or use the "contact us" section in the website http://www.asteetrace.org/contactc.cfm. Both of these last two options will email the ASTEE Gmail account and we will forward your question/comment/concern to the appropriate person to get your question answered or your concern addressed. We look forward to serving you with all your ASTEE Communication needs.

Matney Wyatt
Modular trace evidence analysis system

- Fluorescence Imaging
- Raman spectroscopy
- GRIM® Glass RI measurement
- Image processing
- UV Micro-spectroscopy

A new concept from Foster + Freeman...

The fTfA is a powerful and flexible multifunctional system that provides the crime laboratory with a range of analytical facilities using a single microscope and PC.

Built around the Leica DM2500 laboratory microscope the modular design of the fTfA allows the end user to build an instrument that meets their own specific laboratory requirements with the option of retro-fitting new modules to expand the system's capabilities when required.

The multi-functional fTfA can be seen to improve laboratory efficiency while at the same time providing a economical resource designed to match your laboratory's requirements.

Innovation in Trace Evidence Analysis
by foster + freeman
Improving the Quality of Forensic Evidence

Laser Induced Breakdown Spectrometer

Versatile Foster + Freeman ECCO adds LIBS to the forensic examiner's arsenal.

ECCO is a new turnkey system from Foster + Freeman designed to give elemental analysis of trace evidence such as glass, metals, paint, fibres, tapes, mineral and fillers, etc. as well as rapid screening of GSR by laser induced breakdown spectroscopy (LIBS).

LIBS is a relatively new technique for elemental analysis which offers significant advantages in speed, sensitivity and cost effectiveness over other processes such as XRF, SEM, and mass spectroscopy.

Elemental comparisons with ECCO are fast and simple to perform, require minimal sample preparation and give immediate read out of the major, minor and trace elements down to concentrations of low parts per million.

- Automatic identification of elements
- Casework and research modes of operation
- Dedicated software for routine analysis
Awards Committee Update:

The Awards Committee was extremely busy during 2014. The committee members, Michelle Palmer (chair), Celeste Grover, Darrell Hall, Chad Schennum and Robyn Weimer, were tasked with creating the ASTEE Research Grant and the ASTEE Travel Award and developing the criteria for those awards in addition to determining the recipients of the 2014 Scholarship Award, 2014 Professional Development Award and the 2014 Edmond Locard Award.

The first ASTEE Research Grant was awarded to Ms. Tamara Hodgins. She and a team of scientists will be conducting research to investigate the ability of forensic scientists to use the PDQ database to identify the make and year of late model motor vehicles.

Four Travel Awards of $750 each were awarded to Ms. Dana Greely, Ms. Gina Londino, Ms. Andria Mehltreter and Ms. Diana Wright. Each of them gave a presentation at the joint ASTEE-MAFS meeting in order to qualify for the award. All of their presentations were very well received, and contributed significantly to the trace evidence program at the meeting.

Ms. Anastasia Brown was the recipient of the 2014 Scholarship Award. ASTEE increased the amount of the Scholarship Award to $500 for 2014. There were more applicants for the scholarship award in 2014 than in previous years. All of the applicants were highly qualified for the award, but Ms. Brown stood out and we wish her luck as she pursues her studies.

ASTEE partnered again with the McCrone Research Institute in 2014 to provide the second annual Professional Development Award, which includes free tuition to a McCrone Research Institute class plus $500 towards travel costs. There were six very deserving applicants, with Ms. Karlena Courtney being selected for the 2014 Professional Development Award. Her desire was to use the award to attend the Applied Polarized Light Microscopy/Forensic Microscopy course. She is scheduled to take that course soon, and we look forward to sharing details of her experience with you in a future newsletter.

Last, but certainly not least, the 2014 Edmond Locard Award was awarded to Mr. Nicholas Petraco. Mr. Petraco has a long history in the field of trace evidence, having assisted the NYPD for many years, written numerous articles and books, and served as an assistant adjunct professor at John Jay College in New York City. He is an active member in multiple professional forensic organizations. His enthusiasm in promoting the field of Trace Evidence through presentations on its importance is greatly needed in the current environment; this level of enthusiasm is critical to the future of trace evidence as an active discipline.

2015 looks to be a busy year for awards. The number of applicants for the awards has increased in the recent past, and we expect that to continue. One exception to this has been the Edmond Locard Award, which continues to receive a small number of nominations. Please begin considering worthy nominees for this distinguished award in 2015! Edmond Locard Award nominees are not required to be ASTEE members.

Michelle Palmer
Membership Committee Update:

This year’s Membership Committee advanced many of its goals, with the biggest being to facilitate an increase in our membership numbers. Our organization is now closing in on 400 members. For such a young organization, it’s a great place to be. For 2015, the goal is to reach the 500 member mark. To do this, I’m asking that the membership perform some outreach. All of us in the trace evidence community know other examiners, scientists, professors, etc. who are not yet members. I’m hoping that each of you can make an effort to recruit one individual. Print a copy of the membership application, write their name in the box and hand it to them, email it to them or even leave it on their desk. A personal invitation is a fantastic way to get someone to take action. If everyone does this, by 2016 our numbers could be doubled. What an accomplishment that would be.

Our other major goal is to be able to better keep track of our members and integrate the membership database with other committees and the board of directors. As we grow, things that were adequate in the past start to become unwieldy and changes have to be made to accommodate it. Membership databases have to be cross-linked to treasurer’s databases, email databases, voting databases, and so on. The major portions of this data reorganization should be in place by the end of 2014 and fully implemented in 2015. I have to thank Matney Wyatt for his tremendous contributions, including most of the better ideas that will be implemented.

If anyone is interested in joining the Membership Committee, please contact committee chair Larry Wayne at lew@falaboratories.com.

Larry Wayne

Education Committee Update:

This year the ASTEE Education Committee accomplished many of its goals, which included providing training and directing members to applicable trace evidence training available within the forensic community. One example of this was the ASTEE sponsored rope examination course, held for the second time, hosted and taught by the Maine State Police, the Cordage Institute and Yale Cordage (see photo on page 13). We also sponsored one of our members to attend a McCrone Research Institute course.

A workshop on postmortem hair analysis that was previously taught as an ASTEE workshop in 2013 was offered again at the 2014 MAAFS meeting in State College, PA. Prior to the meeting we informed our members about this and other trace evidence-related courses offered during that meeting, so that those who were unable to take the workshop in 2013 had an opportunity to attend this time around.

Most recently, the MAFS/ASTEE combined meeting was held in St Paul, Minnesota. This joint meeting was a great success with the workshops providing a wide variety of training opportunities for our members. Members had the opportunity to take workshops in GSR, dyeing, PDQ, microspectrophotometry, trace evidence in traffic accidents, and fire debris. All of these topics were mentioned as training needs by our members when we conducted a survey of our members a couple of years ago. Additionally, ASTEE has put together a database on training courses that will soon be posted on the ASTEE website as a member’s only resource.

We continue to work for the benefit of all our members and are planning to provide further training opportunities in 2015. Our goals for the near future include offering workshops that combine manufacturing tours with casework analysis and discussions of significance; training on the west coast to meet the needs of our members.
Living up to Life

Leica Microsystems is introducing new digital technology to support your need for accurate and reproducible results when examining the evidence.

- Digital microscopes and macrosopes for Questioned Documents
- Digital cameras for Documentation
- Comparison microscopes for Firearms and Toolmarks
- Compound microscopes for Trace Evidence and Biological Screening
- Stereomicroscopes for Inspection
- Laser microdissection for Sexual Assault Cases
- Imaging software for Reporting

From sample preparation to imaging, Leica Microsystems has the right solution for the leading investigator.

www.leica-microsystems.com

© 2004 Leica Microsystems, Inc.
Committee Reports  (cont’d. from p. 11)

out west who may not be able to travel out of their state or region; and workshops on statistics and fabric damage. If you have a need for training or would like to host a training event, please contact the ASTEE education committee. We may be able to sponsor an instructor to come out and teach a workshop if your lab would be willing to host the training and open it up to our membership. Additionally, we are currently seeking motivated members who want to become more actively involved in planning training events to join the Education Committee. If you are interested please contact the Education Committee chair Sandra Koch at skl336@psu.edu.

Sandra Koch

Class photo from the Rope Examination Workshop taught in June 2014

Left to Right: Keith Buzzell (Yale Cordage Head of Engineering), Katie Villarreal (USACIL), Dave Richards (The Cordage Institute Technical Director), Jennifer Nischan (Michigan State Police), Amy Michaud (ATF), Josh Kruger (VADFS), Anne Kisler-Rao (GBI), Robyn Weimer (VADFS), Alison Gingras (Maine State Police Crime Lab), Sarah Alley (Maine State Police Crime Lab Intern), Katie Peppers (GBI)

Training News...

An essential issue with all trace evidence examiners is training. Though we may learn something new with every case, formal training in basic techniques and technologies is still of the utmost importance. With shrinking budgets and travel restrictions getting tighter every year, knowing where to find the right training is paramount.

Sarah Walbridge-Jones has put together a list of a large number of training opportunities in nearly all basic areas (Thank You, Sarah!). We are providing this list as a courtesy to the membership. None of the companies or organizations listed have paid to be included.

Although the list is comprehensive, it is by no means complete. If you know of any particularly useful training, please send the information to the chair of the education committee Sandra Koch at skl336@psu.edu.

NOTE: We are not the only ones getting hit with budget cutbacks. Some of the courses listed are no longer offered on a regular schedule (mostly due to our own budgetary woes affecting their ability to hold a course). Please follow the supplied links to find out if a course is currently scheduled.
Training & Workshops

**INSTRUMENTATION**

Spectroscopy
Course: Interpretation of Infrared and Raman Spectra
Location: Bowdoin College in Brunswick, Maine
Information: [http://www.ircourses.org/sched1.html](http://www.ircourses.org/sched1.html)

Course: Interpretation of Infrared Spectra
Location: California Criministics Institute
Information: [http://oag.ca.gov/ccis-subject-areas/chemistry-program](http://oag.ca.gov/ccis-subject-areas/chemistry-program)

Course: FTIR Sampling Techniques, Spectral Interp. Applications, Raman, Instrument Operation
Location: Madison, WI

Course: Practical Infrared Microspectroscopy – FTIR
Location: McCrone Research Institute in Chicago, IL
Information: [http://www.mcri.org/home/section/10/courses](http://www.mcri.org/home/section/10/courses)

Course(s): IR Microscopy, IR Spectral Interp., Raman Microspectroscopy, Infrared Polymer Analysis
Location: Hooke College in Westmount, IL
Information: [http://www.hookecollege.com/courses/](http://www.hookecollege.com/courses/)

Course: Raman Microspectroscopy
Location: McCrone Research Institute in Chicago, IL
Information: [http://www.mcri.org/home/section/10/courses](http://www.mcri.org/home/section/10/courses)

**CHROMATOGRAPHY**

Course: Practical Gas Chromatography (R1915A)
Location: Agilent Technologies, various locations

Course: Agilent 6890 GC & ChemStation Operation
Location: Agilent Technologies, various locations

Course: Gas Chromatography/Mass Spectrometry
Location: 4 day on site (company out of Ohio)

**MASS SPECTROMETRY**

Course: Interpretation of Mass Spectra, Intermediate Mass Spectral Interpretation I and II
Location: Agilent Technologies, various locations

Course: Advanced Mass Spectra
Location: California Criministics Institute/San Diego
Information: [http://oag.ca.gov/ccis-subject-areas/chemistry-program](http://oag.ca.gov/ccis-subject-areas/chemistry-program)

Course: Mass Spectra: Theory and Interpretation
Location: California Criministics Institute/San Francisco or Los Angeles
Information: [http://oag.ca.gov/ccis-subject-areas/chemistry-program](http://oag.ca.gov/ccis-subject-areas/chemistry-program)

Course: Forensic Mass Spectrometry
Location: WVU Continuing Education-Online
Information: [http://www.wvu.augusto.net/index.cfm?meth-od=ClassInfo.ClassInformation&int_class_id=18409&int_categ-ory_id=0&int_sub_category_id=0&int_catalog_id=0](http://www.wvu.augusto.net/index.cfm?meth-od=ClassInfo.ClassInformation&int_class_id=18409&int_categ-ory_id=0&int_sub_category_id=0&int_catalog_id=0)

Course: Mass Spectrometry for Trace Evidence
Location: Free Online Course through FIU
Information: [http://ifri.fiu.edu/academic-programs/nij-sponsored-workshops/](http://ifri.fiu.edu/academic-programs/nij-sponsored-workshops/)

**ELECTRON MICROSCOPY**

Course: Scanning Electron Microscopy and X-ray Microanalysis
Location: Lehigh Microscopy School in Bethlehem, PA
Information: [https://www.lehigh.edu/microscopy/school/index.html](https://www.lehigh.edu/microscopy/school/index.html)

Course: Introduction to SEM and EDS for the New SEM Operator
Location: Lehigh Microscopy School in Bethlehem, PA
Information: [https://www.lehigh.edu/microscopy/school/index.html](https://www.lehigh.edu/microscopy/school/index.html)
### Training & Workshops

<table>
<thead>
<tr>
<th>Course: Specialized Courses</th>
<th>Location: Lehigh Microscopy School in Bethlehem, PA</th>
<th>Information: <a href="http://www.lehigh.edu/microscopy/school/index.html">http://www.lehigh.edu/microscopy/school/index.html</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Course: Scanning Electron Microscopy (SEM) and X-ray Microanalysis</td>
<td>Location: McCrone Research Institute in Chicago, IL</td>
<td>Information: <a href="http://www.mcri.org/home/section/10/courses">http://www.mcri.org/home/section/10/courses</a></td>
</tr>
<tr>
<td>Course: Elemental Analysis of Forensic Evidence with Focus on Interpretation of the Evidence</td>
<td>Location: Free Online Course through FIU</td>
<td>Information: <a href="http://ifi.fi.edu/academic-programs/niij-sponsored-workshops/">http://ifi.fi.edu/academic-programs/niij-sponsored-workshops/</a></td>
</tr>
</tbody>
</table>

#### MICROSCOPY

| Course: Advanced Microscopy | Location: California Criminalistics Institute / Sacramento | Information: [http://oag.ca.gov/ccsubject-areas/microscopy-and-trace-program](http://oag.ca.gov/ccsubject-areas/microscopy-and-trace-program) |

| Course: Microscopic Particle Handling: Particle Isolation, Manipulation, and Mounting | Location: Hooke College in Westmount, IL | Information: [http://www.hookecollege.com/courses/](http://www.hookecollege.com/courses/) |
| Course: Applied Polarized Light Microscopy/Forensic Microscopy | Location: McCrone Research Institute in Chicago, IL | Information: [http://www.mcri.org/home/section/10/courses](http://www.mcri.org/home/section/10/courses) |

#### FIBER COURSES

| Course: Textile Fundamentals | Location: NC State University in Raleigh, NC | Information: [http://www.tx.ncsu.edu/departments/texed/courses.cfm](http://www.tx.ncsu.edu/departments/texed/courses.cfm) |
| Course: How to Identify Fibers and Fabrics | Location: NC State University in Raleigh, NC | Information: [http://www.tx.ncsu.edu/departments/texed/courses.cfm](http://www.tx.ncsu.edu/departments/texed/courses.cfm) |
| Course: Fiber Identification and Comparison | Location: California Criminalistics Institute / Sacramento | Information: [http://oag.ca.gov/ccsubject-areas/microscopy-and-trace-program](http://oag.ca.gov/ccsubject-areas/microscopy-and-trace-program) |
| Course: Forensic Fiber Analysis: Advanced Microscopy and Microchemistry | Location: McCrone Research Institute in Chicago, IL | Information: [http://www.mcri.org/home/section/10/courses](http://www.mcri.org/home/section/10/courses) |
Training & Workshops

PAINT/POLYMER COURSES

Course: Basic Composition of Coatings  
Location: The Coatings Institute at Missouri S&T campus  
Information: [http://coatings.mst.edu/short/](http://coatings.mst.edu/short/)

Course: Basic X-ray Diffraction  
Location: Pan Analytical in Westborough, MA  
Information: [http://www.panalytical.com/Events-overview/Course-calendar.htm](http://www.panalytical.com/Events-overview/Course-calendar.htm)

Course: Paint Examination and Comparison  
Location: California Criminalistics Institute / Sacramento  
Information: [http://oag.ca.gov/cci-subject-areas/microscopy-and-trace-program](http://oag.ca.gov/cci-subject-areas/microscopy-and-trace-program)

Course: Pigment Identification Workshop  
Location: Hooke College in Westmount, IL  
Information: [http://www.hookecollege.com/courses/](http://www.hookecollege.com/courses/)

Course: Infrared Polymer Analysis  
Location: Hooke College in Westmount, IL  
Information: [http://www.hookecollege.com/courses/](http://www.hookecollege.com/courses/)

Course: Forensic Paint Microscopy  
Location: McCrone Research Institute in Chicago, IL  
Information: [http://www.mcri.org/home/section/10/courses](http://www.mcri.org/home/section/10/courses)

Course: Forensic Examination and Comparison of Paint, Tapes, and Adhesives with a Focus on Interpretation of the Evidence  
Location: Free Online Course through FIU  
Information: [http://ifri.fiu.edu/academic-programs/nij-sponsored-workshops/](http://ifri.fiu.edu/academic-programs/nij-sponsored-workshops/)

Course: Paint Examination and Comparison  
Location: California Criminalistics Institute / Sacramento  
Information: [http://oag.ca.gov/cci-subject-areas/microscopy-and-trace-program](http://oag.ca.gov/cci-subject-areas/microscopy-and-trace-program)

Course: Fundamentals of Color and Appearance  
Location: X-Rite, Various locations  

Course: Forensic Statistics  
Location: California Criminalistics Institute / Sacramento  
Information: [http://oag.ca.gov/cci-subject-areas/microscopy-and-trace-program](http://oag.ca.gov/cci-subject-areas/microscopy-and-trace-program)

Course: Identification of Building Materials  
Location: California Criminalistics Institute / Sacramento  
Information: [http://oag.ca.gov/cci-subject-areas/microscopy-and-trace-program](http://oag.ca.gov/cci-subject-areas/microscopy-and-trace-program)

Course: Identification of Soils & Minerals  
Location: California Criminalistics Institute / Sacramento  
Information: [http://oag.ca.gov/cci-subject-areas/microscopy-and-trace-program](http://oag.ca.gov/cci-subject-areas/microscopy-and-trace-program)

Course: Headlamp Examination  
Location: California Criminalistics Institute / Sacramento  
Information: [http://oag.ca.gov/cci-subject-areas/microscopy-and-trace-program](http://oag.ca.gov/cci-subject-areas/microscopy-and-trace-program)

Course: Gunshot Residue Identification  
Location: Hooke College in Westmount, IL  
Information: [http://www.hookecollege.com/courses/](http://www.hookecollege.com/courses/)

Course: Comparative Microscopy of Soil  
Location: McCrone Research Institute in Chicago, IL  
Information: [http://www.mcri.org/home/section/10/courses](http://www.mcri.org/home/section/10/courses)

GLASS COURSES

Course: Glass Examination and Comparison  
Location: California Criminalistics Institute / Sacramento  
Information: [http://oag.ca.gov/cci-subject-areas/microscopy-and-trace-program](http://oag.ca.gov/cci-subject-areas/microscopy-and-trace-program)

Course: Forensic Microscopy of Glass  
Location: McCrone Research Institute in Chicago, IL  
Information: [http://www.mcri.org/home/section/10/courses](http://www.mcri.org/home/section/10/courses)

Course: Examination and Comparison of Glass Evidence  
Location: Free Online Course through FIU  
Information: [http://ifri.fiu.edu/academic-programs/nij-sponsored-workshops/](http://ifri.fiu.edu/academic-programs/nij-sponsored-workshops/)

MISCELLANEOUS

Course: Forensic Examination and Comparison  
Location: California Criminalistics Institute / Sacramento  
Information: [http://oag.ca.gov/cci-subject-areas/microscopy-and-trace-program](http://oag.ca.gov/cci-subject-areas/microscopy-and-trace-program)
Training & Workshops

EXPLOSIVES

Course: Explosives, Improvised Explosive Devices, Electronic Components & Circuits
Location: California Criminalistics Institute / Rancho Cordova
Information: [http://oag.ca.gov/cci-subject-areas/c-chemistry-program](http://oag.ca.gov/cci-subject-areas/c-chemistry-program)

Course: Analysis of Explosives
Location: California Criminalistics Institute / Sacramento or Los Angeles
Information: [http://oag.ca.gov/cci-subject-areas/c-chemistry-program](http://oag.ca.gov/cci-subject-areas/c-chemistry-program)

Course: Microscopy of Explosives
Location: California Criminilistics Institute/ Sacramento
Information: [http://oag.ca.gov/cci-subject-areas/m-microscopy-and-trace-program](http://oag.ca.gov/cci-subject-areas/m-microscopy-and-trace-program)

Course: White-Powder Unknowns Part 1
Location: Hooke College in Westmount, IL
Information: [http://www.hookecollege.com/courses/](http://www.hookecollege.com/courses/)

Course: Microscopy of Explosives
Location: McCrone Research Institute in Chicago, IL
Information: [http://www.mcri.org/home/section/10/courses](http://www.mcri.org/home/section/10/courses)

FIRE DEBRIS

Course: Advanced Arson Analysis
Location: California Criminalistics Institute / Sacramento
Information: [http://oag.ca.gov/cci-subject-areas/c-chemistry-program](http://oag.ca.gov/cci-subject-areas/c-chemistry-program)

Course: Intermediate Analysis of Ignitable Liquids and Fire Debris
Location: California Criminalistics Institute / Sacramento or Los Angeles
Information: [http://oag.ca.gov/cci-subject-areas/c-chemistry-program](http://oag.ca.gov/cci-subject-areas/c-chemistry-program)

Course: Intro to Ignitable Liquids and Fire Debris
Location: Hertzberg-Davis Forensic Science Center, California State University Los Angeles
Information: [http://oag.ca.gov/cci-subject-areas/c-chemistry-program](http://oag.ca.gov/cci-subject-areas/c-chemistry-program)

HAIRS

Course: Identification of Animal Hairs
Location: California Criminalistics Institute / Sacramento
Information: [http://oag.ca.gov/cci-subject-areas/m-microscopy-and-trace-program](http://oag.ca.gov/cci-subject-areas/m-microscopy-and-trace-program)

Course: Hair Identification and Comparison
Location: California Criminalistics Institute / Sacramento
Information: [http://oag.ca.gov/cci-subject-areas/m-microscopy-and-trace-program](http://oag.ca.gov/cci-subject-areas/m-microscopy-and-trace-program)

Course: Animal Hair Identification
Location: McCrone Research Institute in Chicago, IL
Information: [http://www.mcri.org/home/section/10/courses](http://www.mcri.org/home/section/10/courses)

Course: Hair and Fiber Microscopy
Location: McCrone Research Institute in Chicago, IL
Information: [http://www.mcri.org/home/section/10/courses](http://www.mcri.org/home/section/10/courses)

MAFS/ASTEE Joint Meeting

The combined MAFS-ASTEE meeting was held from 06-10 October 2014, in St. Paul Minnesota. ASTEE members contributed at all levels of the meeting. Seven of the workshops were presented in whole or in part by ASTEE members. At least one ASTEE member was an author on each of the papers presented in the Trace Evidence Section, and ASTEE members presented four posters. The materials presented ranged across a broad swath of trace disciplines: new topics in fire debris interpretation, the applicability of microscopic examination techniques, variation in duct tape samples, the transfer of GSR in instances of shootings through glass, issues in

(Continued on p. 23)
**McCron 2014–2015 Forensic Microscopy Courses**

**Microscopy of Explosives**
*October 27–31, 2014; October 26–30, 2015*
This is an advanced course in the microscopy of bulk explosives, pyrotechnics and explosive residues. Organic, inorganic, military, commercial and improvised explosives are covered. Using chemical microscopy to identify explosives was one of Dr. Walter McCrone’s first research projects, and McCrone Research Institute continues to teach the methods he developed.

**Comparative Microscopy of Soils**
*December 8–12, 2014*
In this advanced course, students study the composition and origin of soils and approaches to scientific soil comparison. Small soil samples are literally taken apart and separated into clay, silt and sand-size fractions, light and heavy minerals, and concentrates of pollen, spores, diatoms and phytoliths. Appropriate methods of analysis are explained and demonstrated at each stage before students conduct their own laboratory exercises.

**Forensic Dust Analysis**
*July 27–31, 2015*
This course is an introduction to the analysis of dust traces for trace evidence analysts and is based on instructor Skip Palenik’s experience of more than 50 years in studying dust in a forensic context. Beginning with the history of dust analysis and the work of Locard, Popp, Schneider, Heinrich, Frei-Sulzer and others, the course will explore the techniques for collecting, separating, analyzing and interpreting dust evidence.

**Animal Hair Identification**
*September 1–3, 2015*
This course begins with an introduction to mammalian taxonomy, the importance and establishment of reference collections and hair atlases. This is followed by lectures explaining and illustrating the structural, morphological and anatomical features of hairs that may be exploited for their identification. Demonstrations show how hairs can be sequentially prepared so that all of these characteristics can best be observed, if necessary, on a single hair.

**Forensic Fiber Analysis: Advanced Microscopy and Microchemistry**
*October 19–23, 2015*
This is an advanced course in microscopy and microchemical methods used for the characterization and identification of natural, regenerated and synthetic fibers. Methods for the collection of fibers are considered and practiced.

*The prerequisite for this course is McCrone’s Applied Polarized Light Microscopy/Forensic Microscopy course or equivalent.*

Visit [www.mcrl.org](http://www.mcrl.org) for all 2014 and 2015 course dates, full course descriptions and online registration.
Case Studies

ASTEE welcomes case studies from our members and is designed to look informally at various aspects of our profession from notes on policies and procedures to cases that just caught and held our interest.

For the more formal write-ups, we invite you to refer to our peer reviewed online magazine, Journal of the American Society of Trace Evidence Examiners.

An Example of the Use of Association Scales in a Paint Examination Case

Diana Wright, PhD
Forensic Chemist, FBI Laboratory, Quantico, VA

On Friday, April 19, 2013, a Royal Bahamian Police officer and her brother were arrested at Lynden Pindling Airport, Nassau, Bahamas on charges of possession of cocaine, possession with intent to supply, and conspiracy to export a controlled substance to the United States. The police officer had been under investigation, and that day was observed receiving a suitcase from her brother prior to his clearing customs. The officer wheeled the suitcase into the ladies room, where she was subsequently detained and later arrested. When she was searched, heat-sealed small plastic baggies camouflaged with flaking black spray paint were removed from the camisole she wore under her police uniform.

The suitcase contents included a backpack filled with various items: a notebook, credit and store gift cards, a belt, a package of cookies, hand sanitizer, condoms, and various toiletries; it also contained a tote bag. In contrast to the backpack, the tote bag was empty except for numerous flakes of black paint and small clumps of white powder. Based on these findings, the arresting officers concluded that the handmade plastic drug packages had been removed from the tote and placed inside the police officer’s clothing in order for her to covertly walk the drugs through customs on her person. They suspected that she would then place the packages back in the tote bag within the suitcase and pass it back to her brother for transport off the island.

The next day, a search was conducted at the home of a known drug trafficker and associate of the brother. Five cans of black spray paint and rolls of heat sealing plastic food storage packaging were among the items seized from the residence, along with a cardboard box lid containing overspray of black spray paint. The police believed that this was the location where the drugs were packaged and camouflaged with black paint for transport and eventual distribution.

Request for Analysis
For this investigation, the Royal Bahamian Police requested the assistance of the FBI Laboratory in comparing the contents of the black spray paint cans to the paint on the recovered drug packaging, as well as comparison of the drug packaging to the rollstock of heat sealed plastic storage material.

The FBI Laboratory’s Chemistry Unit agreed to accept the request for analysis with the caveat that black spray paint generally contains a limited number of features for comparison and plastic rollstock generally contains even less characteristics to provide a meaningful result.

Black Spray Paint Request
The seized bags were sprayed with two distinct layers of black paint, both of which contained some metallic flake (see Figure 1). The metallic flake distribution of one of the layers was much more heavily dispersed than for the other layer; therefore, the latter was referred to as a “matte” layer to distinguish the two layers in the data. All of the flakes were coated with clumps of white powder (later confirmed by the Royal Bahamian Police Force
Laboratory to be cocaine). The flakes were also quite fragile, so sample preparation prior to analysis was light scraping with a scalpel blade but no solvent or aqueous washes.

Chemical analysis of both layers was straightforward: the more metallic flake side was an acrylic (methyl methacrylate and 2-ethylhexyl acrylate) styrene formulation with predictably large amounts of aluminum flake and silicon as well as sulfur and possibly calcium and iron. The more matte metallic flake side was classified as an orthoalkyd/acrylic formulation with some aluminum flake, iron, and possibly manganese. Styrene was not readily apparent by IR in this layer, but was confirmed by pyrolysis GC/MS along with isobutyl methacrylate, phthalic anhydride, and a few peaks that the mass spectral library characterized as cocaine or a derivative thereof.

The spray paint cans contained different chemical formulations than either of the paint layers on the bags. These formulations contained either too much talc, or no detectable talc, barium sulfate, or an alkyd with no acrylic contribution. The two layered paint flakes recovered from the officer’s clothing, however, were indistinguishable from the two paint layers on the plastic bags.

**Polymer Bag Request**

The two rolls of known plastic film were both multilayered with a patterned side and a smooth side. The rolls differed from one another in the patterns used on each: a cross-hatch pattern on one and a scalloped pattern on the other. The rolls were each wound on cardboard inserts, one white and the other brown. Each core was blank with respect to name brand, distributor, or manufacturer information. Since the crosshatch patterned packaging was not represented in the recovered bags from the arrest, only the scalloped patterned packaging was further analyzed and compared. Chemical analysis of both sides of the rollstock and the drug packaging identified the smooth side as Nylon 6 and the scalloped side as polyethylene.

**Reported Results**

For this case, the report kept the materials separate and provided individual associations so that each could be assessed independently. Since some of the analyzed paint in this case was located on the packaging, it was perhaps not as critical to report each examination separately. However, the materials required different analytical techniques for comparison and are not commonly used together by the average consumer. Therefore, the results were interpreted and reported separately. From an investigative or legal standpoint, this approach might prevent the loss of the entirety of the forensic examinations if some portion of the evidence was ruled inadmissible by the court. As such, the results of findings are not reported as cumulative. However, statements suggesting that the observation of multiple associations might strengthen the overall conclusion are added as appropriate to the report language. The report wording for this case was as follows:

**Paint Comparisons:**

*Based on physical and chemical comparisons, it was determined that the two-layer black paint systems recovered from the clothing and tote bag, and present on the submitted packaging, are analytically indistinguishable in all measured physical and chemical properties and therefore could have originated from the same sources of paint or from different sources with the same physical and chemical properties (Level III Assoc.). This level of association was assigned because other sources of either of these black spray paint layers could also be indistinguishable.*
Case Studies

The black coating on the piece of cardboard is chemically different from the aforementioned black paint layers. Therefore, it is not the same paint as that represented by these other items (Elimination).

Each of the known exemplars was determined to be chemically different from the aforementioned black paint layers. Therefore, none of these cans of spray-applied paint can be the source of the questioned black paints (Elimination).

Analytical techniques utilized in the examination of these items of evidence included visual and microscopical examinations, Fourier transform infrared spectroscopy (FT-IR), scanning electron microscopy with energy dispersive X-ray spectroscopy (SEM/EDS), and pyrolysis gas chromatography with mass spectral detection (pyGC/MS).

Polymer Comparisons:
Based on microscopical examinations, one of the rolls and pieces of plastic represent a different visual pattern on one of their surfaces than that observed on the questioned items. Therefore, this roll and piece of plastic originated from a different production source and cannot be associated with the questioned items (Elimination). The other roll and piece of plastic was visually consistent with the questioned items and therefore these items were carried forward for chemical comparisons. Since no differences were observed as a result of these examinations, further chemical analysis was conducted.

Based on the additional chemical examinations, it was determined that the polymeric films represented by the questioned item and the roll are physically and chemically consistent with respect to their two-layer construction and therefore could have originated from the same source (e.g., rollstock, raw material, manufacturer) or from sources with the same physical and chemical properties (Level IV Association). This level of association was assigned because this material is mass-produced in bulk quantities and contains a limited number of features available for comparison purposes.

Analytical techniques utilized in the examination of these items of evidence included visual and microscopical examinations, Fourier transform infrared spectroscopy (FT-IR), and pyrolysis gas chromatography with mass spectral detection (pyGC/MS).

With every report, an interpretation scale is included to provide further context to the stated conclusions. It is included in this manuscript for the same reason. It was also noted in the original report that the presence of two separate materials in common between the questioned items and the known materials was felt to increase the significance of the stated findings. Therefore, a statement about placing the overall association results in this context was provided in the first paragraph of the Interpretation section in order to highlight this opinion.

Interpretation:
The existence of an association between the paint chips recovered from the various locations as well as the polymeric films used as plastic bags could increase the significance of the reported associations.

The following descriptions are meant to provide context to the levels of opinions reached in this report. Every level of conclusion may not be applicable in every case nor for every material type.

**Level I Association:** A physical match; items physically fit back to one another, indicating that the items were once from the same source.
Case Studies

Level II Association: An association in which items are consistent in observed and measured physical properties and/or chemical composition and share atypical characteristic(s) that would not be expected to be readily available in the population of this evidence type.

Level III Association: An association in which items are consistent in observed and measured physical properties and/or chemical composition and, therefore, could have originated from the same source. Because other items have been manufactured that would also be indistinguishable from the submitted evidence, an individual source cannot be determined.

Level IV Association: An association in which items are consistent in observed and measured physical properties and/or chemical composition and, therefore, could have originated from the same source. As compared to a Level III Association, items categorized within a Level IV share characteristics that are more common amongst these kinds of manufactured products. Alternatively, an association between items would be categorized as a Level IV if a limited analysis was performed due to the characteristics or size of the specimen(s).

Level V Association: An association in which items are consistent in some, but not all, physical properties and/or chemical composition. Some minor variation(s) exists between the known and questioned items and could be due to factors such as sample heterogeneity, contamination of the sample(s), or having a sample of insufficient size to adequately assess the homogeneity of the entity from which it was derived.

Inconclusive: No conclusion could be reached regarding an association/elimination between the items.

Elimination: The items were dissimilar in physical properties and/or chemical composition, indicating that they did not originate from the same source.

Testimony
At trial before a magistrate, direct testimony included an explanation of the scale, the report findings, limitations inherent in class evidence associations, as well as a statement that the known paints were discriminated. The defense attorney chose not to question the results or the interpretation. However, he had prior exposure to the interpretation scale in a previous case in which the evidence was also paint on a polymeric surface. In that case, both materials were analyzed and reported as a Level III Association of a single layer of bright blue architectural paint on a polycarbonate boat hatch cover in comparison to a single layer of like-colored, chemically indistinguishable paint on the outer rim of the polycarbonate boat hatch. On cross examination, the defense attempted to confuse the magistrate by stating that the report had used all of the “options” of the scale in assessing the evidence since they were all listed in the Interpretation section.

Other defense attorneys have attempted to change the Level designations to letter grades (i.e., a Level III equates to a “C”), which has prompted internal discussion as to whether the term Type would be preferable to Level. (Comments welcome.) For the most part, the use of an interpretation scale does not seem to have an appreciable impact on testimony or challenges to it upon cross examination. However, it has introduced a greater level of consistency between reports by a single examiner, between examiners, as well as between a technical reviewer and a report author with respect to what the results mean contextually.

Conclusions
This case provides a good example of paint and plastic evidence that might have been previously thought to be non-probative, but was found to contain sufficient comparative characteristics and unusual features to aid in providing context to the reported results. Further, this example serves as a means of conveying to the reader
Case Studies

how such evidence would be reported and interpreted by the FBI Laboratory.

The Paints and Polymers examiners in the FBI Laboratory continually strive to write meaningful reports that make sense. If this case example creates an opportunity to share opinions about the current interpretation scale, something equivalent, or a better approach, those suggestions are welcome.

Diana M. Wright, PhD, F-ABC
Chemistry Unit
2501 Investigation Parkway
Quantico, VA 22135
703-632-7418; Diana.Wright@ic.fbi.gov

This is the FBI Laboratory Division’s publication number 14-26. The views expressed are those of the author and do not necessarily reflect the official policy or position of the FBI or the U.S. Government.

MAFS/ASTEE Joint Meeting (continued from p. 17)

reporting, case examples in forensic geology, traffic investigations, PDQ, fiber dyes and dying techniques, topics in MSP, and more. The meeting was a wealth of knowledge for the attendees, and provided a fantastic educational opportunity to practitioners of all experience levels and backgrounds. The degree of participation from ASTEE members was exceptional, and should be held up as an example of not only how much there is for all of us to learn, but of how we each have knowledge and experience that our peers can benefit from.

The scientific presentations were just one way in which the meeting was beneficial for ASTEE members. One of our mission goals is to Encourage the exchange and dissemination of ideas and information within the fields of trace evidence through improving contacts between persons and laboratories engaged in trace evidence analyses. This meeting provided ample opportunities for members to forge personal and professional relationships. Social events, water cooler time, and of course the ASTEE reception allowed members to share ideas, discuss problems that they are facing, and develop friendships that will support the growth of ASTEE and the spread of ideas/knowledge. Additionally, the meeting offered an opportunity to interact with examiners in non-trace disciplines, presenting a chance to foster holistic practices across disciplines, to ensure that the right evidence is evaluated in a broad manner to provide our customers with the most pertinent and comprehensive information possible. While we all have different disciplines and backgrounds, we mustn’t forget that we are all working to provide the best information possible in every case, and we as experts are responsible for knowing what other disciplines practice and can offer. On a final note, a special congrats goes out to John Chester and Troy Ernst, official Bauer Power Euchre Champions of MAFS-ASTEE 2014!

The success of this joint meeting has set the precedent for future joint meetings. ASTEE plans to rotate the organizations that we partner with, in the hopes of getting to all of the various regions where ASTEE members reside. If you were unable to attend the Joint ASTEE-MAFS meeting, there will be more opportunities in the future. And if the next Joint meeting is in your backyard, take a cue from the participants of the MAFS-ASTEE Joint meeting and participate! Finally, ASTEE members may or may not be aware of the financial loss that was incurred by MAFS by hosting the meeting. Due to oversights, the budget was exceeded and MAFS took a loss on the meeting. MAFS has taken steps to address this over the coming years. While MAFS did not solicit funds from ASTEE, members should know that the ASTEE Board voted on and approved ASTEE funds to help MAFS cover some of their losses. The Board felt it was the only responsible thing to do as a measure of good faith and partnership.
“You people are insane...”
-Anonymous
Buried in Casework?

At Gateway Analytical, we understand that sometimes keeping up with the never ending backlog of casework analysis can leave you feeling a bit overwhelmed. Luckily, Gateway forensic scientists have over 15 years of experience in traditional and specialized evidence analysis. No matter what type of forensic support you need from trace evidence analysis to criminal case review, Gateway can provide fast, legally defensible results to help ease casework demands.

Visit us at the IACP 121st Annual Conference and Exposition

To learn more about our services please visit our booth or attend our poster session titled: “The Evolution of Gunshot Residue Analysis and the Accompanying Progress in Result Interpretation.”

Gateway Analytical is an ASCLD/LAB-international accredited and ISO 9001:2008 certified laboratory.
Dear ASTEE member,

Please remit the sum of $20.00 to ASTEE in payment of your membership dues for the 2015 calendar year by March 31, 2015. Please add a $5.00 late fee for payment received after March 31, 2015. U.S. members remit checks and non-U.S. members remit International Money Orders payable to ASTEE.

Please send your payment to:

Scott Maye—ASTEE Treasurer
Virginia Department of Forensic Science
700 North 5th Street
Richmond, Virginia 23219

If you prefer to use our online option, you can pay through the asteetrace@gmail.com account on PayPal. If you choose this option, please email a copy of this form to scott.maye@dfs.virginia.gov or fax the form to 804-786-6305 once your payment is submitted.

Please complete the following information and mail with your payment:

Name
______________________________

Membership #
______________________________

Title
______________________________

Address
______________________________

Phone #_________________ Fax #_________________

Email ________________________________

☐ Please check if any of the above information has changed

☐ Please check if you prefer not to have your contact information published in the ASTEE membership directory

If you have any inquiries concerning your membership dues, please contact Scott Maye at scott.maye@dfs.virginia.gov or 804-588-4168.