SAS SPECTRUM eNEWS

SAS Member Event SciX 2019: Palm Springs, California, 13 October 2019

Start off this great adventure with lunch and networking in the Enchanted Desert. Try your hand at some cornhole, bocce ball, giant Jenga, giant Drop Four, or target shooting; or just kick back and relax. It is your choice, as there is something for everyone! Then, hop in a hot RED jeep for a tour through the tortured landscape of the San Andreas Fault, natural Palm Oasis, steep wall canyons, Indian villages and more! It is an experience not to be missed! Member cost $50. **This is a member only event!*** Seating is EXTREMELY limited. First come, first served. This tour would normally cost $170 per head. We strongly encourage you to sign up quickly so as not to be disappointed. NO seats will be reserved without advance payment. Contact Stephanie via email at sasadmin@s-a-s.org or by phone at 301-694-8122 (w) or 301-674-1458 (c). *If your membership has expired and you want to join us on this tour, please visit our website or call us at 301-694-8122 to renew today!

Annual Election of SAS Officer and Governing Board Delegates

The Annual Election of SAS Officer and Governing Board Delegates will be held electronically from 15 July–16 August 2019. All regular, non-student members in good standing are eligible to vote and will receive an email with voting instructions and login information from our online election provider Elections Online. Please check your spam folders for this email if you do not receive it or contact the SAS office at sasadmin@s-a-s.org or 301-694-8122.
Brief election profile for each candidate is included below for your review.
The full profiles can be found here:
https://www.s-a-s.org/userfiles/uploads/SAS_Officer_and_Governing_Board_Profiles_2019.pdf

SAS Candidate Profiles 2019 Officers

President-Elect, Karl Booksh
Booksh has been a Professor of Chemistry and Biochemistry at the University of Delaware since 2007. Previously, he was on the faculty at Arizona State University, a postdoc at University of South Carolina, graduate school at the University of Washington, and undergraduate at the University of Alaska. His research interests span chemometrics, Raman imaging, surface plasmon resonance spectroscopy, and the design of field portable optical sensors. He has approximately 100 published manuscripts in these areas. Within SAS, Booksh serves as treasurer of the chemometrics focus group and as faculty advisor for the Delaware student section He has chaired the SAS Certification Program committee and organized symposia on chemometrics and surface plasmon resonance spectroscopy at SciX. Booksh was selected as a SAS Fellow in 2014. Booksh has not won a Meggers Award, but would like to one day.

President-Elect, Don Pivonka
Don Pivonka has been a member of SAS since 1984 and has been a Society Fellow since 2011. Don has served the Society through numerous tenures on the SAS and

the Coblentz Society governing boards. He has also served on the Publications Committee, the Fellows Selection Committee, the Nominations Committee, and the Meggers Award Committee. Finally, he has served as the Chairman of the Williams-Wright Award Symposium and of the Applied Spectroscopy Chirality Section. Don has received the Tomas Hirschfeld Award (Pitt. Con. 1987) and the Charles Mann Award (FACSS 2012) for his research. Don's career includes analysis of polymer systems (Hercules Inc. 1987–1992). At AstraZeneca Inc. (1992–2011), he developed vibrational spectroscopic techniques for the design of novel drug candidates. At AstraZeneca, Don also contributed to the field of Vibrational Circular Dichroism (VCD). In 2011, Don joined Incyte Corp. to study polymorph stability using IR and Raman. His CV is on LinkedIn.

Treasurer, Diane Parry
Diane Parry is currently a consultant, after retiring as an Associate Director in Global Research and Development from The Procter & Gamble Company. She has worked as an Analytical Chemist, Product and Process Designer, and Consumer Researcher within Procter & Gamble R&D. Prior to her work at P&G, she completed postdoctoral infrared spectroscopy work at IBM's Almaden Research Center in San Jose, CA, after earning her Ph.D. in Physical and Analytical Chemistry from the University of Utah under the guidance of Professor Joel Harris. Beyond P&G and training, Diane taught the Analytical Chemists in Industry short course at FACSS/SciX and elsewhere for over 17 years. She has received Distinguished Service Awards from both SAS and FACSS for her volunteer service, and has held multiple positions within both organizations, including FACSS Governing Board Chair and President of SAS. She is currently serving the last year of a three-year term as Treasurer for SAS.

Treasurer, Zach Schultz
Zachary D. Schultz, Ph.D., is an associate professor at The Ohio State University. Prof. Schultz earned his B.S. degree from the Ohio State University in 2000 and Ph.D. from the University of Illinois at Urbana-Champaign in 2005. Upon completing his Ph.D., he was a National Research Council Postdoctoral Fellow at the National Institute of Standards and Technology (USA). His research at NIST was performed largely in collaboration with Ira Levin at the National Institutes of Health (USA). Following his postdoctoral fellowship at NIST, Dr. Schultz continued as a research fellow with Dr. Levin at NIH using vibrational spectroscopy and microscopy to study biomembrane systems. Dr. Schultz began his independent career as an assistant professor of chemistry and biochemistry at the University of Notre Dame in 2009 and was promoted with tenure to associate professor in 2015. In January of 2018, he moved his research program to Ohio State.

SAS Candidate Profiles 2019 Officers

Karin Balss
Karin Maria Balss earned her Ph.D. from the University of Illinois Urbana-Champaign in 2002. During a National Research Council post-doctoral fellowship at the National Institute of Standards and Technology (NIST) from 2002–2004, she developed novel analytical methods for lab-on-a-chip applications, resulting in two US patents and five publications. She joined Johnson & Johnson in 2004 and developed spectroscopic methods to characterize polymeric drug-eluting stent coatings. In 2012, she received the Johnson & Johnson Philip B. Hofmann award. In 2013, she shifted roles to support modeling, PAT, and materials characterization in the pharmaceutical sector. Karin has three US patents, co-authored 17 peer-reviewed publications, and presented invited lectures at national and international conferences. She served the analytical chemistry community within J&J as secretary of the Corporate Analytical Subcommittee, organizing company-wide symposiums and facilitating exchange of ideas across sectors.

Matthieu Baudelet
Matthieu Baudelet graduated with a B.Sc. in Physics in 2003, starting his experience in Spectroscopy with Fourier transform microwave spectroscopy. In 2005, he graduated with a M.Sc. in "Laser and Spectroscopy" in the University of Lyon (France), and continued to complete his Ph.D. in the LASIM (Lyon, FR), showing the advantages of LIBS for biological sensing and food monitoring. He continued his research on laser spectroscopy and sensing as a Senior Research Scientist and then Assistant Research Professor at the University of Central Florida (UCF, Orlando) from

2008 to 2015, covering fundamentals of laser-induced plasmas and developing sensing techniques for defense, industry, biomed. Now Assistant Professor of Chemistry in the National Center for Forensic Science at UCF since 2015, his research focuses on the application of spectroscopic techniques for forensic anthropology, tire skid marks and pollen grains, while teaching spectroscopy and microscopy in the UCF forensic program.

Peter Harrington
Peter graduated with a B.S. Chemistry degree from Randolph-Macon College in Ashland, Virginia. He was hired by Nabisco Brands in Wilton, Connecticut, where he fostered his interests in spectroscopy and chemometrics. After working for two years, he decided to earn a doctorate from Tom Isenhour at the University of North Carolina-Chapel Hill. As a graduate student, he published his first paper in applied spectroscopy on compressing a library of infrared spectra. After graduation, he worked as a Research Assistant Professor for Kent Voorhees at the Colorado School of Mines on the identification of bacteria using pyrolysis mass spectra. He then accepted a faculty position at Ohio University in 1989, where he has been ever since. Pete co-founded the Center for Intelligent Chemical Instrumentation. He also is a Fellow of the American Academy of Forensic Sciences and earned the Colleges Outstanding Research Award in 2016 and the EAS Award for Outstanding Contributions in Chemometrics in 2019.

Brad Jones
Dr. Brad Jones received his B.S. in chemistry from Wake Forest University in 1984. He then went on to receive his Ph.D. in analytical chemistry at the University of Florida, studying under J.D. Winefordner in 1988, which resulted in the dissertation entitled, "A Self-Cleaning Continuous Cooling Belt for Low Temperature Molecular Luminescence Spectrometry". Dr. Jones later serves as a Postdoctoral Research Associate at the University of Florida under J.D. Winefordner from 1988–1989, which resulted in the work, "Continuum Source Atomic Absorption Spectrometry with a Diode Array Detector." His appointments include: Dean of the Graduate School, Wake Forest University, 2012–present; Associate Dean of the Graduate School, Wake Forest University; 2010–2012 Professor of Chemistry, Wake Forest University; 2000–present Chair, Department of Chemistry, Wake Forest University, 1998–2006; 2018-2019 Associate Professor of Chemistry, Wake Forest University; 1994–2000 Assistant Professor of Chemistry, Wake Forest University, 1989-1994. Dr. Jones has produced more than 130 peer-reviewed manuscripts in instrument development and has served as an applied spectroscopy primary adviser for more than 25 Ph.D. students to date.

Luisa Profeta
Luisa has been an active SAS member for over 15 years, and an active member of the Coblentz Society technical section as well. She has volunteered many hours to SAS, Coblentz, and FACSS efforts, including, but not limited to: serving as a board member for SAS and Coblentz, as the SciX 2014 General Chair in Reno, Nevada, and is currently a reviewer for the SAS Newsletter and has recently been re-elected as Coblentz Society Secretary. Luisa promotes applied spectroscopy at the SPIE.DCS meeting as a co-Conference Chair for the Next Generation Spectroscopic Technologies along with other SAS colleagues. Luisa appreciates the camaraderie and networking help that SAS has provided in her career and tries to give back in kind. She feels that her still junior status allows her to infuse new perspectives to the Board, while keeping pertinent historical information in mind when suggesting and considering the future directives.

Rohith Reddy
Dr. Rohith Reddy is an assistant professor at the University of Houston. He received his Ph.D. from the University of Illinois at Urbana-Champaign, and completed his post-doctoral fellowship at Harvard Medical School. His research interests include vibrational spectroscopy and spectroscopic imaging for biomedical applications. He has experience developing new spectroscopic imaging instrumentation for biomedical and clinical applications. Dr. Reddy has won the prestigious William F. Meggers Award (2014) for outstanding work in spectroscopy. He also won the FACSS innovation award twice (2012, 2016), the Tomas Hirschfeld Award (2012), the William G. Fateley Student Award (2011), the Coblentz Student Award (2011), the SAS Graduate Student award (2011), and the FACSS student poster award in 2007, 2009, and 2011, among

	other awards. He currently serves on the board of the Coblentz Society. He has published extensively in peer-reviewed journals and has filed five US patents.
	**Jake Shelley** Jacob (Jake) Shelley was born in Albuquerque, New Mexico, in 1984. He earned his B.S. in chemistry from Northern Arizona University. During that time, he worked as an intern at Los Alamos National Laboratory for four years. He completed his Ph.D. at Indiana University under Gary Hieftje in 2011. Jake conducted postdoctoral research with R. Graham Cooks at Purdue University in 2011, and was an Alexander von Humboldt Fellow at the University of Muenster in 2012. In 2014, he became Assistant Professor at Kent State University. He was named the Alan Paul Schulz Professor of Chemistry at Rensselaer Polytechnic Institute in 2016. He has authored 37 published journal articles, has five United States patents/patent applications, a book chapter, and has given more than 45 invited presentations at national and international venues. Jake has been an active member of the SAS since 2004 and has served on the Regional and Sectional Affairs Committee and currently as the Tour Speaker Coordinator.
	**Gloria Story** Senior Scientist: 35 years at P&G Study Areas: Solid/Liquid interface dynamics; mid-IR spectroscopic problem solving and interpretation; mid-IR and NIR spectroscopic imaging of materials; thermal imaging for product development, manufacturing vision, and claims/demos Education: AS in Science Technology, Raymond Walters Technical College. Worked on B.S. in Chemistry at the University of Cincinnati and the University of Utah. Many training classes in FT-IR, Raman, chemometrics, interpretation, thermography Member: Coblentz Society for 31 years; Society for Applied Spectroscopy for 25 years; American Chemical Society for 25 years Presently serving: Cincinnati ACS section's membership, education grants, and Museum Center outreach coordinator; SAS Regional/Technical Section Affairs coordinator Honors: 2005 Cincinnati ACS Outstanding Service Award 2015 SAS Distinguished Service Award 28 publications Personal: Mother of Michael Story (Materials Engineer), Scout Ment
	**Lynn Zhang** Dr. Lynn Zhang earned her B.S. degree in chemical engineering at Shenyang University of Chemical Technology in China. In 2011, Lynn obtained Master's degree, focusing on physical chemistry at Murray State University. She then joined the Chemistry Department at Clemson University and obtained her Ph.D. in 2015. Lynn is currently working at Eurofins EAG Material Science as Senior Technical Specialist, to support different industries. Lynn's engineering background has provided a different point of view for her years of research in spectroscopy. Lynn has been a member of SAS for eight years and has served the society in many ways. She was the original founder of the Clemson University Student Chapter of SAS, and she also served as a member of the website committee and the publicity committee. She is currently serving as the SAS website committee chair and SAS St. Louis Local Chapter secretary. Lynn is a big fan of beer, she has been homebrewing for many years, and her favorite beer styles are Stout and IPA.

Travel Grants and Scholarships

The Coblentz Society is committed to fostering the understanding and application of vibrational spectroscopy and the professional development of scientists practicing in this area. To continue these aims, the society is pleased to announce the creation of three awards designed to assist young career professionals:

Travel grant: To assist in defraying the cost of travel to one of the conferences where the Coblentz Society is an active participant. These include Pittcon, SciX, EAS, ICAVS and ISMS. The travel grants will be awarded based on participation in the scientific community as well as presentations of research.

Childcare award: Designed to assist parents, especially when both parents are involved in the scientific community, this award is designed to help defray childcare costs either provided through a conference or provided at the applicant's home to allow parents to attend one of the designated conferences.

Scholarship assistance for the Infrared and Raman Interpretation Course: This scholarship is meant to defray part of the tuition costs of this course. This course is a Coblentz affiliated activity and has been presented yearly for over 50 years. The aim of the course is to provide a rigorous foundation for interpretation of vibrational spectra.

Applications for these awards can be obtained from Mary Carrabba at mary.carrabba@coblentz.org. We encourage those who are interested to apply soon since applications for SciX need to be reviewed by September 15 and applications for scholarships need to be reviewed by September 1.

Contributed by Ellen Miseo
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SAS New England Section June Meeting Summary

On 4 June 2019, the New England Section of SAS hosted our tour speaker Dr. Brooke Kammrath at the Bruker Corporation in Billerica, Massachusetts. We would like to thank Tom Tague and Sergey Shilov for hosting us. Since the topic of the meeting was of general interest, the Method Development team at TeakOrigin came. Instead of providing the normal technical summary of the meeting, we invited this team to share their perspectives and learning from the meeting.

New England June session participants.

Felicity Meyer: The talk, given by Professor Brooke W. Kammrath, Ph.D., highlighted use cases for morphologically directed Raman spectroscopy (MDRS) in forensic science as a means of identifying materials, including soil samples, drugs, "hoax" powders, and pharmaceuticals. Dr. Kammrath's work regarding low concentration or morphologically abnormal particles was particularly compelling, as it has the implication to significantly increase spectral integrity of mixed samples, while also decreasing hands-on work hours for both research and routine analysis labs. The talk focused mainly on proof of concept experiments, starting with mixed sugars/sugar substitutes, to addressing the feasibility of differentiating drug particles from various manufacturers, both legal and otherwise. Dr. Kammrath briefly touched on proof-of-concept studies identifying gunshot residue samples, but explained that more work would need to be done in that area. The talk was both thought-provoking scientifically, while showcasing a technology that has huge implications for everyday law enforcement operations. As a chemist who has only taken high school, entry-level forensic science classes, Dr. Kammrath's talk was a great opportunity to consider related applications from a field very different from my current research topics. Dr. Kammrath is an Associate Professor of Forensic Science and the University of New Haven, where she teaches undergraduate and graduate courses in Criminalistics, Physical Methods Forensic Microscopy, and Introduction to Forensic Science.

Dan Accetta: The benefit to working in the Greater Boston region and attending SAS meetings is the tremendous networking opportunity. Members can discuss current projects and issues to a community that has the knowledge and desire to assist. The reception and dinner are a great time to hear about the latest in instrument technology, novel applications, and seek advice from the community.

James Ryan: The lab tour presented a unique opportunity to see and discuss new

technology in the fields of spectroscopy and mass spectrometry. Attendants were able to see instruments firsthand as well as ask instrument experts about anything from technical specifications, novel attachments, or even passion projects. While some members were eager to find solutions for their analytical woes, others were fascinated to hear about the cultural heritage applications of IR and MS.

Dr. Vincent Lee (right) introducing Dr. Brooke Kammrath (left).

Society for Applied Spectroscopy Training Courses

Are you doing infrared spectroscopy but feel that you are only scratching the surface?

Does Raman spectroscopy confuse you and make you wonder where you can use it?

Are you mystified when someone tells you that there is an enormous amount of information in infrared and Raman spectra, but in school you learned to look and see when the carbonyl disappeared after reaction? The Society for Applied Spectroscopy has the answers!

To address these needs and many others the society is kicking off a training effort at SciX 2019. We will be offering four courses geared to vibrational spectroscopy:

- **A Practical Introduction to Infrared, Raman, and Near-Infrared Spectroscopy:** This course will introduce Raman, mid-infrared, and near-infrared spectroscopy, concentrating on why an absorption occurs, where an absorption occurs, and the benefits and limitations of the techniques.
- **Searching Infrared and Raman Spectra:** This course will introduce spectral searches. Among other topics it will cover how to do an efficient search, why the first "hit" may not be the right answer, and how you deal with a mixture or when the finding is not in the database.
- **Problems with FT-IR Spectra and How to Avoid Them:** Users of FT-IR spectrometers may have received little or no formal training in spectroscopy and therefore cannot distinguish between "good" and "bad" spectra. In this course, we will show many of the problems that are commonly encountered with FT-IR spectra measured by inexperienced (and often experienced!) users and show how to avoid them.
- **Intro to Raman with Imaging Applications:** You will learn the basics of applied Raman spectroscopy and imaging. Students will be taught the application of group theory to crystalline materials and how to apply those symmetry rules to perform "Raman crystallography". The instructor will teach Raman spectroscopy and imaging at a practical level and cover topics to allow the student to immediately apply it to material in the workplace.

Please see the SciX program at https://www.facss.org/short-courses for longer descriptions of these courses and when they will be offered. We look forward to seeing you at SciX.

Do you have something spectroscopy-related you want to discuss in the newsletter?
Or something that will help our membership such as career tips or application tips?
Please let us know by emailing xchen4@dow.com.

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