



SAS 2020 President's Message

First, I would like to thank SAS members for selecting me as their 2020 President. Because of publication deadlines, I'm writing this in late October, just after the SciX meeting, so some of the events I discuss will have already happened by the time this is in your hands.

As I immersed myself in the details of running the Society, it became evident that the Society faces a number of challenges. These have been outlined by my immediate predecessors, Rob Lascola and Mike Carrabba, and a number of actions have already been put in place, but they deserve an immediate and concerted focus. First, membership in the Society has been on a steady downward trend for the past five to six years, despite a number of initiatives to stem the tide. Second, with continuing consolidation in the analytical instrument business and a move away from traditional marketing vehicles like print, our advertising revenue is also under threat. Also, if we have an economic slowdown, companies usually target advertising as an expenditure that can be cut rapidly and easily. Third, although our Journal, *Applied Spectroscopy*, has prospered under its editorial staff and the transition to Sage, with significantly wider circulation and improved impact factor, the European initiative "Plan S" threatens to disrupt scientific publishing.^{1,2} I would encourage everybody to be aware of Plan S. In brief, this arose because life science funding agencies saw themselves as having to pay for research twice, once via grants to researchers, and then to pay for journal subscriptions and downloads, especially from for-profit publishers. Plan S may not impact the Journal for a year or two, but that gives us the opportunity, which we must grasp, to prepare for the inevitable changes now.



Having said all this, recent years have seen a turn-around in the Society's financial position, led by Bruce Chase (Treasurer 2014-16) and Diane Parry (Treasurer 2017-present). With these challenges in mind, my thought is that we have to take a holistic and business-type approach. We are therefore planning two "Kaizen-style" retreats to address the issues. For those who are unfamiliar with this terminology, there is a whole suite of business improvement methodologies that have come from Japan, and from Toyota in particular, which are now being implemented in a variety of US companies. In the analytical field, these Kaizen methods are employed by the Danaher group of companies, and by Thermo Fisher Scientific, in particular. Translated as "change for the better", Kaizen events in a business environment are a burst of teamwork to improve a process, to correct a problem that is preventing the business from achieving its goal. For our purposes, we are viewing this as a structured process for analyzing issues and proposing solutions, to be followed by implementation of those solutions, and tracking of the progress; the essential points are that we really understand the issues in front of us, and that we address them effectively within the resources that we have as a largely volunteer organization.

The first event will take place in November, graciously hosted by SAS's secretary (Ian Lewis) and Kaiser Optical, in Ann Arbor. This will focus on the three immediate issues noted above, and the participants are drawn from the Society's elected officers, its marketing and long-range planning groups, as well as past presidents. The second event has not yet been formally scheduled, but will take place in early 2020, and it will focus on the formulation of a 2025 vision, or five-year plan, to follow on from our earlier "2020 Vision" initiative. We invite SAS members' input and ideas for a 2025 vision.

Kaizen events always conclude with a "report out", and the details of these reports will be communicated to the membership at large after the events.

Much of what we need to do is centered on improving the Society's value to both members and the companies that support and advertise with us. Rob Lascola's "Reflections" outlines a number of initiatives we have undertaken recently. I believe that we have not done a good job in making the community aware of what the Society does, what papers have been published in the journal, etc., and those all fall into the category of "Marketing the Society". To that end, I would like to acknowledge the work done by Mike Carrabba and Rob Lascola in reorganizing the Society's marketing function, and the huge amount of work done already by Andrew Whitley as our Marketing Chair. This work is covered in Rob Lascola's Reflections, and we look forward to the special issue of *Applied Spectroscopy* that Andrew has driven, focusing on microplastics. In addition, Ellen Miseo, a Society past president, is reorganizing our certification effort to focus on training and SAS recognition of training courses taught by our members.

During 2020, SAS will be active in a number of scientific meetings. At Pittcon 2020 (1-5 March 2019, Chicago, Illinois), SAS has organized two Symposia: "Portable Spectroscopy in 2020" and "Smartphone Spectroscopy for Analyses and Assays in Low Resource Areas". SAS is a professional society sponsor for "Spring SciX"

(<https://springscix.org/>) to be held in Liverpool, UK, in April. And of course, SAS will be engaged in depth at SciX 2020, to be held in Sparks, Nevada, later in the year in October.

The Society is run by a small office staff (Bonnie Saylor and Stephanie Iocco), and numerous volunteers. There's a lot of work to be done, and I welcome suggestions, and especially volunteers. I'd point out that we have local sections, some of which are very active and some of which are not. One way to become involved in the Society is to be active in a local section. Organizing a local event (e.g., a dinner meeting with a speaker) takes a little work, but provides a learning event, a networking forum, and a scientific social gathering. I would urge members to be involved in, or to reinvigorate, their local sections. Our Office and our Section Affairs committee can help.

Contributed by Richard Crocombe
2020 SAS President
racrocombe@gmail.com

Footnotes

- 1 'Plan S' website: <https://www.coalition-s.org/>
- 2 Sage: <https://us.sagepub.com/en-us/nam/press/sage-publishing-statement-on-plan-s> and https://us.sagepub.com/sites/default/files/sage_publishing_-_plan_s_implementation_guidance_feedback_0.pdf

Editor's Note

How time flies! It has already been three years since I took on the SAS Newsletter Editor role. Have I enjoyed it? Definitely! Has there been pressure and stress? Certainly, like many other worthwhile endeavors and adventures in life. It has certainly been a very fulfilling process and along the way I have received great help from everywhere and I have had the privilege to interact with many leaders and celebrities in the field of spectroscopy, who I may never had a chance to cross paths otherwise. So, I'm really grateful for the opportunity to serve as the SAS Newsletter editor in the past three years.

This issue will be the last one for me, as Luisa Profeta who has been on the Newsletter committee steps up as the Newsletter Editor starting in January 2020. I will continue to serve on the committee and try to contribute as much as I can. I will be migrating to the SAS website editor role in 2020. We have a website committee with many talented and dedicated volunteers lined up to tackle this ever-evolving endeavor. I look forward to interacting with all SAS members using our website.

Last, but not least, I am also championing the SAS China initiative. It is one of the initiatives SAS is undertaking to further broaden its global influence and outreach. There are numerous opportunities out there for SAS to make a positive impact in China, my home country. For example, SAS can help organize seminars and workshops and to create its local section in China. So many things are possible, but motivated and dedicated personnel are needed who can drive this initiative forward. If you are interested in volunteering for either our website or our SAS China initiative, please let me know.

Contributed by Shawn (Xiaoyun) Chen
xchen4@dow.com

NIST Summer Undergraduate Research Fellowship

NIST Summer Undergraduate Research Fellowship (SURF) applications now open. The SURF Program is designed to inspire undergraduate students to pursue careers in STEM (science, technology, engineering, and mathematics) through a unique research experience that supports the NIST mission. The application deadline is February 3, 2020 or when the application limit is reached. For more information visit: <https://www.nist.gov/surf>

Microplastics in the Environment

This year at SciX 2019 in Palm Springs, SAS organized two special sessions on "Microplastics in the Environment". These SAS sessions were organized and chaired by our marketing chair, Andrew Whitley from HORIBA, New Jersey, and Shelly Moore from the Southern California Coastal Water Research Project (SCCWRP), in Costa Mesa, California.

The ten talks reviewed the main three spectroscopic methods used currently for microplastics identification, that is FT-IR, Raman, and pyrolysis GC-MS. This included the different information these techniques can provide and the limitations of spatial resolution, and how this can be extended to higher spatial resolution as studies look at smaller and smaller microplastics. The talks included not only the final results but also the importance of careful sample preparation, including extraction and filtering methods. Most talks discussed microplastics in water analysis. However, Emily Walsh from California State University Channel Islands, gave an insightful and scary talk on how they sampled, monitored, and compared microplastics in indoor and outdoor air masses. In fact, it is these microplastics, in air, that may offer the greatest threat to human health.

The second session SAS organized on microplastics focused on the importance of evolved software and databases. This included an impressive talk by Beauty Chabuka from John Kalivas' group at the Idaho State University on MVA/machine learning software methods to be able to handle identification of weathered plastics. Maria El Rakwe from the Ifremer, National Institute for Ocean Science, France, also spoke eloquently on the

combination of spectroscopy and MVA to achieve a more accurate identification and assignment. Win Cowger, from UC Riverside, gave a very progressive talk on their open source software and microplastics database (Open Specy), he encouraged everyone to contribute spectra, discussed the importance of doing this and how they will try to maintain the quality of the database. Bridget O'Donnell, of HORIBA, extended this theme as she presented on behalf of a collaborative effort with Chelsea Rochman's group from the University of Toronto. This talk explored the development of specialized spectral libraries of plastic particles (Toronto library and database project: SLoPP and SLoPP-e) to take advantage of multiple sample attributes. Not only single spectra, but additional meta-data on the sample, including color, morphology, roughness, etc. Adding additional spectral methods for data fusion along with the meta-data allows for a much more rugged assignment of not only identification but also possible provenance. Finally, Shelly Moore described an important study plan of a round robin sample set organized by the SCCWRP. Four different sample types, clean water, dirty water, sediment, and fish tissue, with known amounts and types of microplastics will be sent out to more than 30 different labs to monitor the consistency of analysis, count and identification of the plastics. These samples will be distributed in January, not all labs will do all sample types. The results will be collated and released in June/July of 2020, at a microplastics workshop at SCCWRP. This workshop will focus on ecotoxicology of micro and nanoplastics. These study plan results will guide method development and improvement moving forward, and also help guide funding towards regulation and legislation, especially in California. You may also contact the session organizers at the email addresses below.

Contributed by Shelly Moore shellym@sccwrp.org and Andrew Whitley andrew.whitley@horiba.com

New SAS Member Profiles

	Why did you join SAS and what do you hope to gain from SAS?	What is your area of research?	What are your hobbies?
	Arielle Golod, Applied Chemist and Environmental Steward, Perma Pure LLC		
	I joined SAS to make connections with the community of spectroscopists in my area. I hope to learn from the experiences of others and contribute to SAS.	My area of specialty and interest is mid-FT-IR and have experience working with analytics for the characterization of catalysts and synthetic polymers.	My hobbies are going to concerts, painting, and spending time with my friends.
	Elizabeth Legge, graduate student, University of Surrey and National Physical Laboratory		
	I joined SAS during the FACCS SciX conference in October, which I was able to attend and present at thanks to the IRDG Chalmers and Dent Award. The membership allowed me to attend social events and meet other members who work in a similar area to me. I am also looking for future career opportunities after my PhD.	I am in my final year of my PhD and my main focus is on graphene and related 2D materials, using confocal Raman spectroscopy and tip-enhanced Raman Spectroscopy. I am also interested in AFM and SEM and my undergraduate degree was in electronic engineering.	I enjoy playing (field) hockey and going running.
	Dr. Yoshihiro Deguchi, Professor at Industrial and Social Sciences, Tokushima University		
	Applied Spectroscopy is one of the most important journals the field of spectroscopy. Our group often submits and reviews the papers related to spectroscopy. I have a lot of merits as a member of SAS to submit the papers in this field and to get newest development of spectroscopy technique.	I am engaged in developing laser diagnostics such as tunable diode laser absorption spectroscopy, laser-induced breakdown spectroscopy, time of flight mass spectrometry, laser-induced fluorescence and laser Raman spectroscopy to apply these techniques to industrial fields, such as thermal power plants, engines, steel and iron making processes, semiconductor processes etc.	Traveling to different countries.



Vibha Mishra, Application Specialist, Teledyne Princeton Instruments

The main reason along with many others was to be up to date with applied spectroscopy in general and know people and their work in the community. Another good reason is to market your company technologies, one place to go for relevant conferences etc.

I am a chemical detection / analysis problem solver. My journey has led me to be able to couple technologies to solve variety of chemical detection challenges in real life scenario. Instrumental development has been my thing for trace and stand-off CBRNE detection and illicit drugs

I enjoy music with meaningful lyrics, in a sense poetic and exploring variety of culture around the globe. I also like to be at home with kids and chatting with them to learn their perspective on variety of aspects.

SAS Tour Speaker Series at University at Buffalo

Over Tuesday and Wednesday (4–5 November 2019) during the first full week in November, the State University of New York at Buffalo Chapter of the Society for Applied Spectroscopy had the great pleasure of hosting Dr. Rick Russo as part of the 2019 SAS Tour Speaker Series. Tuesday started off with a lunch for students and transitioned into a full day of faculty meetings. The day finished with a Buffalo tradition of wings and beer! Attendees of the seminar on Wednesday, learned about Dr. Russo's first experiences with a laser, including the need to crawl *inside* early lasers in order to perform routine maintenance, the start and growth of Applied Spectra, Inc., a company founded by Dr. Russo, and what it is like to work and perform research at a National Laboratory. Linking all parts of Dr. Russo's scientific career is the use of laser ablation as a sampling technique for different methods of chemical analysis, including laser induced breakdown spectroscopy (LIBS) and laser ablation molecular isotopic spectrometry (LAMIS) for which he is most well known.



From left to right: Jerry, Aiden, Professor Ray, Kelsey, Dr. Russo, Professor Bright, Chris, Professor Velarde, Medini, Ty, and Tom

Contributed by Christopher Brais
cjbrais@buffalo.edu

**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.**

© 2020 Society for Applied Spectroscopy
Telephone: 301-694-8122
FAX: 301-694-6860
Twitter: [@SocAppSpec](https://twitter.com/SocAppSpec)

