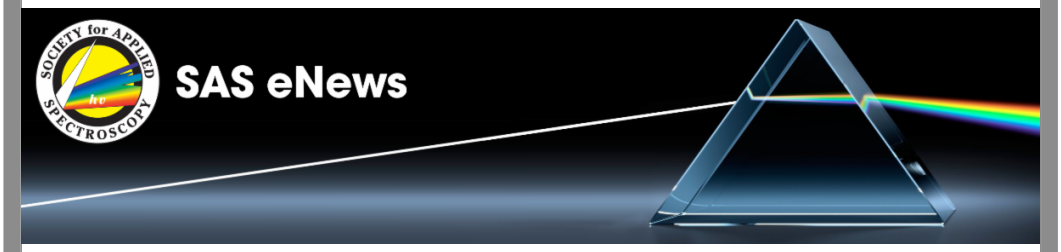
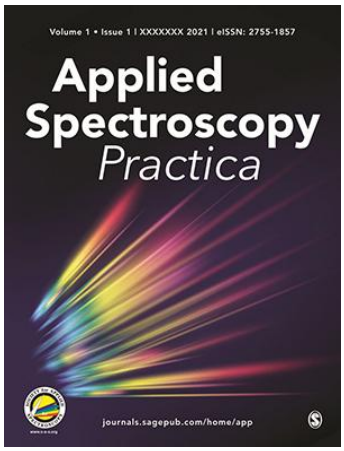


Applied Spectroscopy Practica Call for Papers



The Society for Applied Spectroscopy (SAS), in association with publishing partner SAGE Publications, has launched a new peer-reviewed, open access (OA) journal, *Applied Spectroscopy Practica*. A description of the journal, its Aims and Scope, and Submission Guidelines, can be found on the SAGE website at https://us.sagepub.com/en-us/nam/applied-spectroscopy-practica/journal203780

The Journal is now requesting manuscript submissions and topics including modifications and improvement of spectroscopic instrumentation and methodologies, refinements in data processing, automation and process measurements, applications of existing methodologies to novel systems, and reviews related to applications of existing and new analytical spectroscopic approaches.

As an OA journal, *Applied Spectroscopy Practica's* potential readership is potentially around 100,000, and OA papers tend to be highly cited.

For 2023, we are waiving the customary article processing charge for papers in this new OA journal.

Applied Spectroscopy remains SAS's venerable flagship Journal, with a current impact factor of 3.588. (https://journals.sagepub.com/toc/ASP/current). Note that *Applied Spectroscopy's* Focal Point Reviews continue to remain free-to-view and are available at https://journals.sagepub.com/topic/collections-asp/asp-1-focalpoint/asp

Richard Crocombe,
Applied Spectroscopy Practica, Editor-in-Chief

New York/New Jersey SAS Monthly Seminar Series: 23 February 2023

Nanoscale IR Spectroscopy: From Recent Technical Advances to Nanoscale Mapping and Identification of Metal Soaps in Oil Paints, by Dr. Andrea Centrone

ABSTRACT: Oil paints are mixtures of pigments, drying oils, and additives. Painted works of art do not last indefinitely because humidity- and temperature-driven chemical reactions between oils and pigments form "metal-soaps" that over a few years or centuries can cause paint degradation. Though these compounds have long been found in oil paintings, for example by μ-FT-IR, researchers do not fully understand how they form and then how they proceed to damage artworks.

In this talk, I will discuss the working principles and applications of two novel photothermal IR spectroscopy methods (AFM-IR1-3 and O-PTIR3) that use either an atomic force microscope (AFM) tip or a visible laser beam, respectively, to bypass the IR diffraction-limit and pushing benefits of IR spectral analysis to the nanoscale (≈10 nm for AFM-IR, ≈500 nm for O-PTIR).

As examples, I will determine the nanoscale distribution of metal-soaps in (i) a zinc-containing oil paint of known average composition that naturally aged for 23 years, and (ii) in the top layer of a French nineteenth-century painting (Gypsy Woman with Mandolin by Corot; Figure 1, ca. 1870) that contain lead-white and cobalt-green pigments along with metal-soaps. Our measurements offer an unprecedented nanoscale composition-sensitive observation window on oil paints, which will be critical to better understand chemical reactions in paints and to identify species with low average concentrations which are undetectable using FT-IR.

Finally, I will discuss recent AFM-IR advances from my lab that improve the sensitivity, time-resolution, and throughput many folds4 and measurement, of chemical composition, optical bandgap, and thermal conductivity at the nanoscale, concurrently.

1. J.J. Schwartz, D.S. Jakob, A. Centrone. "A Guide to Nanoscale IR Spectroscopy: Resonance Enhanced Transduction in Contact and Tapping Mode AFM-IR". Chem. Soc. Rev. 2022. 51(13): 5248–5267. 10.1039/D2CS00095D

2. D. Kurouski, A. Dazzi, R. Zenobi, A. Centrone. "Infrared and Raman Chemical Imaging and Spectroscopy at the Nanoscale". Chem. Soc. Rev. 2020. 49(11): 3315–3347. 10.1039/C8CS00916C

3. X. Ma, G. Pavlidis, E. Dillon, V. Beltran, J.J. Schwartz, M. Thoury, F. Borondics, C. Sandt, K. Kjoller, B.H. Berrie, A. Centrone. "Micro to Nano: Multiscale IR Analyses Reveal Zinc Soap Heterogeneity in a 19th-Century Painting by Corot". Anal. Chem. 2022. 94(7): 3103–3110. 10.1021/acs.analchem.1c04182

4. M. Wang, G. Ramer, D.J. Perez-Morelo, G. Pavlidis, J.J. Schwartz, L. Yu, R. Illic, V.A. Aksyuk, A. Centrone. " High Throughput Nanoimaging of Thermal Conductivity and Interfacial Thermal Conductance". Nano Lett. 2022. 22(11): 4325–4332. 10.1021/acs.nanolett.2c00337

Author Biography: Dr. Andrea Centrone is a Project Leader in the Nanoscale Spectroscopy Group at NIST. He received a Laurea degree and a PhD in Materials Engineering from the Polytechnic University of Milan, Italy, and he carried out postdoctoral work at the Massachusetts Institute of Technology (MIT). Dr. Centrone joined NIST in 2010, where he is developing new measurements methods that combine wavelength tunable lasers with scanning probe techniques to provide correlated optical, chemical, and thermal property maps of materials with nanoscale resolution to answer outstanding questions in nanotechnology and material science. Andrea is the recipient of NIST Bronze Medal Award (2019) and of the 2022 Scientific Achievement Award of the Royal Microscopical Society. Dr. Centrone has authored or coauthored over 55 peer reviewed publications and has given more than 45 invited presentations.

Zoom Link: https://us02web.zoom.us/j/87323853137?pwd=NDI3dEFVeWcwVktxR29uSndMbFNOUT09

Meeting ID: 873 2385 3137

Passcode: 577632

Dial by your location: +1 305 224 1968 US

Meeting ID: 873 2385 3137

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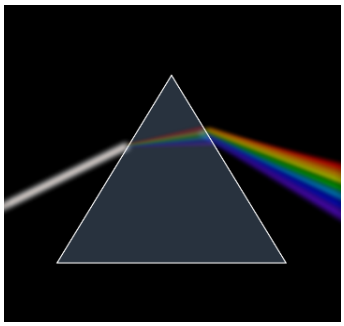
2023 Coblentz–SAS Three-Minute Thesis Talks



Graduate Student Slam Presentations Spectroscopy Elevator Talks

Dear Fellow Spectroscopists,

We are pleased to announce, based on last year's two very successful Graduate Student Slam Presentations (also known as Elevator Talks or Three-Minute Thesis Presentation), that we are doing a repeat performance for 2023! Last year this culminated in a sponsored session at SciX 2022 for the winning presentations, and it is our intention that this will be repeated in 2023. This is not only to encourage Graduate Students to participate but also to showcase talent in spectroscopy to potential future post-doctoral advisors and future employers who will be attending this exciting event.

This opportunity was initiated by the New England and New York/New Jersey Sections of SAS and the Coblentz Society and is supported by other Societies. The 2023 event is *virtual*, and *open to all to attend*.

The format will encompass 20 selected presentations designed to be "elevator talks", which will last only three (3) minutes each. *Yes, that is correct—three minutes*!

The goal is to engage up to 20 graduate students in a one-hour time slot to cover a high-level summary of their research. This is a great opportunity to network and get their research out into the open, be comfortable giving an overview of their work, especially for beginning graduate students, and is useful if preparing for a poster or oral presentation at any upcoming conference that they plan to attend in 2023. The selection committee will select up to 20 presentations and provide to all who dial-in to the virtual session on **16 March 2023 at 12:00 P.M. EST (9:00 A.M. PST**) and will provide a list of the speaker's name, title of their presentation, academic affiliation, advisor, and their anticipated graduation timeframe. Once the speaker is introduced, they will have three minutes to summarize their work. A 30-minute open question session will follow after the completion of all presentations.

Please submit your abstract to: https://sites.google.com/a/nesas.org/www/graduate-student-slam-presentations-spectroscopy-elevator-talks-2023

A committee will select the speakers and will work to ensure that as many Universities as possible will be represented. Depending on turnout and success of this event, we may offer it again in the next few months to accommodate more presenters. In addition, an award will be given to the best overall presentation.

SAS Early Career Interest Group (ECIG) News

Early Career Happenings at Pittcon 2023

We are pleased to announce that we will be running a workshop at Pittcon entitled, "Leveraging Your Online Presence to Foster a Successful Career in Spectroscopy". Many great scientists struggle with promoting the contributions they make to their field via social media. This workshop will foster discussions of social media dos and don'ts using personal experience and anecdotes. We encourage people of all ages to attend and to share their own stories with the shared goal of career advancement. This workshop is scheduled for Tuesday, 21 March 2023 at 2:00 P.M. (EST) in room 202B PC-1973.

Student and Early Career SAS Members, join us on Monday, 20 March at 7:00 P.M. for a night of fun and networking with your fellow SAS members just minutes from the convention center. This will be a joint Early Career and Student event rounding out the third day of Pittcon by giving you the chance to explore Philadelphia with your peers! Stay tuned to the March SAS Newsletter for more information and do not forget to stop by the SAS Booth at Pittcon as well for details.

Spectroscopy in Pharmaceutical Analysis Virtual Seminar

SAS and Coblentz collaborated on our sixth two-day virtual seminar with *Spectroscopy Magazine* on 30 November and 1 December. This seminar explored the emerging capabilities of spectroscopy in the pharmaceutical industry. The organizing committee leveraged their SAS & Coblentz connections to invite eight speakers to give 30-minute talks highlighting new developments in PAT, the USP, and machine learning amongst others.

These seminars help reach a broader audience about spectroscopy, fulfilling the mission of the Society.

The symposium had 482 registrants from 18 countries. SAS and Coblentz will split $2950 in proceeds and get to add the registrants to their mailing lists as prospects and marketing contacts.

Address from 2023 SAS President, Peter J. Larkin

Heraclitus, the Greek philosopher, famously observed that "change is the only constant in life". This simple truth is particularly relevant in the context of today's incredible pace of both technological and social changes. This dynamic plays out in our personal and professional lives as well as for SAS. In an effort to understand and react to the effects of changes we face, analysts have identified megatrends including advanced connectivity and next generation software development. Our instrumentation has become far more cost effective and powerful, expanding the reach of optical spectroscopy applications to a much broader user base. Our emerging social and digital tools provide tantalizing glimpses of how SAS can help our members more effectively communicate, learn from and network with each other.

Our SAS members are a vital resource of spectroscopy knowledge and expertise. We are technological leaders in developing and applying spectroscopy measurements to important scientific problems. Some of the most visible products of SAS include our journals, *Applied Spectroscopy* and *Applied Spectroscopy Practica* as well as our national and local meetings. These provide invaluable opportunities for networking and professional career growth. As leaders in SAS, our challenge is to attune ourselves to opportunities to create value for our existing members. We must also become a valuable resource to the ever-growing population of the more casual application-based spectroscopy users. However, our dedicated members and volunteers are essential to the vibrant state of SAS. I personally offer a heartfelt thanks to all of your hard work and dedication.

Our previous leaderships have been change agents for SAS, enacting consequential and transformational initiatives to meet the evolving needs of our members. We all owe a debt of gratitude to Richard Crocombe, Karl Booksh, and Andrew Whitely for their contributions as SAS Presidents. Needless to say, they leave large shoes for me to fill. The foundational building blocks for the future growth of SAS put in place by my predecessors include:

- Existing and new journals (*Applied Spectroscopy* and *Applied Spectroscopy Practica*)
- Active and vital student and early career membership groups
- Renewed focus on SAS branded professional education and training
- Marketing efforts to modernize content and communication
- Transitioning SAS business office to a management company (Capitol Hill Management Services, or CHMS)

Where do we go from here?

We have several key milestones that will occur in 2023:

Publication of *Applied Spectroscopy Practica*. *Practica* will be published quarterly by SAGE as an Open Access journal. The first issue is scheduled for publication at the end of the first quarter in 2023. Much of the essential preparation work is being done by founding editor-in-chief Dr. Richard Crocombe and managing editor Kristin MacDonald, along with our publishing partner, SAGE.

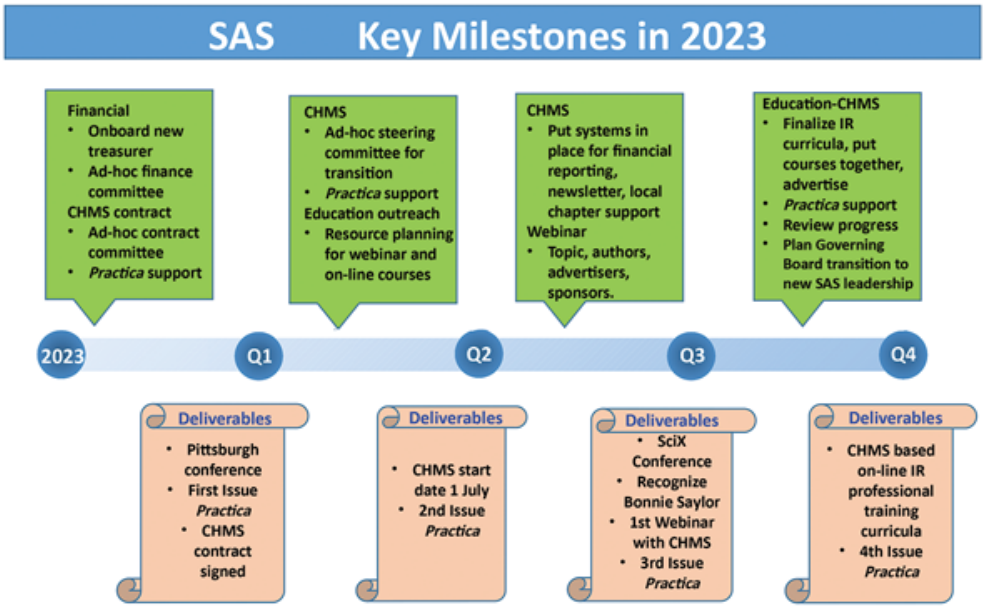
Transition of the SAS business office to a management company (CHMS). The contract terms are being negotiated with CHMS at this time. The tentative timeline to start is the beginning of the third quarter (July) for the transition of SAS functions to CHMS. The management company will open the toolbox of services and skills essential for a modern professional scientific society. Initial areas of focus for the CHMS/SAS partnership in 2023 will include:

- Financial management (quarterly updates to finance committee and treasurer)
- Webinar management (vertically integrated to *Applied Spectroscopy* special issue topics)
- Professional training and education (initially a core IR course catalog with certification)
- Local meeting support (hosting hybrid meetings and supporting website updates-design)
- Support for SAS committees (ex. website, newsletter, advertising)

What will we prioritize to maximize the impact SAS has for our members?

This year will usher in significant changes in SAS that we will all benefit from. The figure below summarizes some of our milestones and deliverables for 2023 that reflect our priorities and set tentative timelines. Initially we will prioritize financial oversight, supporting *Applied Spectroscopy Practica*, finalizing terms and signing a contract with CHMS, and finally manage and transition our office functions to CHMS. I also plan on working with CHMS to put in place a webinar based upon an Applied Spectroscopy special issue and to begin transitioning our professional education to an on-line platform. Several ad-hoc committees will be formed to help with these efforts including a finance committee to work with our new treasurer Brandye Smith-Goettler, and a steering committee to project-manage the transition of our society functions to CHMS.

SAS is a premier scientific society for academic, industrial, and government spectroscopists. It provides a welcoming and nurturing environment to grow our skills and networks to enable each of us to grow and thrive in our chosen profession. This is an exciting time, with many new opportunities due to our initiatives including our new journal, *Applied Spectroscopy Practica* and onboarding CHMS to help manage the society. I would like to once again thank all of you who have contributed your valuable time and skills to help make SAS what it is today. I would also like to extend an open invitation to our SAS members who would like to be more involved to please contact us! We will work with you to find opportunities for you to grow new skills and friends.



Selected milestones, deliverables, and the timelines for SAS in 2023.

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 luisaprofeta@gmail.com.
