

Joseph jascoinc.com/ftir-microscopes

Symposium in Honor of Professor Hatsuo Ishida

Mark your calendars for a remarkable event! Case Western Reserve University (CWRU Cleveland Ohio USA) is hosting an international technical symposium to honor the outstanding scientific contributions of Professor Hatsuo Ishida on **19 April**.

Dr. Hatsuo Ishida, Distinguished Professor of Macromolecular Science and Engineering at CWRU has made an indelible mark on the world of polymer science. The international symposium with invited speakers is a recognition of his expertise, dedication, and invaluable contributions to the field.

Attend the Symposium and gain insights into cutting-edge advancements in polymer science. Whether you're a researcher, student, or enthusiast, this event promises to inform and inspire! Register **HERE** and secure your spot.

Richard Crocombe



Coblentz Society Panel Mentoring Event

The Coblentz Society is hosting a virtual mentoring panel discussion of what it's like to work in different industrial, academic, and government areas. The event will take place via Zoom on **Thursday, 25 April at 12:00 PM (EST).**

Panel members will offer views on what it is like to work in their field and answer questions from the audience. The panelists' bios will be provided to participants prior to the event, so participants may review their backgrounds and formulate questions. Questions may be submitted prior to the event, during the registration process, or via live chat during the Zoom discussion. The event will begin with panel introductions and then proceed to the pre-submitted and live chat questions.

We have confirmed panelists from Proctor & Gamble, Dow Chemical, Merck, RedWave Technology, and Savannah River and Lawrence Livermore National Labs, as well as several consultants, and two university professors. Reviews of our live mentoring events are always very positive, but we reach a limited audience at conferences. Take advantage of this virtual event! Registration is open here.

If you have questions, please contact Jim Rydzak (jim.rydzak@specereconsult.com) or the Coblentz Society office (office@coblentz.org).

Jim Rydzak and Mary Carrabba, Coblentz Society



Call for Abstract to the Microscopy Society of Northeastern Ohio (MSNO) May Conference

The Cleveland Section of SAS jointly with the Microscopy Society of Northeast Ohio would like to invite you to submit an abstract for the 66thAnnual May Conference. The conference will take place on **22 May** at John Carroll University. **Please submit** the title and abstract (150-250 words) here before **19 April**.

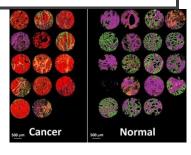
The topics of the conference include spectroscopy, microscopy, and analytical chemistry in the biological and physical sciences. Cash awards will be presented to students with the best poster and oral presentations and to an undergraduate student for their research.

Coleen McFarland

Creative Corner: Infrared Microspectroscopy for Cancer Diagnosis

Isn't it intriguing that in certain scenarios, the combination of light can actually result in darkness? This seemingly paradoxical phenomenon is indeed a reality in interferometry, where the superposition of electromagnetic waves may lead to destructive interference, effectively suppressing the light. This principle lies at the heart of infrared spectroscopy, a technique that directly probes molecular vibrations. With its remarkable chemical specificity, infrared spectroscopy emerges as a potent tool for screening and diagnosing various diseases, notably cancer, wherein tissue structural changes correspond to alterations in the tissue microenvironment's chemistry.

By directly examining molecular bonds, infrared spectroscopy enables the nondestructive extraction of biochemical information, facilitating pathology evaluation. It targets alterations in the spectroscopic signatures of key physiological and pathological markers, particularly lipids, proteins, nucleic acids, and carbohydrates found in tissues, cells, and bodily fluids. Notably, in clinical settings, it seamlessly integrates with routine procedures, without disruption. When coupled with microscopy, infrared spectroscopy becomes a formidable imaging tool, capable not only of pinpointing cancer indicators within tissues but also quantifying the abundance of detrimental biomaterials, i.e., cancer cells.



False color image of the classified prostate tissue cores: red = malignant epithelium, orange = cancer associated stroma, green = normal. Image from M. J. Pilling, et al., Analyst, 2017, 142, 1258–1268.

Undoubtedly, significant strides have been made in demonstrating the clinical potential of vibrational spectroscopy. Yet, ongoing efforts are focused on enhancing acquisition speed and ultimately translating this technology into widespread clinical practice.

Alejandro De La Cadena Perez Gallardo, newsletter committee member

Apply to Attend the 2024 GRC/GRS in Vibrational Spectroscopy

The Gordon Research Conference (GRC) and corresponding Gordon Research Seminar (GRS) in Vibrational Spectroscopy will be held from **4–9 August 2024** at Bryant University in Smithfield, Rhode Island. The GRS, a unique forum tailored to graduate students and post-doctoral researchers, is currently accepting abstracts for speakers. All accepted applicants can present a poster at the GRS. Ashley Mapile, SAS newsletter committee member, is co-chair of the GRS and is looking forward to learning about new, cutting-edge spectroscopic techniques from early-career researchers! The application for the GRS can be found here.

Ashley Mapile, SAS Newsletter Committee

Coblentz/SAS 3-Minute Student Slam Presentations (research project - elevator talks) May 23rd, 2024 Virtual meeting starts at 12pm

Zoom link will be posted on Coblentz and SAS websites



Graduate Student Slam Presentations Three-Minute Thesis (Elevator) Talks on 23 May 2024

We are pleased to announce the fourth Graduate Student Slam Presentation event will be held on **Thursday 23 May at 12:00 PM (EST)**. These are three (3) minute Elevator talks by our student members (and future members) on their thesis research.

The presentations are aimed to showcase talent in spectroscopy and science 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 Sections of SAS and the Coblentz Society and is supported by other Societies. This event is **virtual** and **open to everyone**.

Please submit abstracts here by 30 April 2024

Debbie Peru, NY/NJ SAS Secretary

Pittcon 2024 Review

Another Pittcon is in the books! This year, the conference took place 24–28 February in sunny San Diego, CA. Here are a few highlights submitted by members:

San Diego was a nice change of scene. Quite a few SAS members from the west coast attend, however, the Society's rather large east coast membership attendance was pretty low. We'll see how that changes in Boston next year. This year, the Society went with a 10x10 booth, which turned out to be pretty cramped. One of the largest benefits of the 10x20 booth is the ability for our members to have a place to sit and have impromptu meetings. This just wasn't possible with the small booth. However, all three of our SAS-sponsored sessions were well-received and attendance was really good.

The SAS symposium was organized by Richard Crocombe. The topics and speakers of the symposium were:

"Photonic Integrated Circuits: Industry Roadmap, Applications, and Use Cases for Spectroscopy", Pouya Dianat, OPTICA)

"Optical Spectrometers and Multispectral Sensors in Consumer Goods and Wearables", Richard Crocombe, Crocombe Spectroscopic Consulting

"Silicon Photonics Enabled Wearable Health Sensors", Ben Ver Steeg, Rockley Photonics

"Everybody Will Eventually Have Spectrometers in Their Homes", Bob Messerschmidt, COR Health

Bob Messerschmidt has been active in the spectroscopic community for a long time and is a former Coblentz Society President (2005-2007). He has been working in the field of spectroscopy for human health, especially in regard to non-invasive blood glucose measurements, for more than 30 years. He proposed that "everybody will have spectrometers in their homes". His talk attracted some attention in the media when he mentioned his work at Apple 'where his boss at the time was Steve Jobs'.



Attendees of the session, Atomic Spectrochemistry – Insights into the Past, Present, and Future.



Attendees of the session, Spectroscopy for Wearables and Human Health.



Bob Messerschmidt at the SAS symposium.

Additionally, Deborah (Debbie) Peru offered her course "Introduction to Quantitative Spectroscopy for Near Infrared and Raman Instrumentation" on Saturday 24 February. This hybrid short course includes classroom lessons, case study examples, and live software demonstrations using Near Infrared and Raman data sets. The course content is largely based on her industrial experience developing methods to support research and development, manufacturing, quality, and clinical testing.

Twenty-four participants attended the short course. The lessons covered topics in sampling and measurement errors, procedure design, wavelength selection strategies, spectral preprocessing, quantitative modeling techniques, and lifecycle procedure management. The software demos were included this year to emphasize key principles in spectral reproducibility, signal-to-noise ratio, preprocessing, and modeling. The participants were offered an exclusive live demonstration of Near Infrared and Raman instrumentation at the Metrohm USA exposition booth led by Adam Hopkins.

Feedback from the short course was overwhelmingly positive. The same short course will be offered at the 2024 SciX conference in Raleigh, NC in October.



Attendees of Deborah Peru's course on 'Introduction to Quantitative Spectroscopy for Near Infrared and Raman Instrumentation.

Gloria Story, 2024 SAS President, Richard Crocombe, Debbie Peru, NY/NJ SAS Secretary

Join Us at SciX 2024!

Come and be a part of SciX 2024, taking place from **20–25 October** at the Raleigh Convention Center in Raleigh, NC. We have planned special sessions and invited special guests to commemorate this significant event, making this year one you certainly don't want to miss!

Important dates for SciX below:

Abstract Submission Deadlines

13 May: Deadline for Oral Abstracts

13 May: Deadline for Oral or Poster Abstracts **12 August:** Deadline for Poster Abstracts

Registration Deadlines:

22 September: Early-bird Registration Deadline

Hotel Booking Deadline:

30 September: Last Day to Book Hotel

Don't miss out on the opportunity to be a part of the cutting-edge discussions and discoveries at SciX 2024! Mark your calendars and secure your spot today!

For more information, visit the SciX website and sign up for updates here

Tina Gong, SciX marketing chair

Current SAS Contact Information

Our phone number is: 518-313-1160

Our fax number is: 518-463-8656

Our general office email is: sasadmin@s-a-s.org

Our mailing address is:

230 Washington Avenue Extension

Suite 101

Albany, NY 12203

Our online services are at: www.s-a-s.org

Gloria Story, 2024 SAS President

FACEBOOK LINKED IN Link

Society for Applied Spectroscopy | 230 Washington Ave Extension, Suite 101, Albany, NY 12203

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