SAS SPECTRUM eNEWS

Notes from the Editor

In this month's newsletter, we cover several topics ranging from the introduction of new SAS members Ariunbold Gombojav and Rui Cheng, an award received by current member Peter de Boves Harrington, and we also commemorate the passing of spectroscopy giant John F. (Jack) Jackovitz. I did not personally know Jack, but through reading the remembrance article written by Sanford Asher and Chuck Gardner, I got a glimpse into the lifetime activities and achievements of Jack. After reading through Sandy and Chuck's remembrance article (trust me, you have to read through it till the end!), I have to say Jack was truly a one of a kind of spectroscopist in his career influencing, mentoring and connecting scientists from all walks of life at different stages of their career. Jack is certainly a great role model for us that would like to see a continued strong growth of applied spectroscopy as an important branch with our greater scientific community.

SAS is always looking for more ways to help spectroscopists at all stages of their career, whether by providing conference venues where in-person networking can happen, or through virtual means such as social media and SAS's newly designed website: https://www.s-a-s.org/, and of course our Newsletter to which you can submit questions and comments and solicit feedbacks. We hope that our existing members can take full advantages of these resources, and also think about how you can help the society. One thing everyone can easily do is to reach out to new members by connecting up with them through email or any other means you prefer, if you think you have valuable information to share with them. This will help our new members to become more involved and grow the cohesion of SAS. Just think about what Jack would have done when a new member joined his group.

Contributed by Shawn (Xiaoyun) Chen
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In Memoriam - John F. (Jack) Jackovitz - 1939-2019

John F. Jackovitz, better known as Jack to those who knew him, passed away surrounded by family members on Wednesday, January 30, 2019. Jack was born on November 9, 1939 in Adamsburg, Pennsylvania. He attended St. Vincent College graduating in 1961 with his B.S. in Chemistry. He then received his Ph.D. in physical chemistry at Notre Dame University, under the guidance of Professors L.F. Pierce and J.L. Walter, in 1965. At Notre Dame, Jack began his journey as a spectroscopist. He then moved on to a Postdoctoral Fellow and Visiting Scholar position at Northwestern University from 1966 through 1967, working with D.F. Shriver.

In 1967, Jack made his way back to Pittsburgh and accepted a scientist position at the Westinghouse Corporate Research and Development Center in 1967. While at Westinghouse, Jack continued his journey as a spectroscopist, making significant contributions to nuclear reactor and battery design and analysis. He was an inventor on 36 patents during his time at Westinghouse

Jack began a long-time collaboration with various faculty members in the Department of Chemistry at the University of Pittsburgh in the early 1970s. Jack focused on broadening interactions between Pitt faculty, postdocs and graduate students. He spent significant time getting undergraduates involved in research, both at Westinghouse and at Pitt.

After retiring from Westinghouse in 2001, he continued to mentor undergraduate students, graduate students, and post-docs by joining Sanford (Sandy) Asher's research group as a Volunteer Research Associate. Jack was always so giving of his time and knowledge to the Asher Research Group and he became a very valued and special senior member of the group.

Jack also focused on broadening interactions between Pitt faculty, postdocs and graduate students. He spent significant time getting undergraduates involved in research, both at Westinghouse and at Pitt.

Between 2005 and 2008, Jack consulted for HydroGen LLC, a company that designed and manufactured fuel-cell-modules and energy systems for distributed power generation. He was involved in the project to develop commercially viable electrodes for use in full-scale phosphoric acid fuel cell (PAFC) modules. PAFC technology was initially developed back in the 1970s by Westinghouse, but remained dormant since the oil crisis. John was very passionate about the project, the history of the technology and its technical challenges. He played an integral role in bringing modern nanotechnology solutions to the sustainable energy challenges of the future. He spearheaded this industrially supported project at the University of Pittsburgh, in the lab of Professor Alexander Star, to use carbon nanotubes as a highly efficient catalytic support in PAFC electrodes. The project was selected for funding by Pennsylvania NanoMaterials Commercialization Center.

Perhaps what Jack will be most remembered for is his untiring dedication to the spectroscopy community. Almost immediately upon his arrival in Pittsburgh, Jack became extremely active in the Spectroscopy Society of Pittsburgh (SSP), which is the Pittsburgh Local Section for the Society for Applied Spectroscopy (SAS). He served on countless SSP committees and worked his way through the officer ranks leading to his election as Chair for the 1984-1985 program year. This service to the spectroscopy community extended to the national SAS, where he served as National President in 1981. He then went on to serve as a SAS Governing Board Section Delegate from 1999-2016.

His service to the analytical chemistry community was demonstrated by his service to the sister society to the SSP, the Society for Analytical Chemists of Pittsburgh (SACP). Here, too, he served on countless committees and guided the leadership of many of its officers.

His devotion to the SSP and SACP extended to his participation for many years on the organizing Committee of the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Pittcon). Here again, Jack was always willing to help out and served as a valuable Program Committee resource up to the time of his death. His dedication and hard work on behalf of the Conference led to his selection as the President of the 1977 Pittsburgh Conference.

All who knew Jack knew that he was always ready to help. Many a Pittcon Program Chair sought out Jack's counsel and extensive list of contacts to find the perfect speaker for a key symposium or to select the next blockbuster session at Pittcon.

The way he interacted with fellow scientists (both junior and senior) was truly unique; John was always welcoming people and searching for collaborative adventures to involve even the most junior scientific members. He looked for student matches to advance science in broad areas of analytical chemistry and applied spectroscopy. He also spent time getting people involved in the scientific societies by inviting people to seminars and scientific dinners. He often organized new people attending an event. He catalyzed the dinner starting interactions that would eventually lead to scientific and social adventures. John spent many years working in my research group helping undergraduate students, graduate students, postdocs and faculty mature into senior scientists that mentored the next generation of scientists. He sucked in many neophytes who started attending these meetings and formed both personnel and professional relations.

During his career, Jack was the recipient of several honors and awards. In 1994, Jack was the recipient of the Westinghouse Signature of Excellence Award. In 1995, he was selected as a *Star to Watch* by Industry Week Magazine. In 1981, Westinghouse presented him with the Special Patent Award. In 1989, his alma mater, St. Vincent College, bestowed upon him the title of Distinguished Alumnus. Along the way he was selected as a member of Sigma Xi, the Scientific Research Society, and the New York Academy of Sciences. In 2001, he was recognized by SAS with the Distinguished Service Award, and in 2014, Jack was made a SAS Fellow for his outstanding contributions to the field of spectroscopy.

Jack was widely recognized as one of a kind. He was an avid animal lover. His numerous interests included fixing anything he could think of, boating and of course, Notre Dame and Pittsburgh Steelers football.

Sandy Asher, Distinguished Professor of Chemistry at the University of Pittsburgh talks about how he first met John soon after arriving at Pitt in the fall of 1980, as a new assistant professor. John, who was a scientist at Westinghouse Research, often visited the Pitt chemistry department. He interacted with the students and faculty as a scientific colleague, as well as an active scientist leading scientific professional societies. "I very fondly remember the many trips John and Maryanne, his wonderful wife, and their kind dog would organize on their river boat traveling down the Allegheny River. These trips were always a great pleasure, where everyone was continuously diffusing around the three levels of the boat."

"The sun was always attentive and warm, reminding us of blackbody irradiation and campfires. In contrast, the sunlight enjoyed exploring skin photochemistry, turning our surfaces bright red. We would discuss the contrasts between blackbody heating and skin photochemistry. It was always surprising that most of the senior scientists were always slow learners about skin photochemistry. This was especially surprising because the senior scientists always started every boat trip quite pale, very far from that expected from a text-book blackbody absorber."

Jack is survived by his wife of 54 years, Maryanne, his brother Robert, his three daughters and his three grandchildren.

Contributed by Chuck Gardner, cgardner@chemimage.com
and Sanford A. Asher, asher@pitt.edu

Social Media for SAS

Are you organizing a SAS event? Are you an SAS member who has taken part in an outreach activity? Do you have any news that you would like to share with SAS members and the wider analytical community? In order to support, as well as celebrate the work and achievements of our members, we would like to share this info on our social media accounts. Therefore, if there is something you would like us to promote, please email the information to Fay Nicolson (faynicolson1@gmail.com) who will share it on our Twitter and Facebook accounts.

Contributed by Fay Nicolson
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Announcing New SAS Members

Rui Cheng (chengruichina@outlook.com): I am currently a student at University of Bremen. It's my honor to be a new member of SAS. I joined SAS because I'm a researcher in the field of spectroscopy and my research is focused on ATR. In addition, I'm interested in the works from other outstanding workers in this area. That's the reason why I want to join SAS. I want to share my work and get the motivation from experts in SAS.

Ariunbold Gombojav (G.O. Ariunbold g.o.ariunbold@gmail.com): I am an assistant professor at the Mississippi State University in my fourth year of my tenure track. I have built my own lab for ultrafast coherent Raman spectroscopy using a high average power fiber amplified femtosecond laser system. The main long-term research is to tackle problems of deep-tissue imaging associated with coherence phenomena, which is, in my opinion, one of the big challenges both in coherent Raman imaging and deep tissue imaging communities. I am looking forward to interacting with experts in this context, hoping for multi-university collaboration, and/or would like to help to organize special topic sessions in the SAS organized meetings on this very topic.

2019 EAS Award for Outstanding Achievements in Chemometrics

Professor Peter de Boves Harrington graduated from Randolph-Macon College in 1980 with a Baccalaureate of Science in Chemistry. After which, he worked as flavor chemist for Nabisco from 1980-1982. He has always maintained his interest in the analysis of foods and beverages. At Nabisco he had two mentors, Bill Softly, who directed Pete towards chemometrics, and Lucy Gursky, who encouraged Pete to pursue a Ph.D., which he did when the research center moved from Wilton, Connecticut to Fairlawn, New Jersey. In 1988, Pete graduated from the University of North Carolina-Chapel Hill. His Ph.D. dissertation is entitled "Applications of Pattern Recognition and Artificial Intelligence to Some Problems in Analytical Chemistry", under the guidance of Tom Isenhour. Tom was also Bruce Kowalski's Ph.D. mentor, making Pete and Bruce academic brothers.

From 1987-1989, Pete created the DOS-based software platforms Resolve and Presager for identifying bacteria from their pyrolysis mass spectra while working for Kent Voorhees at the Colorado School of Mines. Pete joined the faculty of Ohio University in 1989 as an Assistant Professor. In 1992, he founded the Center for Intelligent Chemical Instrumentation. He has over 200 publications and has made over 300 scientific presentations including many plenary and keynote speeches around the world. In 2016, Pete won the Ohio University College of Arts & Sciences Outstanding Faculty Research Award and the 2019 Eastern Analytical Symposium Award for Outstanding Achievement in Chemometrics (the reason that you are reading this biography. Pete is the Director of the Ohio University Center for Intelligent Chemical Instrumentation and is a Fellow of the American Academy of Forensic Sciences and the North American Academy of Sciences. Currently, Pete's research focuses on the development and coupling of artificial intelligence to chemotyping by spectrometric measurements of botanical medicines and foods.

New York SAS Section Announces the March 2019 Meeting

Date: March 27, 2019

Time: 5:30-8:00 PM

Cost: $15 (members), $5 (students);
RSVP for Dinner by March 26, 2019 to debperu@outlook.com
If you cannot attend: We will live stream the presentation. RSVP for the Webinar by March 26 to debperu@outlook.com and we will send you a link to the Webinar.

Speaker: John P. Jasper, Ph.D.
Chief Scientific Officer of Molecular Isotope Technologies LLC/Nature's Fingerprint Authentication (www.NaturesFingerprint.com). Niantic, Connecticut.

Location: Horiba Scientific (new location),
20 Knightsbridge Road, Piscataway, NJ 08854

Agenda: 5:15-5:30, early arrival

Sign in: 5:30-6:30: Dinner, networking, and dessert

Welcome and Presentation: 6:30-7:30

Q&A and Wrap Up: 7:30-8:00

Title: An Overview of Intellectual Property Protection of Biopharmaceutical Compounds via Natural-Abundance Stable Isotopes.

Abstract: The natural distribution of light stable isotopes in bio/pharmaceutical products and synthetic pathways permits the characterization of compound sources and differentiation of potentially infringing synthetic pathways. The presentation will include three cases of process authentication: one of false advertising and two of process patent infringement. The cases of product characterization demonstrate the dynamic range of the light stable isotopes in differentiating sources of bio/pharmaceutical materials. In addition, we will report on the status of our recent work in molecular isotopic engineering (MIE) (i.e., directed stable isotopic synthesis) for product identification and of product security, and also for intellectual property considerations.

About Dr. John P. Jasper
John P. Jasper is an analytical organic and stable-isotope chemist who has worked in marine paleochemistry and in the pharmaceutical sciences. He received his B.A. in geophysical sciences and biological sciences from The University of Chicago in 1981. He earned his Ph.D. from MIT and Woods Hole Oceanographic Institution in marine organic chemistry in 1988 where he assessed the quantitative relationship between paired specific biomarker compounds and contemporaneous carbon-isotopic of bulk organic matter for organic geochemical purposes. He was a Postdoctoral Fellow and Scientist at the Department of Chemistry at Indiana University at Bloomington from 1988-1994 where he employed the newly-developed gas chromatograph-isotope ratio mass spectrometer (GC-IRMS) to reconstruct paleochemical CO2 levels. In 2018, he was elected as a Fellow of The Explorers for work on the global greenhouse effect spanning the last 500 million years. He has spent the last twenty-five years in the pharmaceutical industry at Pfizer and Molecular Isotope Technologies LLC/Nature's Fingerprint, mainly working on product and process authentication.

Contributed by Howard Mark
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**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.**