SAS welcomes you to the 2019 SAS Awards Ceremony. We are pleased to be celebrating the achievement of many outstanding scientists this evening.

Special thanks to our Corporate Sponsors

If you are already a SAS member, we thank you for your membership. If you are not yet part of the SAS family you can join tonight immediately after this ceremony. Your membership will get you entry to our wine and cheese reception at 8:00 pm.

Program

Presiding – SAS President Robert Lascola

Welcome

Introductions and Thank You's

Presentation of SAS Scientific Achievement Awards

Presentation of SAS Service Awards

Closing Remarks

2019 SAS Officers

President – Robert Lascola

President-Elect Richard Crocombe

Past President – Mike Carrabba

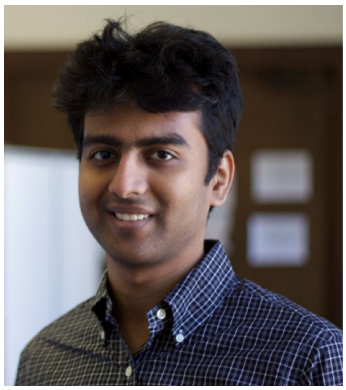
Treasurer – Diane Parry

Secretary – Ian Lewis

2019 SAS AWARDEES

Barbara Stull Graduate Student Award

Recognizing a graduate student(s) for outstanding research in spectroscopy and presented in honor and memory of our longtime SAS staff member and colleague Barbara L. Stull



Santosh Paidi

Recognizing outstanding research efforts in the application of Raman spectroscopy and multivariate data analysis to develop novel quantitative approaches for addressing unmet needs in the molecular study of cancers.

Santosh Paidi is a doctoral student in the Department of Mechanical Engineering at Johns Hopkins University. His current research efforts in Dr. Ishan Barman's lab are directed towards application of Raman spectroscopy and multivariate data analysis to develop novel quantitative approaches for addressing unmet needs in the molecular study of cancers. His recent work in this area has resulted in the creation of a new landscape for spectroscopic monitoring of stromal adaptations in the lungs of animals bearing breast tumor xenografts, prior to the arrival of metastatic cancer cells. He demonstrated this by exploiting the unique Raman markers stemming from the stromal modifications (induced by factors secreted from the primary tumor) to develop a decision algorithm for accurate differentiation of premetastatic lungs in mice bearing high metastatic tumor xenografts from those in mice with low metastatic tumor xenografts and normal controls. In addition to applications in cancer, a major focus of Santosh's graduate study is the development of a detection framework based on label-free plasmon-enhanced Raman spectroscopy for rapid identification of closely related human and murine antibody drugs during their manufacturing, with the ultimate goal of translation to fill-finish sites. Prior to commencing doctoral study at Johns Hopkins, Santosh graduated from Indian Institute of Technology Bombay in 2014 with a B.Tech. in Mechanical Engineering and a minor in Aerospace Engineering. Overall, his research efforts have resulted in 13 peer-reviewed publications in journals such as Cancer Research, Analytical Chemistry and Scientific Reports. He has been awarded the Tomas A. Hirschfeld Scholar Award, Tony B. Academic Travel Award, Whiting School Doctoral Fellowship, Molecular Medicine Tri-Conference Student Fellowship and Undergraduate Research Award by IIT Bombay in recognition of his work. In roles such as GRO Advocacy Chair and WSE Representative on the Homewood Graduate Board, Santosh strove for enriching graduate student experience at Johns Hopkins University. Outside Hopkins, he volunteers for outreach programs aimed at encouraging involvement and enthusiasm of school students in STEM fields. Santosh currently serves as an associate editor for the Journal of Emerging Investigators, which publishes original research conducted by middle and high school students.

Barbara Stull Graduate Student Award continued

Saumya Tiwari

Recognizing outstanding research on the development and application of spectroscopic imaging to determine patient outcome in colon cancer which adds independently to the current clinical information provided by stage and grade.

Saumya Tiwari earned her B.Tech in Biotechnology from the Indian Institute of Technology, Roorkee, India in 2013. She did her PhD in Bioengineering, with a focus on applied spectroscopic imaging and computational analysis under Professor Rohit Bhargava at University of Illinois at Urbana Champaign. Her thesis focused on development and application of spectroscopic imaging to determine patient outcome in colon cancer which adds independently to the current clinical information provided by stage and grade. In addition to this, she has also worked on integrating genomic information with spectroscopic data to improve and automate outcome in surgical resections and on developing applied computational models to analyze spectroscopic imaging data. In 2017, she was one of the four graduate students awarded by the Eastern Analytical Symposium for her exemplary research. She has also received the Nadine Barrie Smith Memorial Fellowship, the Beckman Graduate Fellowship, the Biomedical Engineering Society's Graduate Speaker Exchange award, and the award for Best poster presentation at the BMES-FDA Frontiers in Medical Devices Conference. With three first author publications, several secondary author publications as well as three upcoming first author papers under her belt, she continues to work on applying spectroscopic and spectroscopic data to improve patient health and disease outcomes.

Inuagural SAS Atomic Technical Section Student Award

Recognizing outstanding student research in the area of Atomic Spectoscopy

Carlos Abad

Dr. Carlos Abad is currently a postdoctoral associate at the Federal Institute for Material Federal Institute for Materials Research and Testing (BAM) in Germany. Dr. Abad earned his B.S. in Chemistry at the Universidad Central de Venezuela in Caracas, Venezuela, and its German equivalency at the Georg-August-Universität in Göttingen, Germany. He attended the Graduate School of Analytical Sciences Adlershof (SALSA) and received in spring 2019 his Ph.D. in analytical sciences with honors at the Humboldt-Universität zu Berlin. Dr. Abad was a visiting scientist at the Leibniz-Institute for Analytical Science (ISAS) in Berlin, Germany between 2015-2018 and the Lawrence Berkeley National Laboratory (LBNL) in 2018. During his Ph.D., under the supervision of Dr. Norbert Jakubowski and Prof. Dr. Ulrich Panne, he developed a great passion for spectrochemical analysis by using optical and mass spectrometry. His research interests focus on the development and application of optical spectrometry of transient

Atomic Technical Section Student Award cont.

diatomic molecules for trace analysis of non-metals and stable isotope analysis. Besides lab's work, Dr. Abad is an active science communicator and a member of the Society for Applied Spectroscopy since 2017.

Joseph E. Lesniewski

Joseph E. Lesniewski is a PhD student at Georgetown University, where he works under the guidance of Dr. Kaveh Jorabchi. Prior to his work at Georgetown, he was twice awarded a Summer Undergraduate Research Fellowship (SURF), which supported his research at the National Institute of Technology (NIST) headquarters in Gaithersburg, MD. While at the NIST Center for Neutron Research (NCNR) his work applied Bayesian statistics to automation of data analysis of neutron and x-ray diffraction data. At Georgetown University, Joseph's work has focused on addressing high-sensitivity elemental quantification of non-metals, such as chlorine and fluorine, for facile quantification of analytes without compound-specific standards. Such analyses are challenging using the current state-of-the-art elemental MS technique, ICP-MS, because of low ionization efficiency of Cl and F in the ICP and occurrence of isobaric polyatomic interferences. Joseph's work has addressed these problems through the development of a new elemental ionization approach where an ICP is used to convert analytes into element-specific neutrals followed by chemical ionization in the atmospheric-pressure afterglow. This method, termed plasma assisted reaction chemical ionization (PARCI), offers improved ionization efficiency and reduced isobaric interferences for F and Cl, while facilitating high-sensitivity elemental analysis using widely available molecular mass spectrometers. Joseph has demonstrated the application of this technique in quantification of infant formula fluoride content. He hopes to further improve sensitivity of non-metal elemental analyses through exploring new ionization chemistries, and to expand the applications of elemental quantification in environmental and pharmaceutical investigations.

Htoo Paing

Htoo Paing is a current 4th year graduate student in analytical chemistry under the mentorship of Dr. Kenneth Marcus at Clemson University. Htoo works to develop the Liquid Sampling Atmospheric Pressure Glow Discharge Plasma (LS-APGD) as a miniature ionization/excitation source for various applications from nuclear security to pharmaceutical analysis. His research hopes to deconvolute some of mechanisms and processes occurring in the LS-APGD as well as developing methods to improve the analytical performance of the LS-APGD. For his work with ambient desorption LS-APGD, Htoo has most recently been awarded the "Innovations in Nuclear Technology R&D Award" from the Department of Energy. After graduation, Htoo wishes to pursue a career in academia. Htoo spends his time away from the lab playing soccer, playing boardgames sometimes unironically about doing research, and fish keeping.

Atomic Technical Section Student Award cont.

Ingo Strenge

Ingo Strenge is currently a final year Ph.D. candidate in Chemistry at the University of Siegen, Germany under the guidance of Prof. Carsten Engelhard. Prior to his graduate studies, he earned a B.S. and a M.S. degree in Chemistry from the University of Muenster, Germany. Ingo's research focuses on improving methods and instrumentation for the detection and characterization of single nanoparticles (NPs) using inductively coupled plasma mass spectrometry (ICP-MS). He developed novel data acquisition and processing concepts to overcome current limitations of ICP-MS platforms such as insufficient time-resolution, finite measurement duration, low duty cycle, and other measurement artifacts known to occur in the realm of single-particle ICP-MS (spICP-MS). The benefits of this approach are significant and summarized in his key publication, which was also featured as one of the "Top 30 Most Accessed JAAS Articles in 2016". His advances in spICP-MS could be merged into concurrent studies within the group and resulted in the publication of three additional peer-reviewed papers. Eventually, it enabled the analysis of NPs by means of on-line fractionation/separation, providing an additional layer of information while allowing for a thorough characterization of NPs at environmentally relevant concentration levels. Ingo presented his work at national and international conferences in Europe and the US with several poster and oral talks. Currently he works at the National Institute of Standards and Technology (Gaithersburg, MD), where he continues his research but also helps to establish, evaluate, and improve microsecond time resolved spICP-MS within their laboratories.

Ellis R. Lippincott Award

This award is given to honor the memory of Ellis R. Lippincott. The award is sponsored jointly by the Society for Applied Spectroscopy, the Coblentz Society, and the Optical Society of America. The recipient of the award shall have made significant contributions to vibrational spectroscopy.

Ji-Xin Cheng

Recognizing outstanding contributions in inventing and developing a broad spectrum of vibrational spectroscopic imaging technologies with ground-breaking discoveries and clinical applications.

Ji-Xin Cheng attended University of Science and Technology of China (USTC) from 1989 to 1994. From 1994 to 1998, he carried out his PhD study on bond-selective chemistry at USTC. As a graduate student, he worked as a research assistant at Universite Paris-sud (France) on vibrational spectroscopy and the Hong Kong University of Science and Technology (HKUST) on quantum dynamics theory. After postdoctoral training on ultrafast spectroscopy at HKUST, he joined Sunney Xie's group at Harvard University as a postdoc, where he and others developed CARS microscopy that allows high-speed vibrational imaging of cells and tissues. Cheng joined Purdue University in 2003 as Assistant Professor in Weldon School of Biomedical Engineering and Department of Chemistry, promoted to Associate Professor in 2009

Ellis R. Lippincott Award cont.

and Full Professor in 2013. He joined Boston University as the Inaugural Moustakas Chair Professor in Photonics and Optoelectronics in summer 2017. Cheng received the Craver Award from Coblentz Society in 2015. Cheng and his team has been constantly at the most forefront of the rising field of chemical imaging in innovation, discovery, and clinical translation.Cheng is authored in over 230 peer-reviewed articles with an h-index of 72 (Google Scholar). His research has been supported by over 25 million ($) fund from federal agencies and private foundations including the Keck Foundation. In 2014 He co-founded Vibronix Inc which has the mission of saving lives through medical device innovations. Cheng is a Fellow of Optical Society of America and a Fellow ofAmerican Institute of Medicine and Biological Engineering.

Lester W. Strock Award

Established by the SAS New England section to recognize an author(s) of an outstanding paper or series of papers.

S. Michael Angel

Recognizing contributions to the field of analytical atomic spectrometry including the development of a new miniaturized spatial heterodyne spectrometer for standoff measurements of LIBS spectra and pioneering LIBS technique for underwater measurements, as well as outstanding publication history and citation numbers.

Mike Angel is a Professor of Chemistry at the University of South Carolina where he has held the Fred M. Weissman Palmetto Chair in Chemical Ecology since 2005 and named a Carolina Trustee Professor in 2013. He received his PhD from North Carolina State University in 1985 and carried out Postdoctoral work with Tomas Hirschfeld at Lawrence Livermore National Laboratory. Angel's research group works mainly in the areas of remote and in-situ laser spectroscopy with a focus on deep-ocean, planetary, and homeland security applications of Raman and LIBS. Recent work includes developing the spatial heterodyne Raman spectrometer (SHRS), and exploring miniature SHS spectrometers for deep UV Raman, remote Raman and LIBS, underwater LIBS, and for use on future planetary landers and SmallSats.

Angel is an elected *Fellow* of AAAS and a SAS *Fellow* and became a member of the Mars 2020 SuperCam science team in 2014. He has been a SAS Tour speaker, an A-Page Advisory Panel member for Analytical Chemistry and editorial advisory board member of Talanta and the International Journal of Spectroscopy, and a member of the scientific committee of NASLIBS and the International LIBS conference. Other honors include the 2015 Southern Chemist Award, 2012 and 2018 Society of Applied Spectroscopy William F. Meggers Award, 2012 ACS South Carolina Chemist of the Year Award, 2011 Federation of Analytical Chemistry & Spectroscopy Societies (FACSS) Innovation Technology Award, and 2006 Lawrence Livermore National Laboratory Physics and Advanced Technologies Directorate Award.

Wiliam F. Meggers Award

Recognizing the author(s) of an outstanding paper(s) appearing in Applied Spectroscopy

Special thanks to Dr. Peter R. Griffiths for his generous sponsorship of the Meggers Award.

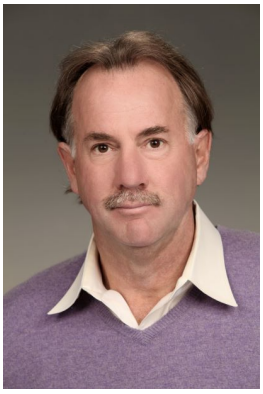
Presented to

Timothy J. Johnson, Tanya L. Myers, Russell G. Tonkyn, Tyler O. Danby, Matthew S. Taubman, Bruce E. Bernacki, Jerome C. Birnbaum, and Steven W. Sharpe

for

"Accurate Measurement of the Optical Constants n and k for a Series of 57 Inorganic and Organic Liquids for Optical Modeling and Detection"

in *Applied Spectroscopy* 2018, Volume 72



Timothy J. Johnson

Tim Johnson is a *cum laude* graduate of Carleton College and received his Ph.D. in Chemical Physics from Washington State University in 1987 where he studied crystallographic effects on the Raman and infrared spectra of solids. This was followed by a Max Planck Postdoc in Germany using diode laser spectroscopy for trace gas detection. Dr. Johnson also worked in atmospheric trace gas detection using lasers and FTIRs at York University in Toronto, as well as a tenure as applications scientist at Bruker Optics FTIR. Since coming to PNNL in 2000, Dr. Johnson has had experience with spectroscopic signatures, including key contributions to the PNNL gas-phase database. He has also been (co-)PI for other high fidelity spectroscopic signature efforts including for solids and liquids, leading efforts for better quantitation of using both infrared and Raman methods. He also developed novel methods using infrared and visible reflectance spectroscopies for identification of target chemicals via derivation of the n and k optical constants. He is the inventor on two U.S. patents, co-author of one book, as well as the author of over 75 refereed publications.

Tanya L. Myers

Dr. Tanya Myers is a Senior Research Scientist at Pacific Northwest National Laboratory. She has over 25 years of extensive experience with laser-based experiments in chemical physics, including high resolution infrared (IR) spectroscopy. She received a Ph.D. and M.S. in chemistry from the University of Chicago and a B.S. degree in chemistry with honors and distinction from the University of North Carolina at Chapel Hill. Before joining PNNL in 2000, she was a National Research Council Postdoctoral Fellow with NIST at JILA at the University of Colorado in Boulder where she investigated vibrationally-mediated photolysis of size- and quantum state-selected clusters via laser-induced fluorescence. She has extensive experience with cavity enhanced techniques (e.g., cavity ring-down, multi-pass absorption spectroscopy) for trace gas detection using diode and

Meggers Award cont.

quantum cascade lasers. Her current research includes quantitative measurement of optical constants for solid and liquid materials. She is the author of over 40 refereed publications.

Russell G. Tonkyn

Russell Tonkyn received a BA in chemistry from Reed College and a PhD in physical chemistry from the University of Wisconsin at Madison. He received his PhD for work on ion-molecule reaction in the gas phase in 1988, followed by post-doctoral work at Brookhaven National Lab where he studied the pulsed field ionization of extremely high Rydberg states prepared by single photon absorption. He has been at PNNL since 1992 and has worked on many diverse projects over the years, including various gas, liquid and solid databases using FTIR and Raman spectroscopy.

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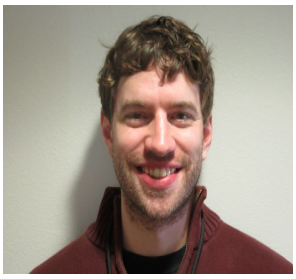

Tyler O. Danby

Tyler O. Danby earned dual bachelor's degrees in biological science and general history from Washington State University in 2015. From 2016 to 2018 he worked at Pacific Northwest National Laboratory as a post-bachelor's research associate in the spectroscopic signatures group. Mr. Danby contributed to several scientific projects during this time, including the accurate measurement of optical constants *n* and *k* for liquids.

Matthew S. Taubman

Dr. Matt Taubman holds a PhD in physics from The Australian National University, Canberra, Australia. He specializes in sensor and detection system design and integration with particular focuses on analog electronics, especially low-noise, high-voltage, precision design. His deep skill set involves servo control and feedback systems, such as laser locking and stabilization. Systems that Dr. Taubman has developed or helped refine since joining Pacific Northwest National Laboratory in 2000 include ultra-sensitive laser-based instruments such as quantum cascade laser-based chemical sensors, ultra-sensitive unattended sensors and radiation detection systems, and acoustic excitation systems. Dr. Taubman also serves as a Technical Team Lead for the Sensors and Measurement Systems Team within the Advanced Electronic Systems Group at PNNL.

Meggers Award cont.

Bruce E. Bernacki

Dr. Bruce Bernacki earned a Ph.D in Optical Sciences from the University of Arizona. Prior to working at Pacific Northwest National Laboratory, he spent nearly five years as Vice President of New Product Development and CTO at LightPath Technologies, in Orlando, Florida. He is now a senior research scientist (2005 – present) in the National Security Directorate at PNNL. An optics professional with 30 years of experience in optical design, modeling, optical data storage and optical component manufacturing, Dr. Bernacki has worked in both the government and the private sector on basic research and product development. He is the inventor or co-inventor of 12 U.S. patents and the author or co-author of 35 peer-reviewed publications, 46 conference publications and one book chapter. In 2017, he was an R&D 100 Award winner with IRsweep, the sole inventor of the IRcell, and shared a Federal Lab Consortium award with IRsweep in 2019 for excellence in technology transfer. In 2014, he received the Federal Lab Consortium award for technology transfer, as well as an R&D 100 as co-inventor of the Glyph, an immersive head mounted display commercialized by Avegant Corporation. He is a member of the Optical Society of America and a Life Member of IEEE.

Jerome C. Birnbaum

Dr. Jerome Birnbaum received a BS in chemistry and math from the College of St. Scholastica in 1979. He worked as an analytical chemist for an EPA accredited water quality laboratory for seven years (he was lab manager for three years) and taught chemistry and math courses part-time at Western Wyoming College. He received a Ph.D. from the University of Colorado in 1990 for his work in synthetic organometallic chemistry studying the catalytic capabilities of molybdenum hydro-sulfido complexes. He was an assistant professor at Western Wyoming College for eight years before accepting a research position at Pacific Northwest National Lab, where he worked for twenty years. At PNNL, he was a project manager on several programs and authored over 60 refereed publications, over 40 internal DOE reports, and obtained seven patents. He is now working as a research scientist for Ideal Innovations in the Washington, DC area.

Meggers Award cont.

Steven W. Sharpe

Dr. Steven Sharpe obtained a bachelor's degree in chemistry from the University of Bridgeport and a Ph.D. from The State University of New York. He worked as a postdoctoral fellow at the University of Southern California before his 25-year career at the Pacific Northwest National Laboratory, primarily practicing infrared spectroscopy of clusters and gases. He was the Principal Investigator and lead scientist on the PNNL IR gas-phase database project. He is now retired and living happily ever after.

SAS/NASLIBS Award

Presented for the best paper published in Applied Spectroscopy in 2018 on the topic of Laser Induced Breakdown Spectroscopy.

Presented to
Ammon Williams and Supathorn Phongikaroon
for
"Laser-Induced Breakdown Spectroscopy (LIBS) Measurement of Uranium in Molten Salt"
***Applied Spectroscopy*, Vol. 72, 7**

Ammon N. Williams

Dr. Ammon Williams received a BS degree in Mechanical Engineering in 2009 from Brigham Young University – Idaho. He then studied Chemical Engineering and earned a MS degree in 2012 from the University of Idaho. Finally, Dr. Williams received his PhD in Nuclear and Mechanical Engineering from the Virginia Commonwealth University in 2016 for his dissertation titled, "Measurement of Rare Earth and Uranium Elements using Laser-Induced Breakdown Spectroscopy (LIBS) in an Aerosol System for Nuclear Safeguards Applications." Since graduation, he has worked as a research scientist at the Idaho National Laboratory. Dr. Williams's current research interest are nuclear safeguards and nonproliferation, specifically, analytical techniques and approaches to monitor special nuclear materials (uranium and plutonium) in harsh and remote environments. Dr. Williams has made significant contributions in the area of molten salt LIBS as well as other measurement approaches such as electroanalytical and bubble level measurement techniques.

SAS/NASLIBS Award cont.

Supathorn Phongikaroon

Dr. Phongikaroon is currently an Associate Professor and the Director of Nuclear Engineering Program at the Virginia Commonwealth University (VCU)'s Department of Mechanical and Nuclear Engineering. He earned his PhD and BS degrees in chemical engineering and nuclear engineering from University of Maryland, College Park in 2001 and 1997, respectively. Prior joining VCU in January 2014, he held academic and research positions at University of Idaho in Idaho Falls, ID; Idaho National Laboratory in Idaho Falls, ID; and Naval Research Laboratory, Washington, D.C. During his research career, Dr. Phongikaroon has established chemical and electrochemical separation of used nuclear fuel through pyroprocessing technology and extended his expertise toward reactor physics and material detection and accountability for safeguarding applications using laser spectroscopy techniques. Dr. Phongikaroon's work has been published in over 40 papers in peer-reviewed journals and presented at over 100 international and national conferences and workshops. Dr. Phongikaroon has been able to maintain continuous diverse research support from international and national programs through Department of Energy, national laboratories, and other universities.

Distinguished Service Award

Recognizing members for their long-time service to the Society for Applied Spectroscopy.

Michael W. Blades

Recognizing active participation in and longtime service to the Society for Applied Spectroscopy. During his tenure with SAS, Dr. Blades has been a dedicated volunteer, mentor, and leader. Most notably, he served as Applied Spectroscopy Editor-in-Chief and Editor leading the journal through key changes and upgrades. He has been a delegate to the SAS Governing Board and has served on numerous committees. Dr. Blades' willingness to serve SAS in any capacity defines his distinguished service.

Michael Blades received a BSc in Chemistry at St. Mary's University (Halifax, Nova Scotia) and a PhD at the University of Alberta in 1980 (under the supervision of Dr. Gary Horlick) working in the area of plasma spectrochemistry. He subsequently went to Indiana University to work as a postdoctoral fellow in the laboratory of Dr. Gary Hieftje (1980-81). He joined the Department of Chemistry at The University of British Columbia (UBC) in Vancouver 1981 and retired in 2018. Although Michael recently retired he is still engaged in research in a collaboration with several groups at UBC and continues as Editor for Applied Spectroscopy. Mike's current research interests are in the area Raman micro-spectroscopy for biophysical and bio-analytical measurements.

Distinguished Service Award cont.

An active researcher and teacher, he and his colleagues have published over 160 papers in refereed journals, is a regular speaker at international symposia and has mentored dozens of undergraduate, MSc, and PhD students and several postdoctoral fellows. He has received a number of honours and awards including the 1987 Canadian Society for Chemistry McBryde Medal awarded annually to a young scientist "in recognition of a significant achievement in pure or applied analytical chemistry", a University of British Columbia Killam Research Prize (1988-89), and a Senior Killam Fellowship (1991-92), the Canadian Society for Chemistry 1994 Fisher Lecture Award, the 1995 Royal Society of Chemistry Analytical Spectroscopy Award, and was named a Fellow of the Society for Applied Spectroscopy in 2009. In 1999 he was the General Chair for the annual Federation of Analytical Chemistry and Spectroscopy Societies (FACSS) Meeting and in 2004 he served as the Governing Board Chair for FACSS. He has served on the editorial advisory board of *Analytical Chemistry* and *Spectrochimica Acta (B)* and has served as Editor (2009-2012, 2018-present) and Editor-in-Chief (2012-2018) for *Applied Spectroscopy.* During his tenure as Editor he spearheaded the successful transition to a new publisher (SAGE) for the journal.

His recent retirement has allowed Michael to spend more time doing the things that he loves – hanging out with his grandchildren, playing ice hockey, snowboarding, cycling and windsurfing.

Distinguished Service Award

Recognizing members for their long-time service to the Society for Applied Spectroscopy.

Deborah Peru

Recognizing active participation in and longtime service to the Society for Applied Spectroscopy. During her tenure with SAS, Dr. Peru has been a dedicated volunteer, mentor, and leader. Most notably, she has faithfully served the New York SAS Regional Section for many years with multiple terms as Chair, Secretary, and Webmaster, sometimes filling multiple roles simultaneously. As Chair of the section, she ensured the section had a full schedule of activities and meetings and handled the Gold Medal Award and student awards given by the New York Section.

Deborah (Debbie) Peru is the Owner and President of DP Spectroscopy & Training, LLC. The company provides technical assistance in spectroscopy, data analysis, training development and facilitation.Ms. Peru has more than 35 years of experience working in research and development, manufacturing, and quality assurance environments in many industries including specialty chemicals, and consumer products. Much of her career focused on developing and implementing at-line and on-line spectroscopy methods for use in measuring oral care, personal care, home care and pet nutrition products. Ms. Peru developed numerous applications using Near Infrared, Mid Infrared, Raman, and Surface Enhanced Raman (SERS) spectroscopy for the purposes of quality assurance testing, problem solving, patent applications, and manufacturing cost savings programs.

Distinguished Service Award cont.

At Colgate, Ms. Peru worked several years in Clinical Research where she managed development of hard and soft tissue clinical methodologies. Her research was dedicated to characterizing and optimizing clinical devices for use in testing products both in-vivo and in-vitro using instrumentation including white light imaging, and functional near infrared (FNIRS).

Ms. Peru received her B.S. in Nutritional Science and a B.A. in Chemistry from the University of Delaware and earned a Master's in Business Administration degree from the University of Phoenix. Ms. Peru is the current co-Chair, Webmaster, and Secretary of the New York Section of the Society for Applied Spectroscopy. In this role, she organizes monthly meetings, hosts executive officer meetings, and oversees the Website maintenance, Student Award and Gold Medal Award programs.

Honorary Membership Award

Recognizing those individuals who have made exceptional contributions to spectroscopy

John F. Jackovitz

Posthumously recognizing Dr. John F. Jackovitz for his active involvement and multiple roles in both SAS and Pittcon over more than 40 years, as well as for his spectroscopic research and student mentoring at the University of Pittsburgh. Dr. Jackovitz embodied the SAS mission of advancing and disseminating knowledge and information concerning the art and science of spectroscopy and other allied sciences, advancing the professional standing and growth of the Society and its members, coordinating cooperative endeavors of its individual members and sections, and promoting and maintaining a close bond among its members.

John F. Jackovitz (Jack) was born in Adamsburg, Pa. on Nov. 9, 1939. He earned his B.S. in Chemistry from St. Vincent College and his Ph.D. in Physical Chemistry at the University of Notre Dame under the guidance of Professors L.F. Pierce and J.L. Walter. It was there that he began study in Spectroscopy. After moving on to a Postdoctoral Fellowship and Visiting Scholar position working with D.F. Shriver at Northwestern University from 1966-67 he accepted a position at Westinghouse Research and Development in Pittsburgh. There he worked on nuclear reactor and battery design and analysis and was an inventor on 36 patents. His collaboration with Professors Sanford Asher and Alexander Star at the University of Pittsburgh focused on mentoring students in research. He played an integral role in bringing modern nanotechnology solutions to the sustainable energy challenges of the future. Jack had untiring dedication to both the Spectroscopy Society of Pittsburgh and the Society for Applied Spectroscopy of Pittsburgh by serving on countless committees. He became President of the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy in 1977, National President of the Society for Applied Spectroscopy in 1981 and SAS Governing Board Delegate from 1999-2016.

Honorary Membership Award cont.

His many achievements include the Westinghouse Signature of Excellence and the Special Patent Awards, St. Vincent College Distinguished Alumnus Award, the SAS Distinguished Service Award and being named a SAS Fellow for outstanding contributions in the field of Spectroscopy. Jack, a wonderful family man, is survived by his wife of 54 years, his brother, his three daughters and three grandchildren.

Honorary Membership Award

Recognizing those individuals who have made exceptional contributions to spectroscopy

Isiah Warner

Recognizing Dr. Isiah Warner for his leading research using spectroscopy in applications ranging from chemical separations to nanomaterials and organized media. Most notably, he is recognized for his expertise in the area of fluorescence spectroscopy and is one of the world's experts in analytical spectroscopy.

Professor Isiah Warner is an analytical/materials chemist with more than 360 refereed publications and a dozen acquired or pending patents. He has particular expertise in the area of fluorescence spectroscopy, where his research has focused for more than 40 years. He is considered one of the world's experts in analytical spectroscopy. For example, from 1992 to 2016, he was the corresponding author in the highly cited biannual reviews on "Molecular Fluorescence, Phosphorescence, and Chemiluminescence Spectrometry", for the journal, Analytical Chemistry. Over the past 20 years, he has also maintained a strong research effort in the areas of organized media, separation science, and more recently in the area of ionic liquid chemistry, particularly as applied to solid phase materials for applications in materials science and nanomaterials. He has also conducted educational research that focuses on mechanisms for maintaining and enhancing student education in science, technology, engineering, and mathematics (STEM), with a particular focus on encouraging under-represented students (women and minorities) to pursue terminal degrees in STEM. Dr. Warner was recently recognized as 2016 SEC Professor of the Year, member of the American Academy of Arts and Sciences (2016), Fellow of the National Academy of Inventors (2017), Fellow of the Royal Society of Chemistry (2017), and Nature Mentor of the Year (2019). He is Phillip W. West Professor of Chemistry, Howard Hughes Medical Institute Professor at LSU, and has achieved the highest professorial rank in the LSU system, i.e. Boyd Professor. He has chaired sixty-five doctoral theses and is currently supervising seven others. More than half of his doctoral students are women and more than a third are under-represented minorities.

Fellows Award

Recognizes individual members for their outstanding service to the field of spectroscopy and the Society for Applied Spectroscopy.

Young Mee Jung

Prof. Young Mee Jung was received her B.S., M.S. as well as Ph.D in Chemistry from Kyungpook National University, Korea. During her Ph.D. thesis, she investigated the surface-enhanced Raman scattering (SERS). She studied at Prof. Yukihiro Ozaki group in Kwansei Gakuin University, Japan as a postdoctoral fellow in 1998-2000. She was a visiting professor in University of California Santa Barbara, USA in 2014-2015.

Her research interest is in the area of spectroscopy, especially 2D correlation spectroscopy (2D-COS) and SERS. She was awarded the Young Physical Chemistry Scientist Award of Korean Chemical Society (KCS) in 2007 and the KCS/Sigma-Aldrich Excellent Chemist Award in KCS in 2014. She was also awarded the Award of Ministry of Science and ICT of Korea in 2019. She has published many papers including book chapters on 2D-COS, SERS and vibrational spectroscopy.

In 2013, she chaired the 7th International Symposium on Two-Dimensional Correlation Spectroscopy (2DCOS-7) in Seoul, Korea. She also chaired the 26th International Conference on Raman Spectroscopy (ICORS 2018) in 2018 Jeju Island, Korea. She is currently an international steering committee of ICORS conferences, a program committee of ICAVS-8, ICAVS-9 and ICAVS-10 (International Conference on Advanced Vibrational Spectroscopy) and an organizing committee of 2DCOS-8, 2DCOS-9 and 2DCOS-10 conferences. She also organized 2D-COS sessions in SciX meeting in 2012 and 2018. She is currently an Associate Editor of Applied Spectroscopy and an Editorial Board of Vibrational Spectroscopy.

Currently she is a professor of Department of Chemistry, Kangwon National University, Korea and well recognized in 2D-COS filed.

David L. McCurdy

David earned an A.S. degree from Iowa Western Community College in 1977 and a BS degree in chemistry from Northwest Missouri State University in 1979. After graduation, he worked at Streck Laboratories, Inc. in product development and quality assurance. He left the position to attend graduate school in chemistry at Kansas State University in 1983. David earned his Ph.D. in analytical chemistry in 1987 under the direction of Professor Robert C Fry. The same year he began a position as an Assistant Professor of Chemistry at Truman State University. He was appointed Professor of Chemistry in 2000, serving as the Chair of the Department of Chemistry for 3½ years prior to his retirement in 2016. He is presently employed as a Lecturer in Chemistry at the University of Iowa.

Fellows Award cont.

David's graduate training was in atomic spectroscopy. In 1999, he served as a visiting research faculty member at Texas A&M University in the lab of Professor David Russell. He has co-authored 15 publications, a book chapter, and more than 75 scientific presentations, most including undergraduate coauthors. David worked with more than 150 students in undergraduate research, with more than 35 of these students continuing at the graduate level to earn a Ph.D. degree in chemistry.

David is a 35-year member of SAS. He was a local section officer of the St. Louis Professional Section for more than 24 years, organized sessions of presentations for the FACSS conference, and served as the Employment Bureau Chairman in 1994. He helped form a student chapter of the SAS at Truman State and served as faculty advisor. More recently, he served on the SAS Awards Committee and Publications Committee as a volunteer and chair. David is also a member of the American Chemical Society, served as a Contributing Editor for the Analytical Sciences Digital Library project (2000-2005) and was the Associate Editor for the Council on Undergraduate Research Quarterly (1996-2000).

Boris Mizaikoff

Prof. Boris Mizaikoff joined the faculty at the University of Ulm, Germany, as a Chaired Professor and Director at the Institute of Analytical and Bioanalytical Chemistry in 2007 with prior appointments at the Vienna University of Technology (Austria), and at the Georgia Institute of Technology (USA). His research interests focus on optical chem/bio sensors, tailored (bio)molecular recognition interfaces, molecularly imprinted materials, system miniaturization and integration, and multifunctional (nano)analytical techniques with applications in environmental analysis, process monitoring, and biomedical diagnostics. He is author/co-author of 320+ peer-reviewed publications, 16 patents, and numerous invited contributions at scientific conferences.

Diane B. Parry

Diane earned her B.S. in Biology from the University of Cincinnati in 1982. She initially worked at the University of Cincinnati's College of Medicine making monoclonal antibodies, and worked her way up to run a research Fluorescence-Activated Cell Sorter to support a wide range of projects, from brain cancer to graft-versus-host disease research. Her work to computerize the laser instrumentation came to the attention of a Raman group at the Procter & Gamble Company, and Diane was hired by P&G in 1984. With P&G, she had a chance to learn about resonance Raman from Professor Sanford Asher, waveguide spectroscopy from Professor Paul Bohn, and met Professors Jeanne Pemberton and Geraldine Richmond in consultation on SERS work. With

Fellows Award cont.

her employer's support, Diane left P&G to attend graduate school in Physical and Analytical Chemistry at the University of Utah in 1986, under the direction of Professor Joel Harris. After obtaining her PhD in 1989, Diane moved to California to complete post-doctoral work in theoretical chemistry and optical surface science with Professor Michael R. Philpott, at IBM's Almaden Research Center. Diane was re-hired by Procter & Gamble in 1991. Within P&G, she became a manager, leading international teams responsible for analytical measurements, formula design, process design and modeling and simulation. She retired from P&G as an Associate Direction, after 28 years, in 2017.

Diane holds over a dozen international patents, has 22 peer reviewed publications and has written two book chapters. Diane received a Distinguished Alumnus Award from The University of Utah Department of Chemistry in 2015. Her science-related volunteer work has included teaching an annual short course "Analytical Chemists in Industry," which was co-sponsored by FACSS and P&G and was free for science students from 1995-2014. Diane also organized special conference sessions to celebrate "Analytical Chemists Easing World Poverty," (ACEWP), which has been a regular part of SciX Programs, since 2011, and was part of PittCon in 2013. Rebecca Airmet took over organizing ACEWP sessions in 2015, and Diane has organized a related session for SciX 2019. Diane and Rebecca co-authored a chapter on ACEWP, published in the 2017 ACS Book "Mobilizing Chemistry Expertise to Solve Humanitarian Problems" edited by Ronda Grosse (Chemists Without Borders). Diane has served on the FACSS/Sc5iX Governing Board and Long Range Planning for many years, and was the FACSS Governing Board Chair in 2006. Diane was the FACSS Distinguished Service Award recipient in 2017. Diane has also served SAS for many years, and was SAS President in 2015. She received an SAS Distinguished Service Award in 2018. Diane is currently the SAS Treasurer and an R&D-related industry consultant.

Shiv K. Sharma

Shiv K. Sharma is a Professor at the University of Hawaii at the Hawaii Institute of Geophysics and Planetology in the School of Ocean Earth Science and Technology. He is on the Graduate Faculty of the Departments of Earth Sciences and Electrical Engineering. He received his PhD (Physics) in 1973 from the Indian Institute of Technology, Delhi, India. In 1974 he joined as a Research Associate in Professor David Adams' Group in the Department of Chemistry at the University of Leicester, England. From 1977 - 1980 he worked as a Post-Doctoral Fellow at the Geophysical Laboratory of Carnegie Institution of Washington. Since 1980, Sharma's group at the University of Hawaii has been working mainly in the area of in situ and remote laser spectroscopy with focus on Earth, ocean and planetary science, biomedical applications, and homeland security. Recent work includes development of combined Raman and LIBS technique, standoff underwater Raman and time-resolved spatial heterodyne Raman spectrometer (SHRS), and exploring use of these techniques for future planetary landers and rovers.

Fellows Award cont.

Sharma is a member of the Mars 2020 SuperCam team. He is serving as a member and Chair Elect for the SAS Lester Strock Award Committee. He is a fellow of the Mineralogical Society of America, National Academy of Sciences - India, and a Senior Member of the Optical Society of America and SPIE. He was awarded by FACSS Innovation Award (2011) and shared the William F. Meggers Award (2012) with Michael Angel for the paper on SHRS.

William J. Poehlman Award

Recognizing an outstanding SAS Regional Section that has met the goals and ideals of the Society over the past year.

SAS New York-New Jersey Regional Section

The SAS New York-New Jersey Section is being recognized as this year's outstanding section for maintaining a consistently high level of activity throughout the year and completing many projects which furthered the mission and goals of SAS.

The Following Awards Were Presented Sunday Night at the SAS Poster Session

SAS Undergraduate Student Award

Given to up to 5 junior or senior undergraduate students in recognition of outstanding research in the area of spectroscopy

Melissa Fernandez

Recognizing work in the development of portable and near-real time analytical technology for carcinogen detection, STEM education among the public, and statistical analysis using Chemometrics.

Melissa is an undergraduate Biomedical Engineering student at South Dakota School of Mines pursuing a medical career in Oncology. Through two years of experience working on this project, she has learned many valuable scientific techniques that will help her become a better physician.

SAS Undergraduate Student Award cont.

Jessica Hellinger

Recognizing a project to simultaneously obtain elemental and small molecule information with a novel plasma source, the Solution Cathode Glow Discharge (SCGD), via optical emission spectroscopy and mass spectrometry.

Jessica Hellinger was born in Flushing, NY in 1998. She graduated from Nonnewaug High School in Woodbury, CT in 2016 and went on to study chemistry at Rensselaer Polytechnic Institute in Troy, NY. In her free time, she likes to get far too invested in new hobbies like knitting, baking, book binding, and anything else that catches her interest. She also enjoys reading fantasy and sci-fi novels, though she doesn't get too as much as she would hope. Jessica is involved in the chemistry department at her university as the president of the Rensselaer Chemistry Society and a chemistry mentor to incoming freshmen taking Chem I. She finds both rewarding and has made many friends through both groups. During the summer of 2018 she got the Research in Science and Engineering (RISE) internship under DAAD. There she worked in Professor Carsten Engelhard's lab in Siegen, Germany analyzing silver nanoparticles in fish using inductively coupled plasma mass spectrometry (ICP-MS). As her first time out the country she also used this opportunity to travel around Europe and immerse herself in the culture. For the past three years she has been a part of Professor Jacob Shelley's lab working to pair mass spectrometry and optical emission spectroscopy using a solution cathode glow discharge (SCGD) ionization source. Thanks to these opportunities she has been able to present her work at her universities and local ACS meetings undergraduate research symposiums, and the Northeast regional ACS meeting (NERM). She is now in the last year of her bachelor's degree and plans to start applying to graduate school, though the direction of her future is still open.

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