The SAS Spectrum Newsletter
The Newsletter of the Society for Applied Spectroscopy
July 2013

Lester W. Strock Award to be Presented to Rick Russo

The Lester W. Strock Award is given by the New England Section of the Society of Applied Spectroscopy in recognition of a selected publication of substantive research in/or application of analytical atomic spectrochemistry in the fields of earth science, life sciences, or stellar and cosmic sciences. This year's awardee is **Dr. Richard E. Russo**, Ph.D. Senior Scientist, Lawrence Berkeley National Laboratory President & CEO, Applied Spectra, Inc. The award will be presented at the Society for Applied Spectroscopy Wine and Cheese Reception held at SCIX at 7:30 p.m. on Tuesday October 1.

Dr. Russo is the founder and scientific director of the laser spectroscopy and materials group at Lawrence Berkeley National Laboratory. Dr. Russo also is founder and president of Applied Spectra, Inc. with the assistance of several of his Ph.D. students from Berkeley. Together, they perform world laser ablation chemical analysis using LIBS and Laser Ablation with ICP-OES. His group pioneered the understanding and development of nanosecond and femtosecond pulsed laser ablation for chemical analysis in a 30 year contribution to fundamental and applied research. He is the co-inventor of the nanowire and developer of a real-time standoff laser ultrasonic sensor (R&D 100 2006). He invented a process for nano-texturing thin-films, and is the lead inventor of the assisted pulsed laser deposition process. Most recently, his Berkeley research team with the assistance of Applied Spectra staff demonstrated and patented the use of laser plasmas for real-time measurement of isotopes. The new technology, named LAMIS (Laser Molecular Isotopic Spectroscopy), won a 2012 R&D 100 Award, a FACSS/SCiX Innovation Award, and Spectrochimica Acta paper of the year for 2012. The core expertise is research, development, and manufacture of laser ablation analysis instrumentation. Laser ablation instruments are utilized in national international markets, including academia, national laboratories, industry, energy, environmental, and security applications. The company continues to advance laser ablation chemical based on an expert in-house research team that provides superior application development. Russo has over 240 scientific publications, 45 refereed proceedings, 310 (215 invited) presentations, and 9 book chapters. Fourteen students have received their Ph.D. degree under his direction at the University of Berkeley, and he has served as a mentor to numerous Ph.D. students from international universities.

Comments to david.butcherATanalytchem.org

APPLIED SPECTROSCOPY
WILLIAM F. MEGGERS AWARD

This award is given to the author(s) of the outstanding paper appearing in Applied Spectroscopy. Drs Eleanor Bonnist, Peter Caspers, Jean-Philippe Gorce, Chris Marriott, Paul, Pudney, Gerwin Puppels, Scott Singleton and Martin van der Wolf have been awarded the 2013 Meggers Award for their paper published in the journal Applied Spectroscopy entitled: "*A New in Vivo Raman Probe for Enhanced Applicability to the Body*"; Volume 66, Issue 8, (August 2012), pp.882-891. It will be presented at the Society for Applied Spectroscopy Wine and Cheese Reception held at SCIX at 7:30 p.m. on Tuesday October 1.

Eleanor Bonnist studied chemistry at Imperial College London and received her Ph.D. at Edinburgh University in the Anita Jones group working with fluorescence spectroscopy. She joined Unilever R&D Colworth Laboratory in 2008 and works with Raman spectroscopy to investigate how FMCG products interact with consumers.

Peter Caspers, Ph.D., studied applied physics at the University of Twente. From 1997-2003, he did his Ph.D. research at the Erasmus MC in Rotterdam, the Netherlands, where he pioneered the technology and application of in vivo characterization of human skin based on confocal Raman microspectroscopy. From 2003-2012 he shared the university affiliation with River Diagnostics where he contributed to making the technology of Raman skin analysis commercially available. Currently he works for both the Erasmus MC and RiverD International to continue his work on research, development, and commercialization of biomedical applications of Raman spectroscopy.

Dr Jean-Philippe Gorce obtained his Ph.D. in 2000 from Sheffield Hallam University (UK). His doctoral research was focused on the study of the crystallization of n-alkane chains by vibrational spectroscopy. Dr. Gorce joined the University of Surrey (UK) later that year as an ICI Research Fellow examining water filled microstructures in a range of materials (skin, cement, wood and coatings) using magnetic resonance imaging. In 2003, he joined the University of Sheffield (UK) as a Post-Doctoral Research Associate applying magnetic resonance relaxometry to the study of cement matrices used for the encapsulation of nuclear wastes. In 2006, Dr. Gorce joined the Measurement Science unit of Unilever (Colworth Laboratory, UK) where, under the supervision of Dr Paul Pudney, he examined the diffusion of key chemicals into the human skin in-vivo. Since 2007, he has been a Higher Scientist at the Health and Safety Laboratory, an agency of the Health and Safety Executive (UK), where he is developing measurement protocols based on x-ray fluorescence spectroscopy for the assessment of occupational exposure to hazardous substances.

Chris Marriott. I am a design and manufacturing engineer having worked at Unilever R&D Colworth U.K. for over 40 years. During this time I have gained expertise in 3D CAD modeling, welding and adhesives and introduced CADCAM to the in-house manufacturing facility. I have been very fortunate to have worked on projects for many of Unilever's business interests including: animal feeds, meat, fish, vegetables (fresh and frozen), oils and fats, ice cream, beverages, oral, hair, skin, cosmetics, sensors, and background science. There have been many varied, interesting, and challenging projects that have involved the design of process equipment through construction to commissioning in the U.K. Europe, America, and West Africa. But probably the most enjoyable work has been to help talented scientists at Colworth achieve their desired aims through an accurate interpretation of their

requirements and then to design and build working solutions that fulfils their requirements. The work has often been of a novel nature leading to many patents over the years. I have been author / co-author of many papers during this time including the presentation of a paper entitled “The influence of product liability on the selection of materials for the construction of machines in the food industry,” at an international conference in London.

Paul Pudney has a B.Sc. in chemistry from Liverpool University and obtained a PhD in Physical Chemistry from the University of East Anglia “Spectroscopic studies of adsorbates on metal single crystal surfaces” under the supervision of Prof Michael Chesters . After post doctoral studies at the Leverhulme Centre for Innovative Catalysis and the Interdisciplinary Research Centre in Surface Science at Liverpool University, he worked at the synchrotron at Daresbury before joining Unilever in 1994. Paul is now a science leader in vibrational spectroscopy at Unilever Discover. He has applied spectroscopy in a number of innovative ways to gain further understanding of both consumer products and their behavior when they interact with our consumers. Examples include quantifying the complex microstructures of soft solid materials by confocal Raman spectroscopy such as foods and behaviour of molecules in ice using IR. He helped develop a novel in-situ Triboligical Raman instrument to help understand lubrication in a Soft Elasto-Hydrodynamic Contact. He has developed in-vivo Raman spectroscopic capability to measure and understand the delivery of actives to and their effect on the body, such as to the skin, scalp, axilla, and oral mucosa. He has over 50 peer reviewed publications. He was nominated as one of the “Prominent Young Vibrational Spectroscopists” in special addition of *Vibrational Spectroscopy* journal. He was runner-up in the Meggers Award in 2012.

Gerwin Puppels, Ph.D., has been active in the field of Raman spectroscopy for over 25 years. His Ph.D. thesis (1991) concerned the development of sensitive Raman technology for recording spectra to be recorded of single biological cells and chromosomes. Moving to the Erasmus Medical Center in Rotterdam, the Netherlands, in 1994, he started a research group to explore medical applications of Raman spectroscopy and found these in nearly every medical field, resulting in over 100 peer-reviewed papers in both spectroscopic and medical journals. He founded River Diagnostics in 2003 (and later RiverD International) to further develop the most successful applications. To date, an in vivo skin analyzer, and a system for bacterial strain typing have been commercialized.

Scott Singleton joined Unilever in 1989 following completion of his Ph.D. at the University of Edinburgh. He has worked in both the foreground and background research areas across all of Unilever’s six R&D sites. His current role is global, working across Unilever R&D, where he leads the strategic advanced measurement and data modeling activities.

Martin van der Wolf, M.Sc., finished his engineering studies at the Technical University of Delft in 1991, specializing in micro-mechanical engineering. He has 20 years experience as a professional engineer specializing in design and engineering of advanced opto-mechanical products. He carried out numerous projects while at ASM lithography, Spark-Holland BV, TNO-Industry and as a team leader and instrument developer in a specialized group at the University of Maastricht Medical School. Innovative optical instrumentation was developed for commercial clients in medical technology applications as well as for research projects at the university. He joined River Diagnostics in 2004 where he learned the ins and outs of Raman spectroscopy and is responsible for system engineering and production.

SAS Social Networking Opportunities by Xiao Hua

SAS currently has two social networking sites at Facebook and LinkedIn. The SAS LinkedIn page is a very useful tool to keep members updated with current events as well as for members to connect and have open discussion on topics of their choice. Currently, the SAS group on LinkedIn has 572 members. Facebook, while a little less formal, is nevertheless an important tool for SAS members to connect, especially students. Facebook, I believe, is a great social networking tool to publicize and promote SAS. The site provides some very nice information on upcoming awards, newsletters, and some previous events.

Carina Minardi of Georgetown University: SAS Student Ambassador

In order to promote the Society and support student members, SAS has established a Student Ambassador program. Students receive travel support to a professional meeting to promote their research in exchange for time at the meeting discussing the benefits of SAS membership to conferees. SAS is proud to announce that Carina Minardi of Georgetown University served as SAS Student Ambassador. Kaveh Jorabchi is her advisor at Georgetown University. Below please find Ms. Minardi's activity report from ASMS.

This June, I was given the opportunity to represent SAS at the American Society for Mass Spectrometry's annual conference (ASMS) in Minneapolis, MN. It was a fantastic meeting with over 6000 members in attendance. The plethora of knowledge presented over the four days in which the conference was held was astounding. At ASMS, I gave a presentation of my own pertaining to my current research project and received extremely supportive feedback and guidance to what my next steps would be. Moreover, as an SAS Student Ambassador, I spoke with many individuals regarding SAS's opportunity afforded to me and basic information about the society. Fortunately, I was also a participant on a panel during an undergraduate workshop pertaining to what steps students need to and should take during their undergraduate years to be successful scientists and graduate students. However, not only were undergraduates present, but also mentors of undergraduates (at least 75 were in attendance). During this time, I said it was highly beneficial for undergrads, grads, and mentors to become involved in SAS because there is a lot of benefit in such interaction with other areas of spectroscopy and it provides a wider breadth of research when considering all of the spectrometric applications thus possibly allowing for collaborations. Overall, I can only say that SAS is a great organization and I believe I was fairly successful in providing others with information of the society, its benefits, and what it could offer to current and future researchers.

Call for Nominations for the Lippincott Award

The Ellis R. Lippincott Award is presented annually to an outstanding vibrational spectroscopist. It is co-sponsored by the Coblentz Society, the Society for Applied Spectroscopy, and the Optical Society of America. The award is presented in memory of *Professor Ellis R. Lippincott* to scientists who have made significant contributions to vibrational spectroscopy as judged by their influence on other scientists.

This award was established in 1975 by OSA, the Coblentz Society and the Society for Applied Spectroscopy to honor the unique contributions of Ellis R. Lippincott to the field of vibrational spectroscopy. The purpose of the Ellis R. Lippincott Award is to honor Dr. Lippincott's memory by the recognition of significant contributions and notable achievements in the field of vibrational spectroscopy. The medal is sponsored jointly by the Coblentz Society, the Optical Society of America, and the Society for Applied Spectroscopy.

Details on the nomination process and timeline are available at the OSA web site and through the Lippincott Award Coordinator. Nominations for the **2014 Award** are currently open, and will be accepted until **October 1, 2013**.

Lippincott Award Coordinator (awards@osa.org)

Optical Society of America
2010 Massachusetts Avenue, NW
Washington, DC 20036
Tel: (202) 416-1460

Call for Nominations for the Coblentz Award

The Coblentz Award is presented annually to an outstanding young molecular spectroscopist under the age of 40. This award is the Society's original award (first awarded in 1964), and is the complement of the 'Craver Award' that recognizes young spectroscopists for efforts in applied analytical vibrational spectroscopy. The candidate must be under the age of 40 on January 1 of the year of the award. The award comprises an honorarium, a plaque with a prism from the periscope of a World War II Navy submarine, and a travel allowance.

Nominations for 2014 must include a detailed description of the nominee's accomplishments, a curriculum vitae or resume, and minimum of three supporting letters. Nominations for **2014 close on July 15, 2013**. Files of candidates will be kept active for 3 years or until the age of eligibility is exceeded. Annual updates of candidate files are encouraged and will be solicited from the nomination source by the award's committee chair.

Please send nomination packages (email is preferred) to:

Professor Pavel Matousek
Central Laser Facility
Rutherford Appleton Laboratory
Oxfordshire OX11 0QX
United Kingdom
email: Pavel.Matousek@stfc.ac.uk

Call for Nominations for the Craver Award

The Craver Award is presented annually to an outstanding young molecular spectroscopist whose efforts are in the area of applied analytical vibrational spectroscopy. The candidate must be under the age of 45 on January 1 of the year of the award. The work may include any aspect of infrared (NIR, MIR, or Far), and/or THz, and/or Raman spectroscopy in applied analytical vibrational spectroscopy. The nominees may come from an academic, government lab, or industrial backgrounds.

In 2006, the Coblentz Society created an award to recognize the efforts of young professional spectroscopists that have made significant contributions in applied analytical vibrational spectroscopy. The Society has named this award for Clara D. Craver in recognition of her pioneering efforts in promoting the practice of infrared vibrational spectroscopy and her many years of service to the Coblentz Society. Further, the Craver Award is the Society's complement of its prestigious '**Coblentz Award**' that recognizes young spectroscopists for efforts in fundamental aspects of vibrational spectroscopy. The first award was presented at **FACSS** in Memphis in 2007.

The award comprises an honorarium, an engraved crystal award, and a travel allowance.

The Coblentz Society solicits nominations for the **2014 Craver Award** in recognition of young investigators in applied analytical vibrational spectroscopy. **Nominations will be accepted between March 30, 2013 and August 30, 2013.**

Please send nomination packages by electronic mail to:

Chair of the Nominations Committee (nominations@coblentz.org)