

## 2017 EAS AWARDS

### EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry, Sponsored by Bristol-Myers Squibb

On Monday, November 13, 2017, **Professor Janusz Pawliszyn**, University of Waterloo, will receive the EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry.



The primary focus of Professor Pawliszyn's research program is the design of highly automated and integrated instrumentation for the isolation of analytes from complex matrices and the subsequent separation, identification and determination of these species. The primary separation tools used by his group are Gas Chromatography, Liquid Chromatography and Capillary Electrophoresis coupled to variety of detections systems, including range of mass spectrometry techniques. Currently his research is focusing on elimination of organic solvents from the sample preparation step to facilitate on-site monitoring and in-vivo analysis. Several alternative techniques to solvent extraction are investigated including use of coated fibers, packed needles, membranes and supercritical fluids. Dr. Pawliszyn is exploring application of the computational and modeling techniques to enhance performance of sample preparation, chromatographic separations and detection. The major area of his interest involves the development and application of imaging detection techniques for microcolumn chromatography, capillary electrophoresis and microchip separation devices.

Professor Pawliszyn has supervised 45 Ph.D. and 64 MS students and he is an author of over 550 scientific publications and a book on Solid Phase Microextraction. His Hirsch Index (H-index) is 85. He is a Fellow of Royal Society of Canada and Chemical Institute of Canada, editor of *Analytica Chimica Acta*, *Trends in Analytical Chemistry* and a member of the Editorial Board of *Journal of Separation Science* and *Journal of Pharmaceutical Analysis*. He initiated a conference, "ExTech", focusing on new advances in sample preparation and disseminates new scientific developments in the area, which meets every year in different part of the world. He received the 1995 McBryde Medal, the 1996 Tswett Medal, the 1996 Hyphenated Techniques in Chromatography Award, the 1996 Caledon Award, the Jubilee Medal 1998 from the Chromatographic Society, U.K., the 2000 Maxxam Award from Canadian Society for Chemistry, the 2000 Varian Lecture Award from Carleton University, the Alumni Achievement Award for 2000 from Southern Illinois University, the Humboldt Research Award for 2001, 2002 COLACRO Medal, 2003 Canada Research Chair, in 2006 he has been elected to the most cited chemists by ISI, in 2008 he received A.A. Benedetti-Pichler Award from Eastern Analytical Symposium, 2008 Andrzej Waksmundzki Medal from Polish Academy of Sciences, 2008 Manning Principal Award, 2010 Torbern Bergman Medal from the Swedish Chemical Society, 2010 Ontario Premier's Innovation Award, 2010 Marcel Golay Award, 2010 ACS Award in Separation Science and Technology, 2011 PittCon Dal Nogare Award, 2012 E.W.R. Steacie Award, 2013 CIC

Environmental Research and Development Award, 2013 CIC LeSueur Memorial Award, 2015 Maria Skłodowska-Curie Medal from Polish Chemical Society, 2015 Halász Medal Award from the Hungarian Society for Separation Sciences and 2017 Pittsburgh Conference Analytical Chemistry Award. He presently holds the University Professor, Canada Research Chair and Natural Sciences and Engineering Research Council of Canada Industrial Research Chair in New Analytical Methods and Technologies.

### EAS Award for Outstanding Achievements in Magnetic Resonance, Sponsored by Bruker BioSpin and New Era Enterprises

On Monday, November 13, 2017, **Professor Bernhard Blümich**, RWTH Aachen University, will receive the EAS Award for Outstanding Achievements in Magnetic Resonance.



Bernhard Blümich is professor of Macromolecular Chemistry at RWTH Aachen University, Germany since 1993. He holds a Master of Science degree (1976) in Physics from Rensselaer Polytechnic Institute in Troy, N.Y., a Diploma in Physics (1977) and a PhD in Physical Chemistry (1981) from Technische Universität Berlin in Germany. He was a member of staff at the Department of Macromolecular Chemistry at the University of Bayreuth (1983), Germany, and then at the Max Planck-Institute for Polymer Research in Mainz (1984). Blümich has written three monographs on NMR, the most recent one on 'Compact NMR' (de Gruyter, Berlin, 2014). He has edited a number of books, (co-)authored more than 430 publications and several patents. Currently he is president of the AMPERE society, Europe's magnetic resonance society, and associate editor of the *Journal of Magnetic Resonance*. Blümich developed a passion for NMR as an undergraduate student at TU Berlin in 1973 and ever since pursued the development of NMR methodology, beginning with noise excitation and then solid-state NMR spectroscopy and NMR imaging of materials. Among others he compacted stray-field NMR at RWTH Aachen University to a portable low-field device for nondestructive testing together with Peter Blümli using permanent magnets (1996). This 'NMR-MOUSE' (MOBILE Universal Surface Explorer) found use in particular in the tire industry and in the cultural heritage community for analysis of art and historical artifacts. Along with his Argentinian students Federico Casanova, Juan Perlo and Ernesto Danieli, the NMR-MOUSE was improved in sensitivity and spatial resolution to measure high-resolution depth profiles through skin, paint layers, frescoes, and other objects. The knowhow gained in working with permanent magnets led to the development of miniature NMR magnets suitable for high-resolution NMR spectroscopy (2010) and to their subsequent commercialization. Today the same Argentinians run Magritek GmbH in Aachen, which produces the magnets and other components for the Spinsolve line of Magritek tabletop NMR spectrometers. Such compact spectrometers give quick access to NMR spectroscopy of  $^1\text{H}$  and other nuclei in the chemistry laboratory and to reaction monitoring in the fume hood. With this technology NMR spectroscopy has become a convenient analytical tool similar in its use to IR spectroscopy and other benchtop methodologies.

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### EAS Award for Outstanding Achievements in Mass Spectrometry, Sponsored by Thermo Fisher Scientific

On Wednesday, November 15, 2017, **Professor Scott McLuckey**, Purdue University, will receive the 2017 EAS Award for Outstanding Achievements in Mass Spectrometry.



Scott A. McLuckey earned his B.S. in chemistry from Westminster College in 1978 and his Ph.D. degree in 1982 from Purdue University in Analytical Chemistry. Directly following graduation from Purdue, he spent one year as a visiting scientist at the FOM Institute for Atomic and Molecular Physics in Amsterdam. In late 1983, he joined the Analytical Chemistry Division of Oak Ridge National Laboratory as a Eugene P. Wigner Fellow. In January, 1990 he was named Head of the Analytical Spectroscopy Section, an organization comprised of five groups devoted to basic and applied research in analytical chemistry. In January, 2000, McLuckey moved to Purdue as a Professor of Chemistry within the Analytical Chemistry Division of the department. In 2008, he was named John A. Leighty Distinguished Professor.

McLuckey's research emphases have been placed in the areas of gas-phase ion chemistry and instrumentation for organic and biological mass spectrometry. Fundamental aspects of ionization, unimolecular reactions, and bimolecular reactions have been studied with the goal of improving the capabilities of analytical mass spectrometry. Attention has been focused on ionization by glow discharge, positrons, and electrospray. Ion activation, ion/molecule reactions, and ion/ion reactions have been major focal areas within the context of the mass spectrometry/mass spectrometry experiment. Instrumentation for tandem mass spectrometry has also been highlighted with emphasis on electrodynamic ion traps, ion trap/hybrid instruments, and electrostatic ion traps. The major current areas of emphasis are the identification and characterization of macromolecules, primarily via whole molecule tandem mass spectrometry, and ion/ion reaction chemistry. Recognition for the work has included the Biemann Medal from the American Society for Mass Spectrometry (ASMS) in 1997, Oak Ridge National Laboratory Scientist of the Year in 1999, The Curt Brunneé Award from the International Mass Spectrometry Foundation (IMSF) in 2000, the ACS Division of Analytical Chemistry Chemical Instrumentation Award in 2007, the ANACHEM Award in 2008, the ACS Field and Franklin Award in 2012, the ASMS Distinguished Contribution Award in 2016, and the Thomson Medal from the IMSF in 2016

### EAS Award for Outstanding Achievements in Separation Science, Sponsored by Agilent Technologies

On Tuesday, November 14, 2017, **Dr. Christopher J. Welch**, Welch Innovation, LLC, will receive the 2017 EAS Award for Outstanding Achievements in Separation Science.



Christopher J. Welch is Chief Scientific Officer for Welch Innovation, LLC, an independent research and consulting firm located in Cranbury, NJ USA. He received the Ph.D. degree in Organic Chemistry from the University of Illinois at Urbana-Champaign, under the direction of William H. Pirkle. Dr. Welch has worked in a variety of fields within the chemical industry, including discovery synthesis of agrochemicals (Velsicol-Sandoz), development of reagents for improved immunodiagnostic assays (Abbott Laboratories), development and commercialization of chromatographic stationary phases, reagents and enantioselective catalysts within a small chemical business environment (Regis Technologies) and the invention and application of new purification, analysis and high throughput technologies for pharmaceutical process research (Merck & Co.). While at Merck, Dr. Welch also created and administered Merck's postdoctoral research fellows program and managed a multi-million-dollar fund and research network that identified, evaluated and acquired more than 300 new enabling technologies for pharmaceutical discovery and development. Dr. Welch has authored more than 250 scientific publications and patents. He is co-founder of the journal, *Enantiomer*, a member of the editorial advisory board for the journals, *Chirality*, *Journal of the Korean Chemical Society*, *Chemistry World* and *ACS Central Science*. Chris is past chair of the ACS Division of Organic Chemistry (ORGN), a member of the Executive Committee for the International Symposia on Chirality and the PittCon Program Resource Team, vice-chair of Pacificchem 2020 and co-founder of the Enabling Technologies Consortium (ETC). Honors and awards include the NJCG Award for Excellence in Chromatography (2004), the PACS Activated Carbon Hall of Fame award (2007), MRL Presidents Award for Environmental Achievement (2009), Microsoft Life Science Innovation Award (2010), Fellow of the American Chemical Society (2010), Fellow of the American Association for the Advancement of Science, AAAS (2013), the Chirality Medal (2015), and the University of Nebraska Chemistry Industrial Award (2016).

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### EAS Young Investigator Award

On Wednesday, November 15, 2017, **Professor Dwight Stoll**, Gustavus Adolphus College will receive the 2017 EAS Young Investigator Award.



Dwight Stoll did his undergraduate work at Minnesota State University, Mankato, receiving B.S. degrees in plant biology and biochemistry in 1999 and 2001. Upon graduation in 1999 he took a job in industry as a research technician with ZirChrom Separations, Inc. At ZirChrom he quickly learned about the liquid chromatography market, and became interested in the role of separation science in the development of new analytical methodologies for use in other disciplines such as biology. In 2000 he shored up his chemistry background at the University of Minnesota before enrolling in the graduate program in chemistry there in 2001. At the University of Minnesota he studied with Professor Peter Carr, and worked on the development of fast, comprehensive two-dimensional liquid chromatography, using the principles of high temperature and ultra-fast gradient elution liquid chromatography to improve the overall speed of two-dimensional separations. Before receiving the Ph.D. in analytical chemistry in 2007, he took a nine-month break from graduate studies to teach as an adjunct faculty member at St. Olaf College where he taught analytical and general chemistry. Following graduation in 2007, he spent nine months working as a post-doctoral researcher with Dr. Christine Wendt in the Lung Health Center at the University of Minnesota, where he began analyzing the low molecular weight constituents of human lung lavage fluid using liquid chromatography coupled with mass spectrometry.

In the fall of 2008, Dwight accepted a faculty position as Assistant Professor in the Chemistry Department at Gustavus Adolphus College, where he mainly teaches quantitative and instrumental analysis courses, in addition to directing a vibrant research program involving mainly undergraduate students. In 2014 he was promoted to Associate Professor at Gustavus, and is currently co-chair of the Chemistry Department. His active research projects include the development of rapid multidimensional liquid chromatography for both targeted and untargeted analysis in samples of moderate to high complexity. Active research projects in his laboratory touch upon most aspects of multidimensional separation methodologies, including optimization of isocratic and gradient elution HPLC, characterization of selectivity in reversed-phase HPLC, instrument development, and applications in biopharmaceutical analysis.

Dwight is the author or co-author of 49 peer-reviewed publications and two book chapters in the area of separation science, and is a named co-inventor on four patents. He has authored or co-authored over 90 presentations at local, national, and international meetings, and has instructed numerous short courses in two-dimensional liquid chromatography. In 2009 he was the winner of the John B. Phillips Award for contributions to multidimensional gas chromatography, and in 2011 he was the recipient of LCGC's Emerging Leader in Chromatography Award. In 2012 he was elected to the editorial advisory board of

LCGC Magazine, the leading trade publication for the separation science community. In 2014 he was named to The Analytical Scientist's list of 'Top 40 Under 40' analytical scientists, and in 2015 he received the American Chemical Society Division of Analytical Chemistry Award for Young Investigators in Separation Science. In 2016, he received the Palmer Award from the Minnesota Chromatography Forum, and the Gustavus Adolphus Faculty Scholarly Achievement Award.

### EAS Award for Outstanding Achievements in Chemometrics

On Tuesday, November 14, 2017, **Professor Barry Lavine**, Oklahoma State University, will receive the 2017 EAS Award for Outstanding Achievements in Chemometrics.



Barry K. Lavine is a Professor of Chemistry at Oklahoma State University where he both teaches and performs research in the area of analytical chemistry. Lavine's research interests encompass many aspects of chemometrics including pattern recognition, multivariate curve resolution, and multivariate calibration using genetic algorithms and other evolutionary techniques. Lavine graduated with his PhD in Analytical Chemistry from Pennsylvania State University in 1986. He has published approximately 100 research papers, 20 book chapters, 16 review articles and has edited 3 books. He is on the editorial board of several journals including the Journal of Chemometrics and the Microchemical Journal. Lavine is also the Assistant Editor of Chemometrics for Analytical Letters. Lavine has served as Vice Chair and Chair of the Northern New York section (1997-2004) and the Oklahoma section (2006-2008) of the American Chemical Society. He has been Program Chair of several scientific meetings including the Federation of Analytical Chemistry and Spectroscopy Societies (1992), Northeast Regional Meeting (1999), and the Pentasectional Meeting of the local Oklahoma Sections of the American Chemical Society (2005). In 2015, Lavine was awarded the Kowalski Prize for the best chemometrics paper by the Journal of Chemometrics, and he was made a Fellow of the Society of Applied Spectroscopy in 2016.

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### New York/New Jersey Society for Applied Spectroscopy Gold Medal Award

On Monday, November 13, 2017, **Professor Richard P. Van Duyne**, Northwestern University, will receive the 2017 New York Society for Applied Spectroscopy Gold Medal Award.



Professor Van Duyne discovered surface-enhanced Raman spectroscopy (SERS), invented nanosphere lithography (NSL), and developed ultrasensitive nanosensors based on localized surface plasmon resonance (LSPR) spectroscopy. His research interests include SERS, LSPR spectroscopy, plasmonics, nanoscale biosensors, atomic layer deposition (ALD), ultra-high vacuum tip-enhanced Raman spectroscopy (UHV-TERS), electrochemical tip-enhanced Raman spectroscopy (EC-TERS) and surface-enhanced femtosecond stimulated Raman spectroscopy (SE-FSRS).

He has been recognized for his accomplishments with the Spiers Memorial Award, Royal Society of Chemistry, Faraday Division (2017); election to the American Institute of Medical and Biological Engineers (2016); Theophilus Redwood Award, Royal Society of Chemistry (2015); E. Bright Wilson Award in Spectroscopy, American Chemical Society (2014); Thomson Reuters List of Highly Cited Researchers (2014, 2015, 2016); Charles Mann Award in Applied Raman Spectroscopy, Society of Applied Spectroscopy (2014); Sir George Stokes Award, Royal Society of Chemistry (2013); Honorary Member, Society of Applied Spectroscopy (2013); Thomson Reuters list of top 100 chemists over the period 2000-2010 as ranked by the impact of their published research (2011); Charles N. Reilly Award, Society for Electroanalytical Chemistry (2011); election to the US National Academy of Sciences (2010); Analytical Chemistry Award, American Chemical Society, (2010); Bomem-Michelson Award, Coblentz Society (2010); Ellis R. Lippincott Award, Optical Society of America (2008); L'Oreal Art and Science of Color Prize (2006); Nobel Laureate Signature Award for Graduate Education, American Chemical Society (2005); Election to the American Academy of Arts and Sciences (2004); The Earle K. Plyler Prize for Molecular Spectroscopy, American Physical Society (2004); Excellence in Surface Science Award of the Surfaces in Biomaterials Foundation (1996); Pittsburgh Spectroscopy Award (1991); National Fresenius Award, American Chemical Society (1981); and the Coblentz Memorial Prize in Molecular Spectroscopy (1980). He is also a fellow of the Society of Applied Spectroscopy (2013), Royal Society of Chemistry (2013), American Physical Society (1985), and the American Association for the Advancement of Science (1983). Van Duyne received his B.S. degree from Rensselaer Polytechnic Institute (1967) and a Ph.D. degree in analytical chemistry from the University of North Carolina (1971).

### American Microchemical Society Benedetti Pichler Award

On Tuesday, November 14, 2017, **Professor Somenath Mitra**, New Jersey Institute of Technology, will receive the 2017 American Microchemical Society Benedetti Pichler Award.



Somenath Mitra is a Distinguished Professor of Chemistry and Environmental Science and the Executive Director of the Otto York Center for Environmental Engineering and Science at the New Jersey Institute of Technology (NJIT). He received his BS in Chemical Engineering from the Indian Institute of Technology (Kharagpur, India), MS in Environmental Engineering and Ph.D. in Analytical Chemistry from Southern Illinois University, Carbondale, IL in 1988. He was a National Research Council Fellow at US EPA, Research Triangle Park from 1988 to 1991 before joining NJIT.

He did his doctoral work under the late Dr. John B. Phillips and developed a high capacity thermal desorption modulator that led to the development of comprehensive 2-D gas chromatography. His current research focuses on separation techniques, membrane separations, sample preparation and nanotechnology applications in water and energy. His group has developed a wide range of online air and water monitoring techniques based on microtrapping devices and membranes. He also developed chemical vapor deposition techniques for the fabrication of GC columns based on self-assembly of carbon nanotubes. He pioneered the use of microwave induced reactions for the functionalization of carbon nanotubes and has used functionalized nanocarbons in diverse applications that have ranged from organic solar cells, flexible batteries to synthesizing membranes for sea water desalination. His work has received significant media coverage, and has been funded by NIH, DOE, US Army, US EPA, Electric Power Research Institute and NSF.

He is the coauthor of a textbook on environmental chemical analysis (CRC Press) and editor of the text *Sample Preparation Techniques in Analytical Chemistry* (John Wiley). His university honored him with the Board of Overseer's Research Medal in 2014. He is the two-time winner of the Thomas Alva Edison Patent Award from the State of New Jersey (2009, 2014), Innovator Award from the New Jersey Inventors Hall of Fame (2014), and was inducted as a Fellow of the National Academy of Inventors (2016).