



## Meet the contributors

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To celebrate its 16th anniversary, we proudly present this special paper collection of *Analytical and Bioanalytical Chemistry* (ABC) that showcases current research from ABC's diverse and exceptional Editorial Board.

In retrospect, the strong commitment and dedication of the ABC Editors and members of the International Advisory Board have been of enormous value in establishing ABC as an international journal for rapid publication and global visibility of analytical research. They also remain the cornerstone of ABC's success for the future. ABC also largely depends upon the support and contributions from all of our authors, and we very much hope that this anniversary issue serves as an

inspiration and a useful resource to our readers. We therefore want to thank those who support us by selecting our journal as the outlet for their outstanding work and we think this Editorial Board Issue is a case in point.

In preparing this 16th Anniversary Issue (the "Sweet Sixteen Issue"), we would like to express our gratitude for the overwhelming support we have received and thank all contributors for generously providing excellent research articles, Trends, and Critical Reviews from the forefront of their research. Below, we invite you to meet those who contributed to this exceptional collection and will usher ABC into its future. We hope you enjoy their work as much as we do.



### Antje J. Baeumner

is Professor of Analytical Chemistry and Director of the Institute of Analytical Chemistry, Chemo- and Biosensors at the University of Regensburg, Germany. Before accepting the position in Regensburg, she was Professor of Biological Engineering and Director of Graduate Studies in the Department of Biological

and Environmental Engineering at Cornell University in Ithaca, NY, USA. She is a member of the Extended

Executive Committee of the International Association of Environmental Analytical Chemistry, was the 2010 Chair of the Gordon Research Conference on Bioanalytical Sensors, and has received numerous honors in recent years, including being a finalist for the Blavatnik Award of the NY Academy of Sciences and recipient of a Humboldt Research Fellowship and a German National Science Foundation Mercator Guest Professorship. Her research is focused on the development of micrototal analysis systems and smart-paper-based assays for the detection of pathogens and toxins in food and the environment and for medical diagnostics. Nanomaterials play an increasingly important role in her research, including nanoparticles and nanovesicles for signal amplification and nanofibers for immobilization, detection, and mixing.

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Published in the topical collection celebrating *ABCs 16th Anniversary*.

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### Damià Barceló

has been Full Research Professor at the Institute of Environmental Assessment and Water Studies IDAEA-CSIC (Barcelona, Spain), since 1999 and Director of the Catalan Institute of Water Research (ICRA) (Girona, Spain) since May 2008. His scientific focus is on method development; monitoring; and the

fate of priority, new, and emerging pollutants, in particular, in water quality assessment and management. In 2007, he was awarded the King Jaime I Prize for the Protection of Nature by the Generalitat of Valencia, Spain, for his outstanding scientific work. In 2011, he received the Prince Sultan Bin Abdulaziz International Prize for Water (PSIPW) 5th Award 2012 on Water Management and Protection, Saudi Arabia; and in 2012, the Recipharm Environmental Award, Sweden. In 2014, he was awarded Doctor Honoris Causa by the University of Ioannina, Greece. From 2013 to 2020, he will coordinate two European Union funded projects, GLOBAQUA, on multiple stressors in European river basins, and JPI AWARE, on the fate of pesticides and waterborne contaminants in agricultural crops and their environmental risks. Since November 2016, he has been Full Professor of Biology at the King Saud University, Riyadh, Saudi Arabia, under the Distinguished Scientist Fellowship Program.



### Detlev Belder

is Full Professor of Analytical Chemistry at the University of Leipzig. He was born in 1964 in Celle and studied chemistry at the TU Clausthal and the University of Marburg. He received his Ph.D. in 1994 from the University of Marburg with experimental work performed at the Max-Planck-Institut für

Kohlenforschung in Mülheim an der Ruhr. From 1995 to 2006, he headed the Department of Separation Science at the Max-Planck-Institut für Kohlenforschung. In 2006, he was appointed as Professor of Analytical Chemistry at the University of Regensburg. In 2007, he accepted an offer of Chair of Analytical Chemistry at the University of Leipzig. In 2015, he received the Gerhard Hesse Prize. His current

major research interest is on lab-on-a-chip devices with joint applications in analytical and synthetic chemistry. He is the spokesperson of the research unit “Integrated Chemical Micro Laboratories” (DFG-FOR 2177), which has been funded since 2015 by the Deutsche Forschungsgemeinschaft.



### Bogusław Buszewski

is Full Professor of Analytical Chemistry and Head of the Chair of Environmental Chemistry and Bioanalytics, Faculty of Chemistry, Nicolaus Copernicus University, Torun, Poland. His main scientific interests are concerned with environmental analysis, chromatography and related techniques

(HPLC, SPE, GC, CZE, adsorption, sample preparation), spectroscopy, utilization of waste and sludge, and chemometrics. In October 2007, he was awarded the prestige award Master (Mistrz) by the Foundation for Polish Science (FNP); in 2009, he was awarded the Polish Prime Minister award; in 2015, he was awarded the Knight's Cross of the Order of Polonia Restituta and received an award from the Alexander von Humboldt Foundation; and in 2017, he was awarded by the Societas Humboldtiana Polonorum. He is a member of several editorial boards, including *Analytical and Bioanalytical Chemistry*.



### Rafael Cela

is Professor of Analytical Chemistry at the University of Santiago de Compostela, Spain, leading the research group on chromatography and chemometrics in the Laboratory for Analytical Chemistry at the Research Institute of Food Analysis of that university. His research has focused on the analytical application of separation science

and particularly on the development and optimization of sample preparation microtechniques for chromatographic analysis, including experimental design and the development of computer-assisted chromatographic methods and sample-handling strategies. He is the author of more than 300 scientific papers and several textbooks.



**Theodore Christopoulos** is currently Professor of Analytical Chemistry at the University of Patras, Greece, and a collaborating faculty member at the Institute of Chemical Engineering Sciences, Foundation for Research and Technology Hellas. He is also the Coordinator of the M.Sc. Program in Analytical

Chemistry and Nanotechnology. He served as Head of the Department of Chemistry in 2011–2012 and was a member of the Council of the University of Patras (2013–2017). His research activities cover diverse areas, such as nanoparticle-based biosensors; microanalytical devices; chemical instrumentation; multianalyte methods; bio(chemi)luminescence; fluorescence/time-resolved fluorescence; electrochemistry; technology for the analysis of DNA, RNA, and proteins; and recombinant DNA technology for the development of novel analytical tools. The applications of his research focus on the health sector and the food sector and include diagnostics, pathogen detection, pharmacogenomics, pharmaceutical analysis, and food authenticity testing. He obtained his BSc in pharmacy and Ph.D. in analytical chemistry from the University of Athens, Greece, and a Postdoctoral Diploma in clinical chemistry from the University of Toronto, Canada. He held a Postdoctoral Research Fellowship at the University of Toronto and then he worked as Professor of Chemistry and Biochemistry, University of Windsor, Ontario, Canada. Also, he has been a visiting professor at Harvard University. Among other distinctions, he is the recipient of the Grannis award for Excellence in Research and Scientific Publication from the USA National Academy of Clinical Biochemistry (1997).



**Christopher J. Easley** is C. Harry Knowles Associate Professor of Chemistry and Biochemistry at Auburn University. He earned his degrees in chemistry at Mississippi State University (B.S.) and the University of Virginia (Ph.D.), with postdoctoral training at the Vanderbilt University Medical Center in

Molecular Physiology and Biophysics. He is a co-founder of Proximity Biosciences, LLC, and holds several US patents based on biosensing and microfluidics. He is currently a member of the International Advisory Board of *Analytical and*

*Bioanalytical Chemistry* (2016–present) and a member of the editorial board at *Analytical Methods* (2017–present). He and the members of his laboratory develop microfluidic methods to study dynamic function of small numbers of cells in intact, primary tissue from mouse models of disease. To accommodate bioanalysis at the microscale, his team also develops DNA-driven assays for highly sensitive protein quantification in nanoliter volumes using both fluorescence and electrochemistry.



### Jörg Feldmann

studied chemistry at the University of Essen and received his Dr. rer. nat. from the Institute of Environmental Analytical Chemistry in 1995. He spent more than 2 years at the University of British Columbia (Canada) as a Feodor Lynen Fellow (AvH) and has been at the University of Aberdeen (UK) since 1997

and Professor for Chemistry and Director of TESLA (Trace Element Speciation Laboratory) since 2004. TESLA has around 20 researchers, mainly Ph.D. students and postdoctoral fellows. His work on the analysis of arsenic metabolites was influential for the introduction of a maximum contaminant level in rice by the WHO in 2015. His work has always been hypothesis-driven by unraveling environmental and biological problems and by developing novel analytical systems, such as the simultaneous coupling of HPLC to ICP-MS as an element detector and ESI-MS as a molecular detector. At present, he has published more than 240 peer-reviewed papers in more than 70 journals, which have gained more than 12,000 citations, and given more than 130 invited/keynote and plenary lectures. He has been, among other editorial activities, on the ABC International Advisory Board since 2005 and has a visiting professorship at the Universidade Federal de Santa Catarina, Brazil. Recent prizes include the biennial European Award for Plasma Spectrochemistry in 2015 and the RSC Interdisciplinary Award and Medal in 2016.



### Günter Gauglitz

is Senior Professor at the Eberhard Karls University of Tübingen, working in analytical and physical chemistry. He was chairman of the GDCh Division of Analytical Chemistry and chaired the Europt(r)ode VIII meeting. For more than 15 years, his main scientific

interests have centered on research and development in chemical and biochemical sensors with special focus on the characterization of interfaces of polymers and biomembrane surfaces, spectroscopic techniques, the use of spectral interferometry to monitor changes in optical thickness of thin layers, and effects of Fresnel reflectivity at interfaces. He has been an editor of *Analytical and Bioanalytical Chemistry* (ABC) since 2002.



#### Heidi Goenaga Infante

received her Ph.D. from Oviedo University in 1999. She is currently Principle Scientist and Team Leader of the Inorganic Analysis team within the Health Science and Innovation Division of LGC Limited, where she has worked since 2003. Her key expertise lies in trace element speciation analysis, metallomics re-

search, combined use of elemental and molecular mass spectrometry, size-based element fractionation, and the characterization of “speciated” reference materials and standards. She is the UK representative at the Inorganic Analysis Working Group of the CCQM, the international Consultative Committee for Metrology in Chemistry. She is also the Government Chemist representative on the Nanomaterials Environment and Health Government Group chaired by DEFRA. She is a member of the international advisory and editorial boards of four international peer-reviewed journals. She is the leading author of over 90 scientific research papers and has recently been appointed a Science Fellow of LGC Limited. She has coordinated European Metrology Research work over the past 5 years.



#### Maciej Jarosz

is Full Professor and Chair of Analytical Chemistry at the Faculty of Chemistry, Warsaw University of Technology, Poland; a member of the Board of the Committee on Analytical Chemistry Polish Academy of Sciences and its representative in the Division of

Analytical Chemistry of EuChemS; and an IUPAC Fellow. He is the author or co-author of about 110 original papers and chapters in monographs. His scientific interests focus on cultural heritage preservation (identification

of natural products in art works), food and pharmaceutical analysis, and environmental speciation analysis. He was awarded (among others) the Golden Cross on Merit, Prof. Andrzej Waksmundzki Medal–Committee on Analytical Chemistry, Polish Academy of Sciences Award, and Prof. Wiktor Kemula Medal–Polish Chemical Society Award.



#### Rudolf Krska

is Full Professor for (Bio-)Analytics and Organic Trace Analysis at the University of Natural Resources and Life Sciences, Vienna (BOKU), and Head of the Center for Analytical Chemistry at the Department IFA-Tulln. He has received 10 scientific awards and is

the (co-)author of more than 300 SCI publications (h-index: 52). Thomson Reuters (Web of Science) identified him as one of the world’s most influential contemporary researchers due to his ranking among the top 1% most cited authors. His current research interests are in the area of plant–fungi metabolomics; IR spectroscopy; and novel mass spectrometric methods for the determination of multiple mycotoxins and their metabolites in food, feed, and other biological matrices. Currently, he acts as a coordinator of the European Commission funded project MyToolBox and is also the Green Area Leader at the Austrian Competence Centre for Feed and Food Quality, Safety and Innovation (FFOQSI) with 18 company partners.



#### Aldo Laganà

is Full Professor of Analytical Chemistry at the University of Rome “La Sapienza” and Head of the Department of Chemistry. His research fields are the development and validation of novel analytical methods based on LC coupled with advanced mass spectrometric instrumentation (for example, UHPLC-MS-MS and

nanoLC-HRMS with Orbitrap technology) for the characterization and quantification of natural and anthropogenic substances (e.g., flame retardants, pesticides, mycotoxins, polyphenols, phytoestrogens, and estrogens) in environmental, food, plant, and biological samples. His scientific interests also include proteomic studies (in particular, differential proteome analysis) and the study of interactions between biomolecules and nanoparticles for nanomedicine applications.



**Steven J. Lehotay**

is Lead Scientist with the USDA Agricultural Research Service at the Eastern Regional Research Center in Wyndmoor, PA, USA. His research is devised to improve the monitoring of chemical contaminants in foods by developing novel approaches applied in useful

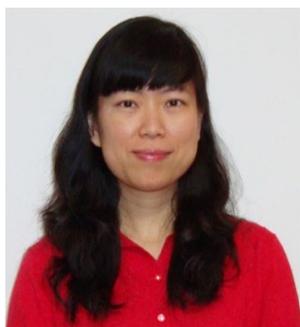
ways. He has (co-)authored > 150 scientific articles and > 200 meeting abstracts. His honors include a USDA Secretary's Honor Award, Clarivate Analytics (Thomson Reuters) Highly Cited Researcher, ACS Division of Agrochemicals Award for Innovation in Chemistry of Agriculture, and AOAC International Harvey W. Wiley Award.



**Peter A. Lieberzeit**

is a chemist and received his Ph.D. from the University of Vienna in 1999. From October 2011, he has been Professor of Analytical Chemistry at the University of Vienna and since February 2016 Professor of Physical Chemistry. He is especially interested in devel-

oping chemical sensors for real-life environments, including complex mixtures based on artificial, biomimetic materials. To date, he has published about 105 articles in peer-reviewed journals.



**Lingjun Li**

is Vilas Distinguished Achievement Professor and Janis Apinis Professor of Pharmaceutical Sciences and Chemistry at the University of Wisconsin-Madison, USA. Her research interests include the development of novel mass spectrometry (MS)-based tools,

such as new chemical tags that enable multiplex quantitative proteomics, microscale separations, in vivo microdialysis, and imaging MS for the functional discovery of neuropeptides and protein biomarkers in neurodegenerative diseases. Her laboratory also explores the novel use of ion mobility MS to address technical challenges in peptidomic research, including site-specific peptide epimer analysis and improvement of isobaric tandem MS quantitation. She has received numerous awards, including an ASMS Research Award, a NSF CAREER Award, a Sloan Fellowship, a PittCon Achievement Award, and the 2014 ASMS Biemann Medal, and was named one of the top 50 most influential women in analytical sciences and was included in the 2016 Analytical Scientist Power List. She served as Associate Editor for *Analytical Methods* (2013–2016) and is currently serving as Associate Editor for the *Journal of The American Society for Mass Spectrometry*.



**Huwei Liu**

is Professor at Peking University, and his research interests focus on bioseparation and detection, including chromatographic and electromigration techniques, as well as their online coupling to mass spectrometry and applications in lipidomics and pharmaceutical analysis. To date, he has authored and co-

authored more than 260 publications, including 15 reviews and 6 book chapters. He received CAIA awards in 2001 and 2015.



**Maili Liu**

received his Ph.D. from the Department of Chemistry, Birkbeck College, University of London. He is the current Director of Wuhan Institute of Physics and Mathematics, Chinese Academy Sciences. His research interests are in developing new NMR methodolo-

gy and applications in biomedicine. He has published over 210 papers in peer-reviewed international journals and several book chapters on these topics.



### María Jesús Lobo-Castañón

is Professor at the University of Oviedo, Department of Physical and Analytical Chemistry, Spain, where she leads the electroanalysis research group. Her research interests focus on the development of electrochemical sensors for clinical diagnosis and food analysis, using different molecular recognition elements, such as enzymes, DNA, aptamers, and molecularly imprinted polymers. She is the author or co-author of over 100 scientific articles and several book chapters in the field.

is Professor at the University of Oviedo, Department of Physical and Analytical Chemistry, Spain, where she leads the electroanalysis research group. Her research interests focus on the development of electrochemical sensors for clinical diagnosis and food analysis, using different molecular recognition elements, such as enzymes, DNA, aptamers, and molecularly imprinted polymers. She is the author or co-author of over 100 scientific articles and several book chapters in the field.



### Juris Meija

is Research Officer at the National Research Council Canada working in the area of chemical metrology and certified reference material development. His expertise lies in theoretical analytical chemistry, isotope ratio measurements, and data analysis.

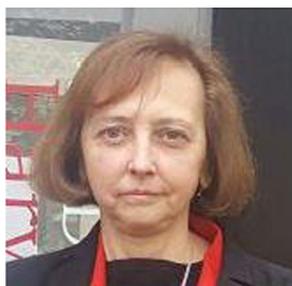
Since 2014, he has served as Chair of the IUPAC Commission on Isotopic Abundances and Atomic Weights and since 2012 as Titular Member on the IUPAC Interdivisional Committee on Terminology, Nomenclature, and Symbols. He is also an IUPAC delegate to the Joint Committee for Guides in Metrology, Working Group 1: Guide to the Expression of Uncertainty in Measurement (GUM); a member of the United States Pharmacopeia Expert Panel on Statistics; and a member of the Statistics and Uncertainty working group of the Regional Metrology Organization for the Americas (SIM). He is a column editor and member of the international advisory board of *Analytical and Bioanalytical Chemistry* and has been actively involved in many recent international activities, such as the redefinition of the mole, naming of the new chemical elements, and revisions of the GUM.



### Hans Maurer

was Full Professor of Pharmacology and Toxicology at the Faculty of Medicine and Faculty of Pharmacy, Saarland University, from 1992 until 2016. He was Head of the Department of Experimental and Clinical Toxicology in Homburg, Germany, and is still active as Senior Professor in the same department. He has published, in addition to three mass spec-

tral databases, over 270 original papers and over 30 invited reviews on his main two areas of research: analytical toxicology (GC-MS, LC-(HR)-MS) and toxicokinetics and metabolism of xenobiotics. He is an editorial board member of various international journals and a guest editor of several special issues within them. He was and is a member of the executive boards of various scientific societies in his field. He received several international scientific awards for his outstanding scientific work, and in 2007, he was awarded the title of Doctor Honoris Causa (honorary doctorate) by the University of Ghent, Belgium.



### Maria C. Moreno-Bondi

received her Ph.D. (1990) from Complutense University of Madrid. She has carried out research work at Columbia University (New York), the Oak Ridge National Laboratory (Tennessee, USA), and the Naval Research Laboratory

(Washington, USA) focused on the development of luminescent methods; optical fiber sensors; and microarrays for environmental, food, and clinical applications. She received tenure in 1991 and, since 2008, she has been Full Professor of Analytical Chemistry at the Complutense University of Madrid. She received the Young Researcher's Award from the Spanish Society of Analytical Chemistry in 1993 and the Research Award in Analytical Chemistry from the Royal Spanish Society of Chemistry in 2010. She is currently Department Chair at the Analytical Chemistry Department at UCM, President of the Society of Applied Spectroscopy, and co-leader of the Chemical Optosensors and Applied Photochemistry Group (GSOLFA). Her research interests include the development of optical sensors and biosensors and of molecular recognition (nano)materials for food, clinical, and environmental analysis.



### David C. Muddiman

is Jacob and Betty Belin Distinguished Professor of Chemistry and Director of the Molecular Education, Technology, and Research Innovation Center (METRIC) at North Carolina State University in Raleigh, NC, USA. He is an editor of *Analytical and Biological Chemistry* and is on the Editorial Advisory Board of *Mass Spectrometry*

*Reviews, Molecular and Cellular Proteomics, Rapid Communications in Mass Spectrometry*, and the *Journal of Chromatography B*. He also serves on the Advisory Board of the NIH-funded Complex Carbohydrate Research Center, University of Georgia, and the Yale/NIDA Neuroproteomics Center, Yale University. He is currently President of the United States Human Proteome Organization (US-HUPO). His group has published over 250 peer-reviewed papers and received four US patents. He is the recipient of the 2015 ACS Award in Chemical Instrumentation; the 2010 Biemann Medal from the American Society for Mass Spectrometry; the 2009 NCSU Alumni Outstanding Research Award; the 2004 ACS Arthur F. Findeis Award; the 1999 American Society for Mass Spectrometry Research Award; and the 1990–1991 Safford Award, University of Pittsburgh, for Excellence in Teaching.



### Reinhard Niessner,

Full Professor for Analytical Chemistry at the Technical University of Munich, Germany, was born in 1951. After becoming a lecturer in 1985, he served from 1986 to 1989 as Professor for Inorganic and Analytical Chemistry at the University of Dortmund. After refusing several calls to different academic and industrial positions,

in 1989, he finally accepted a call for his position as Head of the Institute and Chair holder in Munich. He retired on March 31, 2017. His research interests are within environmental analytical chemistry, especially devoted to applications of laser spectroscopy, nanoparticle characterization, and microarray technologies. The main subjects of interest are aerosols, hydrocolloids, and biofilms within hydro- and atmospheres. He received several international and highly

prestigious awards, such as the Emanuel Merck Prize for Analytical Chemistry (1990), the Smoluchowski Award for Aerosol Research of the Association for Aerosol Research (1991), the Fritz Pregl Medal of the Austrian Society for Analytical Chemistry (1996), and the Fresenius Award for Analytical Chemistry of the German Chemical Society (2000). He served in many national and international scientific organizations, such as within IUPAC as a Titular Member and the European Science Foundation. He was also on the Board of Directors of the Clean Air Commission of the German Engineers Association (VDI/DIN), the Hydrochemical Division of the German Chemical Society, Association for Aerosol Research, and a member of the Senate Commission for Water Research of the German Research Society.



### Joaquim A. Nóbrega

is Full Professor at the Department of Chemistry, Federal University of São Carlos (São Carlos, SP, Brazil). He is a member of the Group for Applied Instrumental Analysis. His main research interests are microwave-assisted sample preparation for inorganic analysis and inductively

coupled plasmas associated with optical emission and mass spectrometry. He is a member of the Brazilian Academy of Sciences, São Paulo State Academy of Sciences, and Fellow of the Royal Society of Chemistry.



### Valérie Pichon

has been Full Professor at the UPMC (Sorbonne University, Paris) since 2010. She leads the Department of Analytical, Bioanalytical Sciences and Miniaturization, part of the Institute of Chemistry Biology and Innovation (CBI) located at the ESPCI Paris. She has also co-led the CBI since January 2014 (more than 120 researchers).

Her major research interests include the synthesis, characterization, and miniaturization of stationary phases based on antibodies or aptamers and molecularly imprinted polymers. She is the author of more than 110 publications and five book chapters. In 2001, she was rewarded with a prize from the

Analytical Chemistry Department of the French Society of Chemistry. She is currently Vice President of AfSep (French Association of Separation Sciences). In 2016, she was included in the list of the top 50 most influential women in the analytical sciences by *The Analytical Scientist*.



#### Juergen Popp

holds a chair for Physical Chemistry at the Friedrich-Schiller University Jena and is also Scientific Director of the Leibniz Institute of Photonic Technology, Jena. His research interests are mainly concerned with biophotonics. In particular, his expertise in the development and application of innovative Raman techniques for

biomedical diagnosis should be emphasized. He has published more than 700 journal papers and has been named as an inventor on 12 patents in the field of spectroscopic instrumentation. In 2012, he received an honorary doctoral degree from Babeş-Bolyai University in Cluj-Napoca, Romania. He is the recipient of the prestigious 2016 Pittsburgh Spectroscopy Award. In 2016, he was elected to the American Institute for Medical and Biological Engineering (AIMBE) College of Fellows.



#### Aldo Roda

is Professor of Analytical Chemistry in the Department of Chemistry of Alma Mater Studiorum, University of Bologna, Italy. He is Past-President of the International Society for Bioluminescence and Chemiluminescence and Vice President of INBB: Biostructures and Biosystems National Institute. He is an editor of *Analytical and*

*Bioanalytical Chemistry* and Associate Editor-in-Chief of *Luminescence: The Journal of Biological and Chemical Luminescence*. He is Secretary of the Academy of Science of Bologna and President of the Chemistry Doctoral School at the University of Bologna. His main research activity focuses on the development of sensitive miniaturized bioassays, immunoassays, biosensors, and imaging based on biochemiluminescence, electrogenerated luminescence, and thermo-chemiluminescence. Analytical mass spectrometry using matrix-assisted laser desorption ionization and

high-performance liquid chromatography–electrospray tandem mass spectrometry is also part of his scientific activity. He has published more than 500 articles, is a co-author of many international patents, and has presented up to 200 invited lectures and oral presentations at international conferences.



#### Luigia Sabbatini

has been Full Professor of Analytical Chemistry at the University of Bari (Italy) since 1986, Director of the Research Center “Laboratory for Diagnostics in Cultural Heritage,” University of Bari, and a representative of the Italian

Chemical Society in the Analytical Chemistry Division (DAC) of EuCheMS. She is on the Advisory Board of *Analytical and Bioanalytical Chemistry* and Associate Editor of *Vacuum*. She is a co-author of about 190 ISI papers, co-inventor of several international patents, and editor and co-editor of books on surface analysis of polymer materials. She has been an invited speaker at international and national conferences. She was also awarded the Canneri Medal from the Analytical Chemistry Division of the Italian Chemical Society. Her scientific interests include the development of innovative, nanostructured materials for the cleaning of and biofouling prevention of stone surfaces, as well as the development of analytical methods for the study of materials in artworks (ceramics, glasses, paintings, coatings, and decorations). In recent years, she has focused on the study of the composition and chemical aging of surface decoration by XPS, lipids and proteins in paintings by MALDI-TOF, pigments by micro-Raman spectroscopy, and synthetic materials (acrylic-, alchidic-, and vinylic-based polymers/copolymers) used in modern paintings as well in restoration by MALDI-TOF and Py-GC/MS.



#### Alfredo Sanz-Medel

has been Professor in the Department of Physical and Analytical Chemistry of Oviedo University, Spain, since 1982. After completing his Ph.D. in 1973, he carried out postdoctoral work on atomic fluorescence at the Imperial College of Science and Technology in London.

Back in Spain, he became Assistant Professor of Analytical Chemistry at Complutense University (Madrid) in 1975, and

in 1978, he moved to Oviedo as Associate Professor. His present research interests include the development of new atomic detectors and analytical methodologies for ultratrace elemental analysis using spectrochemical plasmas (GD-OES, ICP-MS, GD-MS); new molecular sensors, particularly those based on the use of quantum dots for bio-nanoapplications using molecular and elemental detection (luminescence and ICP-MS); hybrid technique development, coupling a separation unit and an atomic detector, for ultratrace and trace metal analysis and their speciation to solve biological, biomedical, and environmental problems; and speciation for proteomics, integrating MS “molecular” (MALDI-TOF and electrospray-Q-TOF) and “atomic” (ICP-MS) metal and semimetal biomolecules, promoting the extensive use of “heteroatom-tagged proteomics” and bio-nanotagging approaches for early-warning disease biomarkers. He is the author and co-author of around 650 scientific publications in international journals, several patents, and a number of books. He has received international prizes and awards including the “Robert Kellner Lecture” (2007); the European Winter Conference Award on Plasma Spectrochemistry (2011); a Chemistry EuCheMS Award, Belgrade (2011); and Colloquium Spectroscopicum Internationale Award, CSI Award, Coimbra (2015). He has been an editor of *Analytical and Bioanalytical Chemistry* since 2003.



### Stephen A. Wise

recently retired from the National Institute of Standards and Technology (NIST) in Gaithersburg, Maryland, where he was involved in the development of analytical methods and Standard Reference Materials (SRMs) for the determination of trace organic constituents in environmental, clinical, food, and dietary supplement matrices. He is

currently a Scientific Consultant for the Office of Dietary Supplements at the National Institutes of Health (NIH-ODS) in Bethesda, Maryland, where he supports the Analytical Methods and Reference Materials (AMRM) Program. He continues to have research interests in chromatographic methods for polycyclic aromatic hydrocarbons (PAHs) and investigations of chromatographic separation mechanisms and chromatographic selectivity for PAHs and related compounds.



### Marcela Segundo

is Professor at the Faculty of Pharmacy, University of Porto, and Senior Researcher at REQUIMTE-PT Government Associate Laboratory. She received the FIA award for Science (2016) and she is a member of the Steering Committee of the Division of Analytical Chemistry in EuCheMS

(2018). She is the author or co-author of more than 100 peer-reviewed publications. Her scientific interests are focused on sample treatment, miniaturization of analytical devices, and hyphenation of flow techniques for high-throughput analysis.



### Adam T. Woolley

is Chair Editor of *Analytical and Bioanalytical Chemistry* and University Professor in the Department of Chemistry and Biochemistry at Brigham Young University in Provo, UT, USA. His current research focuses on 3D-printed integrated microfluidics for biomarker measurement, analytical systems for the identification of bacteria and antibiotic resistance genes in sepsis, and biotemplated fabrication of nanoelectronics.

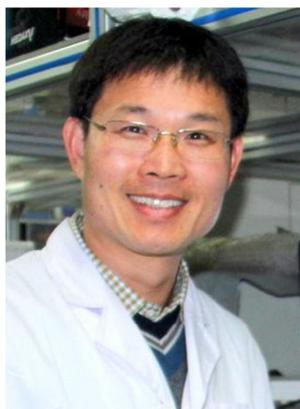
ical systems for the identification of bacteria and antibiotic resistance genes in sepsis, and biotemplated fabrication of nanoelectronics.



### Guowang Xu

is Professor and Director of the CAS Key Laboratory of Separation Science for Analytical Chemistry, Dalian Institute of Chemical Physics (DICP), Chinese Academy of Sciences. He is also Director of the Metabolomics Research Center and administrative Vice Director of the

Biotechnology Division at DICP. He has co-written five books and published more than 360 peer-reviewed papers in the “Web of Science Core Collection” indexed journals and holds more than 40 China patents. He is Deputy President of the Chromatography Committee and Mass Spectrometry Committee of Chinese Society of Chemistry and is a member of the permanent scientific committee of HPLC. He received second prize of the national science and technology progress award and second prize of the Liaoning Province science and technology invention award. His main research fields are in chromatography-mass spectrometry related research and metabolomics applications in disease biomarker discovery, traditional Chinese medicines, and food safety.



### Chaoyong Yang

received his Ph.D. in chemistry from the University of Florida. After postdoctoral training at the University of California, Berkeley, he moved to Xiamen University, where he is now Lu Jiayi Professor of Chemistry in the Department of Chemical Biology. His current research is particularly focused on molecular engineering, mo-

lecular recognition, high-throughput evolution, single-cell analysis, and microfluidics. He has published more than 130 papers, which have collected over 6000 citations. He sits on the advisory boards of six journals and was the recipient of the CAPA Distinguished Faculty Award in 2012, the National Outstanding Young Investigator Award in 2013, the Chinese Young Analyst Award in 2015, and the Chinese Chemical Society-Royal Society of Chemistry Young Chemist Award in 2016.



### Lihua Zhang

is Full Professor and group leader at the National Chromatographic R. & A. Center, Dalian Institute of Chemical Physics, Chinese Academy of Sciences (CAS). She was selected to join the “100 Talents Project” of CAS and “Young and Middle-Aged Leading Scientists, Engineers and

Innovators Project” of the Ministry of Science and Technology. Her research interests are focused on the development of new materials, methods, and platforms for the qualitative and quantitative analysis of proteomes and protein-protein interactions. She has published over 200 SCI papers.



### Xiangmin Zhang

is Professor of Analytical Chemistry in both the Department of Chemistry and the Institutes of Biomedical Sciences at Fudan University in Shanghai. He is also Head of the Chemical Biology Division. His major research interests include multidimensional chromatography, instrumentations, proteomic analysis, nanomaterial develop-

ments for protein/peptide enrichments/separations, biomass spectrometric techniques for ultrasensitive detection, and hyphenated technologies for disease biomarker discovery. He is author or co-author of over 260 peer-reviewed papers.



### Wenwan Zhong

is Professor of Analytical Chemistry at the University of California, Riverside. Her research focuses on the development and application of micro-scale separation and sensors for biomarker discovery, functional study, and detection. Her current work covers three distinct areas: the use of microfluidics and flow field flow fractionation for analysis of circulating biomarkers;

the use of capillary electrophoresis, mass spectrometry, and optical spectroscopy for the assessment of the interaction between engineered nanomaterials and biomolecules; and the use of synthetic receptors for the exploration of post-translational modifications in proteins.