

## Meet the contributors

### Nicola Oberbeckmann-Winter

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This special issue celebrates the 13th Anniversary of *Analytical and Bioanalytical Chemistry* (ABC) by highlighting current research from the Editorial Board of ABC. The strong commitment and dedication of the Editors and International Advisory Board have been of enormous value in establishing ABC as an international journal for rapid publication and global visibility of analytical research.



#### Marco Aurélio Zezzi Arruda

is Full Professor at the University of Campinas—Unicamp (Campinas, Brazil), Department of Analytical Chemistry; Head of the Department of Analytical Chemistry, Institute of Chemistry, Unicamp; Head of the Sample Preparation, Spectrometry and Mechanization group—GEPAM; and a member of the advisory board of the National Institute of Science and Technology—INCT, for Bioanalytics. He is a member of the editorial staff or advisory board of Analytical and Bioanalytical

Chemistry, Metallomics, Journal of Integrated Omics, and Brazilian Journal of Analytical Chemistry; a member of the advisory board of the Brazilian Mass Spectrometry Society (BrMASS) and Brazilian Chemistry Association (ABQ); and he is a coordinator of the inorganic mass spectrometry area of the BrMASS. His current research interests include trans-disciplinary work, involving speciation analysis and comparative omics of plants (i.e., soybean, sunflower, *Arabidopsis thaliana*) and human bodily fluids (i.e., blood serum, urine, saliva) to identify possible biomarkers for transgenic species and human diseases, as well as to evaluate the production of reactive oxygen species, and (metallo)proteins responses under stress in a given system. He is the author or co-author of over 170 research articles, 5 book chapters, 5 patents, over 35 invited lectures at national/international meetings, and the editor of 1 book. Additionally, he has over 3100 citations in the literature and an *h* index of 30.

In preparing this 13th Anniversary Issue, we are grateful for the overwhelming support we have received and thank all contributors for generously providing excellent research articles, critical reviews, and trend articles from the forefront of their research. Below, we invite you to meet those who contributed to this exceptional issue.



#### Craig A. Aspinwall

is an Associate Professor in the Department of Chemistry and Biochemistry at the University of Arizona. His research focuses on the development and application of optical and electro-physiological sensors and microscale separations for the analysis of biological systems. He is a recipient of the ACS Division of Analytical Chemistry Award for Young Investigators in Separation Science (2009) and was an inaugural ACS GREET (Global Research Experiences, Exchanges, and Training) Scholar (2011).



#### Antje Baeumner

is Director and Professor of the Institute of Analytical Chemistry, Chemo and Biosensors at the University of Regensburg. Until 2013 she was Professor of Biological Engineering at Cornell University, where she started her tenure-track career as Assistant Professor in 1999 and, to date, remains active on the faculty. Her research focuses on the development of lab-on-a-chip devices and paper-based bio-

sensors for the detection of pathogenic organisms and toxins. She has received numerous awards for her teaching and research, including the State University of NY Chancellor's Award in Excellence in Teaching, an Alexander-von-Humboldt Research Fellowship, and a DFG Mercator Visiting Professorship, as well as being a finalist for the Blavanik Award for Young Scientists.

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#### Damià Barceló Cullerés

is Full Research Professor and Deputy Director at IDAEA-CSIC and, since 2008, Director of the Catalan Institute for Water Research (ICRA). Since 2009, he has been Visiting Professor at King Saud University, Riyadh, Saudi Arabia. Apart from receiving the renowned King Jaime I Award from the Generalitat of Valencia (Spain) for the Protection of Nature in 2007, he also received the Prince Sultan Bin Abdulaziz International Prize for

Water and the Recipharm Environmental Award in 2012. His research interests are in environmental analysis and the fate and behavior of organic pollutants in water, sediment, and biota, using mass spectrometric techniques, immunoassay, toxic assays, and biosensors. In recent years, his interests have also included bridging environmental and health risks in the field of emerging contaminants.



#### Jörg Feldmann,

a Feodor Lynen Fellow (Alexander von Humboldt Foundation), is currently Head of Chemistry at the University of Aberdeen (UK), where he has been the Chair in Environmental Analytical Chemistry and Director of TESLA (Trace Element Speciation Laboratory) since 1997. He has pioneered the simultaneous hyphenation of ICPMS and ESI-MS to HPLC for the determination of labile metal (mainly arsenic) biomolecule interactions, which are crucial for explaining environmental and biological processes.

In addition, he developed laser ablation ICPMS for dynamic bioimaging of elements in biological tissues from trace experiments. He is the author or co-author of more than 190 peer-reviewed publications.



#### Maria Careri

has been Full Professor of Analytical Chemistry at Parma University since 2001 and Head of the Chemistry Department at the same University since 2012. She has also been Director of the University Master Course Chemistry Laboratory Quality Systems since 2002 and Director of the National School of “Analytical and Bioanalytical Methodologies Based on Mass Spectrometry” of the Italian Chemical Society from 2005. For the past 10 years, her research activities have centered on the development of

novel materials for solvent-free extraction techniques for food safety and environmental monitoring and development of innovative methods for structural and functional proteomics using mass spectrometry based techniques. Her current research interests include the development of novel materials for desorption electrospray ionization and matrix-assisted laser desorption ionization mass spectrometry techniques and the developments of biosensors for diagnostic purposes. She is the author of more than 160 scientific papers in international peer-reviewed journals and of more than 250 communications at national and international symposia.



#### 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 a special focus on the characterization of interfaces of polymers and biomembrane surfaces, spectroscopic techniques, the

use of spectral interferometry to monitor changes in the optical thickness of thin layers, and the effects of Fresnel reflectivity at interfaces. He has been an Editor of Analytical and Bioanalytical Chemistry (ABC) since 2002.



#### Rafael Cela

is Professor of Analytical Chemistry at the University of Santiago de Compostela, Spain, leading a 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 250 scientific papers and several textbooks.



#### Heidi Goenaga-Infante

joined LGC as a Senior Researcher in speciation analysis in 2003. She is currently Principal Scientist and Team Leader of the Inorganic Analysis team within the Science and Innovation Division. Her team expertise lies in trace element speciation analysis, metallomics research, size-based element fractionation, high-accuracy bulk and spatial elemental and isotope ratio analysis, 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 a member of the advisory board of Metallomics, a member of the editorial board of JAAS, and a member of IUPAC. She currently coordinates the EU project NanoChop (Chemical, Optical and Physical Characterisation of Nanomaterials in Biological Samples) and leads work packages within the EU projects “Metrology for Metalloproteins” and “Traceability of Mercury Measurements in the Environment”.



#### Michal Holčapek

is Full Professor of Analytical Chemistry at the Department of Analytical Chemistry, University of Pardubice, Czech Republic. His research interests are mass spectrometry and LC/MS with applications in the lipidomic analysis of various types of lipid isomers, the lipidomic quantitation of biological samples, and the search for lipid biomarkers of serious human diseases. He is the co-author of 106 papers with an *h* index of 30. He is also editor of the book ‘Extreme Chroma-

tography: Faster, Hotter, Smaller’ and of special mass spectrometry volumes in *Journal of Chromatography A*, as well as of the lipidomics virtual issue in *Analytical Chemistry*. He is also on the Power List of the 100 most influential people in the analytical sciences presented by *The Analytical Scientist*.



#### Kiyokatsu Jinno

is currently Professor Emeritus and Guest Professor at the Department of Environmental and Life Sciences, Toyohashi University of Technology, Japan. His research interests focus on the miniaturization of analytical separation systems and sample preparation. He has received various awards, such as the Golay medal.



#### Marilyn A. Huestis

is Chief of Chemistry and Drug Metabolism, National Institute on Drug Abuse, National Institutes of Health. Her main research interests are the pharmacology of cannabinoid agonists and antagonists, in utero drug exposure, and the many new psychoactive substances that are the current face of drug abuse. She has published 348 peer-reviewed manuscripts, and more than 500 abstracts.

She has received many awards, including the Distinguished Fellow of the American Academy of Forensic Sciences (AAFS), Australian Distinguished Visiting Scholar, Inspiring Minds in Clinical Chemistry, Alan Curry Lifetime TIAFT Achievement Award, Doctor Honoris cause from University of Helsinki Faculty of Medicine, Outstanding Contributions in Research from AACC, Irving Sunshine Award from IATDMCT, and the Rolla N. Harger Forensic Toxicology Award from AAFS.



#### Uwe Karst

obtained his Ph.D. in Analytical Chemistry from the University of Münster, Germany, in 1993, and was a Postdoctoral Research Associate at the University of Colorado in Boulder, CO, USA. After his return to the University of Münster, he finished his Habilitation in 1998. In 2001, he took over a position as Full Professor of Chemical Analysis at the University of Twente, The Netherlands. He accepted his current position as Chair of Analytical Chemistry at the University of Münster in 2005.

His research interests focus on hyphenated analytical techniques and their (bio)medical and pharmaceutical applications, including elemental speciation analysis, metallomics, mass spectrometric imaging, and electrochemistry/MS.



#### Maciej Jarosz

is Chair of Analytical Chemistry, Faculty of Chemistry, Warsaw University of Technology, Poland; a former Vice President and Treasurer of the Polish Chemical Society; a member of the board of the Committee on Analytical Chemistry, Polish Academy of Sciences; a national representative in the Division of Analytical Chemistry of IUPAC; and a member of the Steering Committee of the Division of Analytical Chemistry of EuChemS. He is the author or co-author of about 100 original papers and chapters in mono-

graphs, and has given more than 200 lectures and made other contributions to scientific conferences. 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) with an Honored Award of the Polish Chemical Society and the Prof. Andrzej Waksmundzki Medal from the Committee on Analytical Chemistry, Polish Academy of Sciences Award.



#### David A. Keire

is a Research Chemist in the Division of Pharmaceutical Analysis within the Center for Drug Evaluation and Research at the US Food and Drug Administration. He is an analytical chemist with expertise in NMR spectroscopy. His focus at the US FDA is on the application of modern analytical methods to the assessment of drug quality. His current work includes studies on the comparison and characterization

of complex carbohydrate drugs, protein therapeutics, and monoclonal antibodies.



#### Rudolf Krska

is Full Professor for (Bio-) Analytics and Organic Trace Analysis and is Head of the Department for Agrobiotechnology, IFA Tulln, with more than 170 co-workers at the University of Natural Resources and Life Sciences, Vienna (BOKU). In 2009/2010, he worked for 1 year as Chief of Health Canada's Food Research Division in Ottawa. He has received 6 scientific awards and is (co-)author of more than 200 SCI publications (*h* index of 39). His current

research interests are in the area of plant–fungi metabolomics and mycotoxin determination by novel mass spectrometric and infrared based techniques.



#### Aldo Laganà

has been Full Professor of Analytical Chemistry at the Faculty of Sciences of Sapienza University of Rome since 2002 and Head of the Chemistry Department since 2003. His research activities are focused on the development and validation of novel analytical methods by means of advanced mass spectrometric instrumentation (such as LC–MS/MS and nanoLC–HRMS with Orbitrap technology) for characterization and quantification of natural and anthropogenic substances (e.g., flame retardants, pesticides, mycotoxins, polyphenols, phytoestrogens, estrogens, and other endocrine disrupter compounds) in environmental, food, plant, and biological matrices. In recent years, he has also turned his attention to proteomics and metabolomic studies, as well as to the interactions between biomolecules and nanoparticles for gene/drug delivery.

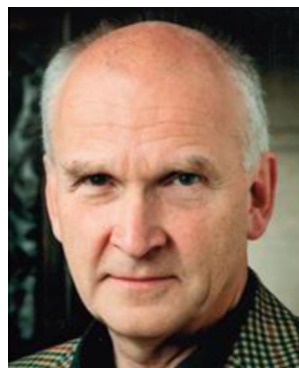
studies, as well as to the interactions between biomolecules and nanoparticles for gene/drug delivery.



#### Frances S. Ligler,

Dr.Phil., Dr.Sc., is the Lampe Distinguished Professor of Biomedical Engineering at the University of North Carolina at Chapel Hill and North Carolina State University, Senior Scientist Emerita at the US Naval Research Laboratory, and a Member and Councilor of the US National Academy of Engineering. Currently working in the fields of biosensors and microfluidics, she has also performed research in biochemistry, immunology, and tissue engineering. She has over 375 full-length publications and patents, which have led to 11 commercial biosensor products, and she has been cited over 12,000 times (*h* index of 64). Her major awards include the 2003 Homeland Security Award from the Christopher Columbus Foundation; the 2003 Presidential Rank of Distinguished Senior Professional from President Bush; the 2012 Presidential Rank of Meritorious Senior Professional from President Obama; and an honorary doctorate from the Agricultural University of Athens, Greece, in 2014.

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#### Wolfgang Lindner

is an expert in separation technologies with a focus on molecular recognition phenomena in separation sciences, life-science analysis, and materials science, as well as developing diverse stationary phases with dedicated selectivity properties. Among these stationary phases, the chiral stationary phases (CSPs) have become the most widely known. He is the author and co-author of more than 440 publications, leading to >10,000 citations. Among other

prizes, he has received the Chirality Medal, the A.J.P. Martin Gold Medal, the Halasz Medal, the ACS Award for Chromatography, the CaSSS Award for outstanding achievements in separation science, and very recently the Nemst-Tswett Award from the European Society of Separation Sciences (EuSSS).



#### R. Kenneth Marcus

is Professor of Chemistry at Clemson University, where he has served on the faculty since 1986. His research interests are diverse, including the development of capillary-channeled polymers (C-CP) for applications in protein analytics and downstream processing, and the implementation of liquid sampling–atmospheric pressure glow discharge (LS-APGD) microplasmas as sources for atomic emission and mass spectrometric

analyses. His research has resulted in over 170 peer-reviewed publications and yielded 30 Ph.D. graduates. He has been elected as a Fellow of the Royal Society of Chemistry and the American Association for the Advancement of Science.



#### Hans H. Maurer

has been Full Professor of Pharmacology & Toxicology at the Faculty of Medicine and Pharmacy, Saarland University, since 1992, and Head of the Department of Experimental and Clinical Toxicology in Homburg, Germany. He has published over 260 original papers and been invited to write reviews on his two main areas of research: analytical toxicology (GC-MS, LC–HR-MS), and the toxicokinetics and metabolism of xenobiotics. He is a member of the editorial board

of various international journals and a member of the executive boards of scientific societies in his field. He has received several international scientific awards, including the title of Doctor Honoris Causa (honorary doctorate) in 2007 from the University of Ghent, Belgium.



### Juris Meija

is a Research Officer at the National Research Council, Canada. His research interests encompass theoretical analytical chemistry, isotope-ratio measurements, and the history of chemistry. He serves as Column Editor for the analytical challenge series in *Analytical and Bioanalytical Chemistry* and is the Chairman of the IUPAC Commission on Isotopic Abundances and Atomic Weights.



### David C. Muddiman

is currently Distinguished Professor of Chemistry and Founder and Director of the W.M. Keck Fourier Transform Mass Spectrometry Laboratory at North Carolina State University in Raleigh, NC, USA. His research interests include the development and application of novel chemistries, advanced separations, ionization sources, and mass spectrometry directed at ovarian cancer research. His group has presented over 500 invited lectures and presentations at national and international meetings, has published over 200 peer-reviewed papers and reviews, and has been awarded 4 US patents. He is the recipient of the 2010 Biemann Medal, 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 Safford Award, University of Pittsburgh, for Excellence in Teaching.



### Boris Mizaikoff

is a Chaired Professor at the University of Ulm and Director of the Institute of Analytical and Bioanalytical Chemistry (IABC), Ulm, Germany. His research interests include optical chemo-/bio-sensors, infrared spectroscopy and sensing technologies, quantum cascade lasers, multifunctional (nano-)analytical systems, sensor miniaturization, on-chip sensing platforms, integration and micro-/nanofabrication, focused ion

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### Valérie Pichon

is Full Professor at the UPMC. Since 2009, she has been leading the Department of Analytical, Bioanalytical Sciences and Miniaturization, which is part of the UMR Chimie Biologie Innovation. It comprises a team of 30 researchers (permanent staff, postdoctoral researchers, and PhD students) and is located at the ESPCI ParisTech. She also co-leads the UMR CBI (more than 100 researchers). Her major research interests include developing stationary phases based on antibodies or aptamers and molecularly imprinted polymers to selectively extract organic molecules from complex samples, and is always trying to miniaturize these tools. She is the author of more than 90 publications (*h* index of 32), 5 book chapters, and holds a patent. In 2001, she was awarded the Chemistry Prize of the Analytical Chemistry Department of the French Society of Chemistry. Furthermore, she is currently Vice President of AfSep (Association Française des Sciences Séparatives), the French Association of Separations Sciences.



### Maria C. Moreno-Bondi

has been Full Professor at the Department of Analytical Chemistry of Complutense University since 2008 after receiving her Ph.D. in analytical chemistry from the Complutense University of Madrid (Spain) in 1990. She received the Young Researcher's Award from the Spanish Society of Analytical Chemistry in 1993 and a Research Award in Analytical Chemistry from the Royal Spanish Society of Chemistry in 2010. Her research

interests lie in the development of optical chemical sensors and biosensors and their applications to environmental and food analysis, as well as in the development of biomimetic recognition elements for sensing and separation purposes.



### Jürgen Popp

studied chemistry at the universities of Erlangen and Würzburg. After receiving his Ph.D. in chemistry, he joined Yale University for postdoctoral work. He subsequently returned to Würzburg University, where he finished his Habilitation in 2002. Since 2002, he has held the Chair for Physical Chemistry at the Friedrich-Schiller University Jena. Furthermore, since 2006, he has been the Scientific Director of the Leibniz Institute of Photonic Technology, Jena. His research interests are mainly concerned with biophotonics, in particular, the development and application of

innovative Raman techniques for biomedical diagnostics, as well as environmental and food analysis. He has published more than 450 papers in journals and is a fellow of SAS and SPIE. In 2012, he received an honorary doctorate from Babes-Bolyai University Cluj, Napoca, Romania, and in 2013 the Robert-Kellner Lecture Award.



#### Luigia Sabbatini

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about 170 ISI papers, co-inventor of several international patents, and editor or co-editor of books on surface analysis of polymer materials. Her main scientific interests focus on the development of application-oriented innovative (nano)materials, and on the design of surface architectures for biomedical devices and sensors and their characterization by X-ray photoelectron spectroscopy. Recently, she has devoted her attention to the development of nondestructive and noninvasive analytical methodologies for the characterization of samples in the field of cultural heritage.



#### Yoshihiro Saito

has been Associate Professor at the Department of Environmental and Life Sciences, Toyohashi University of Technology, Japan, since 2008. He received his Ph.D. in 1996 from the same university. After 2 years as a Postdoctoral Researcher in the USA, he returned to Toyohashi as a Research Associate, and was then promoted to Assistant Professor (2000) and Associate Professor (2008). He received the Young Scientist Award from The Society for Chromatographic Sciences (Japan)

in 2002 and the Tokai Chemical Industry Award (Japan) in 2004. He has served as Secretary General of The Society of Chromatographic Sciences since 2012 and as Associate Editor of Analytical Sciences (2009–2014). His research interests include the development of micro-scale analytical systems, such as microextraction and microcolumn separation techniques, hyphenated systems based on these techniques, new stationary phase design and synthesis, and the application of fibrous materials to microscale extraction/separation methods. He is the author or co-author of over 130 research papers in separation science.



#### Renato Seeber

is Professor of Analytical Chemistry at the University of Modena and Reggio Emilia, Italy. He is the co-author of about 190 scientific publications and chapters of books, and has also been editor or co-editor of special issues for various journals, such as *Sensors*, *Analytical and Bioanalytical Chemistry*, and *Electrochimica Acta*. His current interests are in the field of electrochemical sensing, from the design,

realization, and characterization of new materials, devices, and measurement procedures, to elaboration of the relevant responses. Previously, he was interested in molecular electrochemistry, in the definition of novel algorithms for simulation and analysis of electrode mechanisms, and in experimental and theoretical studies of equilibria and kinetics of interest in food and soil chemistry.



#### Torsten C. Schmidt

is Head of the Department of Instrumental Analytical Chemistry and the Center for Water and Environmental Research (ZWU) at the University of Duisburg-Essen, and Scientific Director at the IWW Water Centre in Mülheim an der Ruhr. He is currently President of the German Water Chemistry Society. In 2013, he received the Fresenius Award from the German Chemical Society. His main research interests include the development and application of ana-

lytical methods with a focus on separation techniques (GC, LC), sample preparation, compound-specific stable isotope analysis, process-oriented environmental chemistry, and oxidation processes in water technology.



#### Toshimasa Toyo'oka

is Full Professor at the School of Pharmaceutical Sciences and the Graduate School of Pharmaceutical Sciences, University of Shizuoka, Japan. He is also Dean of the Graduate School of Pharmaceutical Sciences. His major research interests are the development of new chiral derivatization reagents for various functional groups, new analytical methods including high-throughput separations (UPLC and SFC, etc.), highly sensitive detections (FL and MS, etc.) of biomolecules, and bio-

marker discovery in noninvasive samples (saliva and hair, etc.) for the diagnosis of disease. He is the author and co-author of over 230 original scientific papers, 20 review papers, and 25 book chapters. In 2011, he received the Society Award from the Japan Society for Chromatographic Sciences.



#### Miguel Valcárcel

has been Full Professor of Analytical Chemistry at the University of Córdoba since 1976. His master research lines have focused on analytical nanoscience and nanotechnology, and the automatization/miniaturation/quality of (bio-)chemical measurement processes. He is the author and co-author of more than 900 scientific articles, 8 monographs, 10 textbooks, and 20 book chapters. He has been the coordinator

of 25 Spanish scientific research projects, 14 of which were international in nature, and of 12 contracts with private firms, and has promoted a spin-off company devoted to nanotechnology. He has been co-supervisor of 75 doctoral theses and invited lecturer at 70 international meetings. He is the recipient of national (e.g., Award in Chemistry in Spain, 2005) and international (e.g., Robert Boyle Medal from the RSC, 2004) scientific prizes, as well as having received the Doctor Honoris Causa from the University of Valencia (Spain).



#### Frank Vanhaecke

is Senior Full Professor of Analytical Chemistry at Ghent University (Belgium) and has a passion for the determination, speciation, and isotopic analysis of (trace) elements by inductively coupled plasma mass spectrometry (ICP-MS). He leads the Atomic & Mass Spectrometry (A&MS) research group, which studies fundamentally oriented aspects of the technique and develops methods for solving challenging scientific problems in an interdisciplinary context. So far, his scientific research has resulted in more than 250 publications in peer-reviewed journals. In 2011, he received a European Award for Plasma Spectrochemistry for his contributions to the field. He is a Fellow of the Royal Society of Chemistry (RSC) and the Society for Applied Spectroscopy (SAS). Picture © Cédric Verhelst.



#### Adam T. Woolley

is Professor and Associate Chair in the Department of Chemistry and Biochemistry at Brigham Young University in Provo, UT, USA. He is the recipient of a Presidential Early Career Award for Scientists and Engineers (2006) and the ACS Division of Analytical Chemistry Award for Young Investigators in Separation Science (2007). His current research focuses on three general topics: the development of novel and sophisticated integrated microfluidic systems for preterm birth biomarker

quantitation, the design of simple miniaturized biomolecular assays, and biotemplated fabrication of nanoelectronic systems.



#### Guowang Xu

is the Director of the Metabonomics Research Center in the Dalian Institute of Chemical Physics, Chinese Academy of Sciences. In 2004, he obtained the Distinguished Young Scientists award from the National Natural Science Foundation of China. He was the co-chairman of the 30th ISCC in China, 33rd HPLC in Japan, and 37th HPLC in China, and is a member of the permanent scientific committee of HPLC. His main research interests are in chromatography, mass spectrometry, and

metabolomics applications in disease biomarker discovery, traditional Chinese medicines, and food safety.



#### Xiangmin Zhang

is Professor of Analytical Chemistry in the Department of Chemistry at Fudan University with a secondary appointment at the Institutes of Biomedical Sciences in Shanghai, China. He is also a member of the editorial board of *Proteomics* and the *Chinese Journal of Chromatography*. His major research interests include chromatographic separation; developing nanomaterials for the enrichment of proteins/peptides; and the development of chromatographic techniques, mass

spectrometric methods, and hyphenated technologies for proteomic analysis and disease biomarker discovery. He is the author or co-author of over 200 peer-reviewed papers, books, and book chapters.