

NEW MEMBERS OF THE EDITORIAL BOARD OF “ANALYTICS AND CONTROL”



Alexander A. **Bol'shakov** has 25 years of experience in laser spectroscopy, plasma physics and analytical chemistry. He obtained his MS and PhD in physics from the St. Petersburg State University, Russia and then continued working as a scientist and a research group leader at his *alma mater* for about 10 years. Subsequently, he moved to the University of

Oslo, Norway, then to the University of Massachusetts (USA), and then to NASA-Ames Research Center in California. Now he is a Senior scientist at Applied Spectra Inc., a company developing LIBS and LA-ICPMS instrumentation. Dr. Bol'shakov received a prestigious R&D100 Award 2012 for the invention of Laser Ablation Molecular Isotopic Spectrometry as a result of collaborative effort with the Lawrence Berkeley National Laboratory (USA). His contact information is the following: Applied Spectra, Inc., 46665 Fremont Blvd., Fremont, CA 94538, USA. Tel.: +1-510-657-7679. Email: alexandb@appliedspectra.com



Peter **Hoffmann** (1938) obtained his Ph.D. in Nuclear Chemistry at the Technische Hochschule Darmstadt (THD), Germany, in 1968 (Prof. K.H. Lieser). As post-doc he was engaged in the construction time of the heavy ion accelerator (GSI, Darmstadt, Germany) with rapid gas-phase separation of nuclear reaction products.

In this field his main activities were the application of volatile alkyl (Tl, Bi, Pb, and Po), chloride and oxychloride (Mo and W) compounds and the extrapolation of the properties of the corresponding super heavy elements. In 1971 he joined for three months the Laboratory for Nuclear Reactions (Prof. G.N. Flerov) in Dubna, USSR, to become familiar with the world-wide known experiments for synthesis and identification of the elements $A = 104$ (Rutherfordium) and $A = 105$ (Dubnium).

At the end of the 1970ies he moved first to the application of neutron activation and X-ray fluorescence analysis (at first with radioactive isotope excitation) in technical (e.g., Th, Pa, U, Np, and Pu in nuclear reprocessing solutions), environmental (e.g., waste water, biological samples), archeometric (e.g., glass, ceramic), and atmospheric (liquid and particle) samples. As it is well known in analytics “one method is not a method”, for comparison of the results he became

familiar with atomic absorption (AAS), atomic emission (ICP), and with ion chromatography (IC). During these activities, he was from 1992 up to 2007 co-organizer of 10 ARGUS (Analytical Russian-German-Ukrainian Symposium) conferences, and co-chairman of the working group for micro- and trace-analysis of elements and species (AMSEI) in the German Chemical Society (GDCh). In this frame, he was appointed as consultant for analytics in Russia (Prof. Y. Zolotov). At the beginning of the 1990ies he changed from the chemistry faculty to the new founded materials science faculty at the Technische Universität Darmstadt (TUD). Now he learned the analytical application of electron and ion microscopy methods (SEM, SIMS), X-ray photoelectron spectrometry (XPS), atomic force microscopy (AFM), X-ray reflectometry (XRR) and of near-edge X-ray absorption fine structure (NEXAFS) (at the Berlin synchrotron BESSY II) as a highly effective method for speciation of layered samples. Since about 2005 he is engaged in analytical characterization of nano-layered samples in a cooperation with the Nikolaev Institute of Inorganic Chemistry, Novosibirsk, Russia.



Dmitri **Katskov** graduated from Leningrad State University, Russia in 1965 and was employed at the State Institute of Applied Chemistry first as engineer-physicist, later on as senior scientist, and then as Head of the Department of Analytical and Physical Chemistry. In 1993 he was invited and since then worked as Research Professor

at Chemistry Department of Tshwane University of Technology (before 2000, Technikon, Pretoria). His field of expertise and research specialization is atomic and molecular spectrometry with focus on the theory, technique and practice of electrothermal atomic absorption analysis. This includes the development of instrumentation and analytical methods based on investigation of chemical reactions at high temperature and processes associated with vaporization and transport of atomic vapor. Within these scientific domains D. Katskov obtained the degrees of Candidate Nauk (Russian equivalent of PhD) in Optics (1972) and Doctor of Science in Analytical Chemistry (1989) as well as the titles of Senior Scientist (Physical Chemistry, 1985) and Full Professor (1995). During scientific career he published more than 250 papers in the peer reviewed journals and books, supervised 10 accomplished PhD works and registered 12 patents. Current research projects of D. Katskov are mainly associated with continuum source atomic absorption spectrometry.



Prof. Jun **Kawai** graduated from the University of Tokyo in 1982 supervised by Prof. Yohichi Gohshi, for the study of chemical effects of X-ray fluorescence spectra. From 1986 on, he was a research assistant of the Institute of Industrial Science, the University of Tokyo, for X-ray photoelectron diffraction, where he obtained degree

of Doctor of Engineering in 1989. Then he moved to a postdoc position of Institute of Physical and Chemical Research (RIKEN) for 3 years. Then he moved to Kyoto University, one year as an assistant professor, and since 1994, J. Kawai was an Associate Professor in the Department of Materials Science and Engineering at Kyoto University. He developed there total reflection X-ray photoelectron spectrometer (TR-XPS), surface sensitive X-ray absorption methods, and X-ray fluorescence holography. He became full professor in 2001. His current research interests are mostly in the development of X-ray instruments, such as palm-top electron probe microanalyzer (EPMA), handy total reflection X-ray fluorescence (TXRF) spectrometer, X-ray absorption spectroscopy without using synchrotron radiation facility. He has authored more than 300 scientific publications and 30 books (mostly co-authored but including single authored 3 books on transport phenomena, quantum spectrochemistry, and X-ray fluorescence analysis) in the area of analytical chemistry and materials informatics.



Purev **ZUZAAN** (1944) graduated from the National University of Mongolia (NUM) in 1967, and obtained his Ph.D. and DSc. degrees in Physics at the National University of Mongolia in 1985 and 2008, respectively. These theses dealt with XRF. In 1968-1990 and 1995-1999 he was senior researcher in the Nuclear Research Laboratory at NUM,

1991-1995 - at the Joint Institute for Nuclear Research, Dubna, Russia, 1999-2011 Deputy Director at the Nuclear Research Center at NUM. At present, he is Head of the Division of Nuclear Analytical Methods in the Nuclear Research Center. Hence, for nearly 40 years, professor Zuzaan studies fundamental problems of X-ray interactions with atoms, theoretical simulations of matrix effects in XRF and develops the effective techniques for the determination of elemental contents, mostly in ores and soils. Also, his research is related to atomic and nuclear spectroscopy and the development of nuclear analytical techniques. Those techniques were introduced in plants in Russia and Mongolia. Prof. Zuzaan has taken part in and/or organized many International conferences on XRF and on Contemporary Physics. He teaches and supervises students under/graduate projects and post graduate thesis on X-ray analysis and radiation ecology. He is author of over 100 publications in this field. He is working as editorial board member of the Physics journal of the National University of Mongolia.

Alexander Pupyshev
Editor-in-Chief