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Editorial

A scenic small town of the Renaissance in central Poland, Kazimierz Dolny, was the venue of the Second International Workshop on Surface Modification for Chemical and Biochemical Sensing SMCBS'2005, 6–10 November 2005. The Workshop (http://ichf.edu.pl/surphare/WP4/smcbs2005.html) was organized as part of the activity of the Surface Phenomena and Reactions, SURPHARE (Contract No. G5MA-CT-2002-04034), Centre of Excellence in Competitive and Sustainable Growth Program (Grow-2001-5.2) within the Fifth Frame Programme of the European Commission. This Centre was established at the Institute of Physical Chemistry of the Polish Academy of Sciences in Warsaw (http://ichf.edu.pl/surphare/main.htm) in November 2002 being active through November 2005. Promotion of scientific activities and dissemination of new findings to a wide audience through scientific meetings, like this Workshop, and publications, like those collected in the present Special Issue, were among the goals of this Programme.

For combining research and training, the Workshop attracted distinguished scientists as well as graduate students, postdoctoral fellows, and those researchers who sought to enter the field or just update their knowledge on recent developments in the rapidly growing area of surface modification for chemical and biochemical sensing. A total of 85 participants from 14 countries of Europe and the United States came to enjoy vivid discussions and exchange of ideas. The 12 invited tutorial lectures of distinguished scientists, selected by the International Advisory Board, 16 keynote lectures of internationally recognized specialists as well as 20 short oral and 21 poster communications of early stage researchers and graduate students, were presented.

A vital part of a chemical sensor and biosensor in particular is its sensing system responsible for recognition of a target analyte. In series to this system, a physicochemical transducer is connected that transforms a chemical signal into a measurable, typically electrical, signal. For selective and, even more important specific sensing, surface of a solid substrate of the sensing system is chemically modified for a dedicated analytical application. In this regard, the scientific topics of the SMCBS'2005 Workshop were focused on the fundamentals of chemical sensors and biosensors comprising the art of recognition-oriented decoration of surfaces of solid substrates. They covered traditional areas of surface chemistry related to sensing and biosensing with their expansion in new directions, including investigations of chemical surface reactions, properties of thin polymer and oxide films, performance of chemically modified electrodes and conducting polymer modified electrodes in particular, development of detection techniques, as well as novel instrumentation for surface probing, signal transduction and processing.

For the present Special Issue, 17 participants have recapitulated their oral presentations in the form of articles, which embody studies and applications of different biosensor matrices like photopolymerisable composites, electropolymerising paints, films of nanoparticulate metal oxides, different conducting polymers including polymerised metalloporphyrins, solid lipids, structured Prussian Blue and PEDOT, lichen cation exchangers, and lipidic cubic phases. Among different analyte recognizing surface constructs, like dsDNA, a range of enzymes were used for that purpose. Moreover, an important issue of electrical contacting the surface-immobilized bacterial cells with conducting polymers was addressed with an ultimate goal of constructing microbial biosensors. The targeted biologically important analytes included selected toxins, heavy metals, nitric oxide, phenols, and D-amino acids.

All the contributions are highly appreciated. The manuscripts were peer-reviewed and the assistance of colleagues involved in reviewing is gratefully acknowledged. My hope is that not only the Workshop participants, but also all readers will find the papers both interesting and useful. These papers reflect the open and interactive spirit of the Workshop, which was certainly fuelled by picturesque conference surroundings and stunning social events. All these activities would not have been possible without the support of the European Commission through the SURPHARE Centre of Excellence. Both participants and organizers are grateful to these institutions for that as well as to Elsevier for publishing this Special Issue.

Following a two-year cycle, the next, SMCBS'2007, Workshop will be held in the Eagle's Nest training and recreation centre (http://www.orlegniazdo.pl/index.php?lang=en) located in a picturesque Jura Krakowsko-Czestochowska upland in a central-southern part of Poland, ca. 260 km south of Warsaw, on 4 through 8 November 2007.

Guest editor

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