

Preface

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Biomolecular electronics and organic nanotechnology are inter-disciplinary in nature involving biology, chemistry, physics, electronics, and environmental science to produce devices for application in healthcare, diagnostics, environment monitoring, and bioterrorism. It deals with investigations relating to the technological exploitation of electron transport properties in special class of biomaterials and the technological development of miniaturized devices for environment monitoring. Nanobiotechnology and recent advancements in biomaterials currently hold the key towards the solution of many problems currently being faced by the researchers in this potential field of research. It thus represents the final technological stage in the miniaturization of computer circuitry and promises to provide new methodologies for high-speed signal processing, communication, and neural architectures including nonlinear and linear devices and memories.

Keeping in view the importance of organic nanotechnology and biomolecular electronics for environmental preservation and their anticipated impact on the economics of both the developing and the developed world, the Department of Biotechnology, Delhi Technological University (DTU), Delhi, India and the Department of Biological Functions, Graduate School of Life Sciences and Systems Engineering, Kyushu Institute of Technology (KIT), Kitakyushu, Japan, jointly organized the India-Japan Workshop on Biomolecular Electronics and Organic Nanotechnology for Environmental Preservation (IJWBME2013) at DTU, Delhi during 13 to 15 December 2013.

The scientific program at IJWBME 2013 comprising of five parallel sessions on various important facets of biomolecular electronics like nanosensors, environmental monitoring, organic devices, self-assembled monolayers, etc., featured cutting-edge developments from researchers at every stage of scientific hierarchy, including world leaders in nanotechnology. The theme of this workshop was *Biomolecular Electronics and Organic Nanotechnology*. This

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workshop also aimed at identification of the paths between fundamental research and potential applications of biomolecular electronics, biosensors, and bioprocessing for environmental monitoring and preservation. The focus was on research areas of developing renewable energy systems, dispersed energy supply systems, and innovative technologies based on conventional energy. The primary purpose of this international workshop was to provide a common platform for researchers working in India, Japan, and other countries to exchange their scientific and cultural knowledge. This workshop gave a much required momentum for association of experts and students actively engaged in recent developments in the field of bio- and soft electronics for environment monitoring. Presentation of their findings was facilitated via plenary lectures, invited lectures, and oral presentations in over ten sessions. In addition, selected posters were displayed and discussed throughout the duration of the workshop. Scientists and students presented the results of their investigations in the field of bioelectronics for environmental preservation.

Out of the 141 papers deliberated at the IJWBME2013 via plenary lectures, invited lectures, and oral and poster presentations, 26 have been selected for inclusion in the special issue of applied biochemistry and biotechnology. Each of these papers contains valuable information relating to results of the recent experiments conducted at their laboratories. We hope that this special issue will be useful to the researchers who are actively involved in the research and development of fast-emerging field of biomolecular electronics and organic nanotechnology.

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