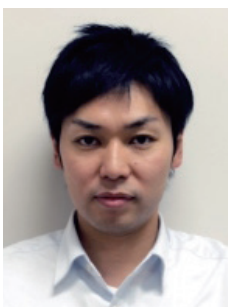


SPECIAL ISSUE ON BIOSENSORS AND BIOFUEL CELLS FOR SMART COMMUNITY AND SMART LIFE

PREFACE



(Electrochemical) biosensors that use biological components are accurate, fast, and inexpensive analytical devices with the advantage of easy integration into electronic devices, and they are widely employed in healthcare and environmental monitoring for smart communities and a smart life. This special issue contains 11 cutting-edge papers on electrochemical biosensors, bioimaging, and other related new sensor materials and technologies that will contribute to next-generation biomedical/healthcare applications. Included are papers on a wearable glucose sensor transferred to diapers, a disposable glucose sensor strip using quinone mediators, a redox polymer design for a lactate biosensor realizing long-term measurements, a portable electrochemical lysine biosensor, and a review article on the analysis of sweat of humans in the resting state. In addition, papers on new sensors, such as DNA-BNA chimeric nanotweezers for ultrasensitive RNA sensing and sensors for the detection of pathogenic microorganisms (MRSA), are included, as well as papers on temperature sensors for microfluidics using fluorescence anisotropy and on the evaluation of the microscopic viscosity of sol-gel films. In addition, the papers on the degradation behavior of ABTS, which is used as a laccase mediator, and electrochemical bioimaging using bipolar electrodes report important fundamental research for the realization of future high-performance bio-based sensing technology. We believe that the accumulation of knowledge from such basic research and further cross-disciplinary collaboration will lead to the development of innovative technologies and further industrialization. We hope that this special issue will lead to biomedical innovation toward a future “smart community/smart life” that will improve our welfare and health.

Finally, we would like to thank Professor Kohji Mitsubayashi (Tokyo Medical and Dental University, Japan), the associate editor of this journal, for giving us this valuable opportunity to be editors of this special issue, and Ms. Misako Sakano (MYU K.K.) for her kind help with the publication process. We also thank all the authors and reviewers for their considerable support.

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