

**SPECIAL ISSUE ON BIOSENSORS, BIOELECTRONICS, BIOMEDICAL DEVICES,
BIOMEMS/NEMS AND APPLICATIONS 2016 (Bio4Apps 2016)**

PREFACE



Biotechnology has been developing rapidly in recent decades, thanks to the success of cornerstone technologies, including microelectronics, micro/nanotechnology, MEMS/NEMS, micro/nanofluidics, and technology fusion. These technologies enable the study and application of biological processes and capabilities to produce a wide variety of substances, e.g., food, medicines, and fuel, and to cure challenging diseases. Numerous products in bioelectronics, biosensors, biomedical devices, and drug discovery & delivery systems have been successfully developed and commercialised, and they are helping to improve our lives and the health of our planet. Microelectronics, micro/nanotechnology, and MEMS/NEMS have special advantages in biotechnology as they can create tiny machines or tools at sizes compatible with biological systems, and they can facilitate the interface, control, and deliberate manipulation of biological systems, such as living cells or organisms. These tiny devices/tools can be easily implanted into the human body with a minimum invasive effect. These technologies help biologists and medical doctors gain precise knowledge, at the molecular level, of how living cells behave under different physiochemical conditions or how they interact with different substances to finally create new medicines and diagnostic and therapeutic methods.

This special issue contains seven papers selected from the work presented at the 5th International Conference on Biosensors, Bioelectronics, Biomedical Devices, BioMEMS/NEMS and Applications (Bio4Apps 2016), which was held at Griffith University, Gold Coast, Australia from 14th to 16th December 2016. The conference covered both fundamental and applied topics in a broad area of bio- and nanotechnologies, including biosensors, bioelectronics, biomedical devices, and bioMEMS/NEMS. Each paper was subjected to a careful review process by at least two independent reviewers to insure the quality of the published papers.

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