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IFMBE MBEC
Special Issue on

Emerging Technologies for Diabetes Management

The rapidly growing number of patients with chronic diseases like Diabetes Mellitus, along with the rising costs of care, the predictable number of deaths and medical errors, pose the urgent need to improve chronic disease management by focusing on preventive, personalized and citizen-centered healthcare systems. Optimal management of diabetes requires deep understanding of the risk factors associated with the disease, early diagnosis and treatment of diabetes before the occurrence of complications, and tight glycemic control. The ultimate goal is to focus on applying science and technology to facilitate creation of new and cost-effective tools—including an artificial pancreas—to help people with diabetes. This Special Issue aims at presenting the latest technologies for diabetes management and prevention. Novel solutions for monitoring essential physiological parameters along with current trends in drug delivery systems and medical decision support systems within the context of diabetes management will be the main focus of the Special Issue. Moreover, several open issues and technical challenges offered by modern health information technologies, including electronic health records, web-based patient portals, telemedicine, and patient registries, have been identified as key factors towards the development of strategies to improve diabetes health outcomes. Development of easily accessible, cost-effective intervention programs and efficient identification of persons with an increased risk for developing the disease constitute important challenges for the translation of significant research findings to the public health, since increasing evidence demonstrates that lifestyle interventions can significantly delay or possibly prevent the onset of diabetes or diabetes-related complications.

IFMBE MBEC Special Issue on **“Emerging Technologies for Diabetes Management”** will publish original research articles (recommended length: not exceeding 6000 words including title page, abstract, text, references, tables, and figure legends) on highly innovative activities which reveal the rapidly changing face and context of diabetes monitoring and management facilitated by advances in sensing and drug delivery technologies, simulation and control algorithms, health information technologies.

The following are example topics of interest to this special issue:

- Artificial pancreas
- Bioartificial pancreas
- Novel technologies for glucose sensing and monitoring
- New Insulin delivery technologies
- Dual hormone closed-loop therapy
- Closed loop systems and algorithms
- Personal healthcare systems for diabetes management
- Nanotechnology for diabetes devices
- Treatment and prevention of diabetes and related complications
- E-health, m-health for diabetes management
- Medical decision support systems for diabetes management

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