

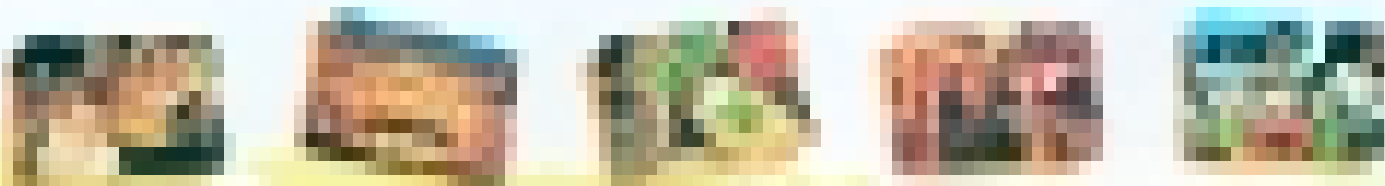
## BioEngineering: Challenges and Innovations

*BioEngineering is gaining increasing attention as a pillar of the health sciences. Over the last decade, it has become evident that problems in healthcare can be best solved by engineers in conjunction with medical professionals and biologists. Such collaborations have led to successes such as the artificial heart, pacemakers, gene-on-a-chip technologies, new prosthetic devices and drug delivery systems, to name a few. In the 21<sup>st</sup> century, biomedical engineering promises not only to be an engine for economic growth, but also the primary means of improving the quality of patients' lives.*

*The major endeavours in the field include tissue engineering, which promises in the future to be the answer to organ shortages. This field is moving rapidly with advances in stem cell isolation and scaffold engineering. Another example is distributed diagnosis and home*

*health care, which seeks to upgrade the current system of centralized and hospital-based medical diagnosis and healthcare delivery, to one that both shortens the time to delivery of critical information, and enables decentralized frequent testing outside the hospital, particularly for cardiac, orthopedic and diabetic patients. Advances in biomedical imaging together with robotics and elegant navigation systems allow surgeons to perform operations with procedures that are minimally invasive and with pinpoint accuracy. And in the field of biomaterials, new and exciting developments will open the doors to orthopaedic implants, drug and gene delivery as well as to biosensors.*

*This is an exciting time to be a bioengineer. The challenges are many, as are opportunities. With innovative thinking and interdisciplinary research, we believe these challenges can be met. This conference will showcase some of these pioneering efforts. We hope you will be a part of this exciting event.*



## **Some of the exciting topics to be covered:**

- Biomechanics and Orthopedic Engineering
- Artificial Organs
- Drug & Gene Delivery, Tissue Engineering
- Distributed Diagnostics and Healthcare
- Biosignal Processing, Medical Imaging, Image Processing and Visualization
- Biomedical Instrumentation
- Biomolecular Engineering
- Bioinformatics, Computational Bioengineering
- Neural Systems Engineering
- Biomaterials
- Cardiovascular Bioengineering
- Respiratory Mechanics
- Robotics in Surgery
- MEMS in Biomedicine
- Bionanotechnology

## **Distinguished Speakers include :**

Dr. Uli Bockholt, Fraunhofer Institut für Graphische Datenverarbeitung, Germany

Mr. Peter Galen, Welch Allyn, USA

Dr.Yongmin Kim, University of Washington, USA

Dr Lee Eng Hin, NUS, Singapore

Dr.Rick Matson, School of Medicine, University of Washington, USA

Dr.Alok Misra, Johnson & Johnson, Singapore

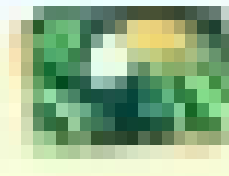
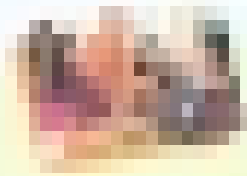
Dr.Guna Rajagopal, Bioinformatics Institute, A\*STAR, Singapore

Dr.Buddy Ratner, University of Washington, USA

Dr.Heiko Schroder, RMIT, Australia

Dr.Christofer Toumazou, Imperial College, UK

Dr.Jackie Ying, Institute of Bioengineering, A\*STAR, Singapore



## Conference Chairs :

Dr. Shankar M. Krishnan, Nanyang Technological University

Dr. Vincent Chong, Singapore General Hospital

## Technical Programme :

For technical details, please contact:

Dr. Subbu Venkatraman, Co-Chair, Technical Program, NTU, Singapore

## Venue :

Marina Mandarin, Singapore

## Important Dates :

Deadline for submission of paper:  
**1 July 2004**

Deadline for notification of acceptance:  
**30 July 2004**

Early bird registration:  
**10 August 2004**

## Registration Fee :

<b>Conference</b>	
8-10 September 2004	Early Bird: S\$400 Standard: S\$450

## Conference Secretariat:

BioEngineering 2004 Secretariat

Nanyang Technological University  
Conference Management Centre/CCE  
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## CALL FOR PAPERS

1<sup>st</sup> International BioEngineering  
Conference 2004  
(IBEC 2004)

in conjunction with

6th Annual NTU-SGH Biomedical  
Engineering Symposium 2004

# BioEngineering: Challenges and Innovations

September 8, 9 and 10, 2004

*Organized by:*

**NTU and SGH**

*In collaboration with:*

**NUS and SUWA**

