

2010 IEEE International Conference on  
Nano/Molecular Medicine and Engineering

IEEE NANOMED 2010

# **Conference Digest**

December 5-9, 2010  
Hong Kong/Macau, China

## **Sponsoring and Supporting Organizations**

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## Message from Honorary Chair

It is my great honour to serve as Honorary Chair of the 4th IEEE International Conference on Nano/Molecular Medicine and Engineering (IEEE-NANOMED 2010). It is also a tremendous privilege to do so alongside two such distinguished educators, Professor Tsui Lap-chee of the University of Hong Kong and Professor Joseph Sung Jao-yiu of Chinese University of Hong Kong.

Nanotechnology, nominated as a key area of research and development by the Hong Kong SAR Government in 2001, is considered a science of the future, but that future is already here. The possibilities that nanoscience offers fill us with wonder, and I am certain IEEE-NANOMED 2010 will only add to our expectations.

World-class researchers in Hong Kong have been engaged in nanotechnology projects for more than a decade, conducting groundbreaking work and spearheading pioneering projects that create new knowledge. It is a field that relates directly to our mission: to pursue problem-driven research that will help develop society and improve the quality of life for people in Hong Kong, the region and beyond.

Judging by what we have witnessed so far, this exciting field of nano/molecular medicine and engineering is likely to produce revolutionary breakthroughs over the next fifty years. The ultimate goal is to find ways to prevent disease, alleviate pain and diagnose illness more efficiently. IEEE-NANOMED 2010 is an exciting stage of this journey.

I hope very much for the sake of our children and our children's children that we can achieve major advances and discover solutions to problems through innovation and creativity.

Congratulations to everyone involved in organising this superb conference!



Way Kuo

Honorary Chair of Conference

President, City University of Hong Kong

## Forward

The 4th IEEE International Conference on Nano/Molecular Medicine and Engineering will be held on December 5-8, 2010 at the City University of Hong Kong, Hong Kong. This is an annual conference organized by the IEEE Nanotechnology Council to bring together world-leading researchers focusing on the advancement of basic and clinical research in medical and biological sciences using engineering methods related to MEMS, Nano and Molecular technologies. This year's conference theme is "Promoting good health". The conference will deliver essential and advanced scientific and engineering information in applications of MEMS/Nano/Molecular technologies in medicine and biology to its participants.

The field of Nanomedicine is still in a very infant stage. However, in the next few years there will surely be much more exciting developments across medical science, engineering, chemistry and physics in this area. The conference has received numerous submissions from many countries and regions, and from which we have selected part of works for oral and poster presentations in the conference. Supplementing the technical presentation, two plenary and six keynote speeches are given by outstanding research scholars. They are: Professor Pill-Hoon Choung, Professor Ronald Li, Professor Vladimir Zharov, Professor Gwo-Bin Lee, Professor Samuel Sia, Professor Joel Voldman, Dr Ye Fang, and Dr Chanmin Su. A post-conference workshop will be held in Macau on December 9, 2010.

We would like to express our sincere gratitude to the IEEE-NANOE 2010 Organizing Committee members. The conference will not be possible without their strong commitment and efforts. Last but not the least, our sincere gratitude go to all the authors and invited speakers, for your participation and providing the intellectual sharing on experiences. We hope you will enjoy Hong Kong experience while you find IEEE-NANOMED 2010 a fruitful, memorable conference.



Dong Sun  
General Chair



Jin-Woo Kim  
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