



ICMMB-15



**NANYANG
TECHNOLOGICAL
UNIVERSITY**

XVth International Conference on Mechanics in Medicine and Biology

Furama Riverfront Hotel, Singapore
6 – 8 December 2006

Organizers

Nanyang Technological University, Singapore
The Pacific Center of Thermal-Fluids Engineering, Hawaii, USA



Welcome to the XV International Conference on Mechanics in Medicine and Biology (ICMMB-15), December 6-8, 2006 in Singapore, a Garden City.

The ICMMB-15 is a biennial event presenting an interdisciplinary forum of engineering, medicine and biology. The congress will consist of plenary lectures, tutorial lectures, keynote/invited lectures, symposia and free communication, covering all fields of biomechanics with emphasis in tissue engineering and cell/molecular mechanics.

At this conference, you will not only obtain fruitful harvests from knowledge of biotechnology but also have a unique experience in this wonderful place – and you can enjoy the sunshine, visit historical places, experience real Singaporean multi-racial cultures and traditions or just relax in several finest scenery of the subtropical island.

BACKGROUND

International Conferences on mechanics in Medicine and Biology (ICMMB) consist of a series of biennial events presenting an interdisciplinary forum of engineering, medicine and biology. The idea of this Conference was conceived in 1977 by a group of researchers from various countries consisting of Profs. Wen-Jei Yang, Dhanjoo Ghista, Helmut Reul, Gunter Rau, Eric van Vollenhoven, and Tin Kang Hung. Later it was joined by Profs Kajiya and Pallotti.

The first conference was held in Aachen, Germany in 1978, organized by Professor R. Rau and Dr. S. Effert. Since then, the conferences were held in Asia, Europe and North America, in chronological order as: 2nd by Dr. H Abe, Osaka, Japan in 1980; 3rd by Prof. M. Y. Jaffrin, Compiègne, France in 1982; 4th by Prof. G.C. Lee, Buffalo, USA in 1984; 5th by Prof. G. Pallotti, Bologna, Italy in 1986; 6th by Prof. R. Nerem, San Antonio, USA

in 1988, 7th by Dr. U. Stanic (Drs. N. Starc and R. Kenner), Portschach, Austria in 1991; 8th by Prof. Wen-Jei Yang (in conjunction with the Second World Congress of Biomechanics), Amsterdam, The Netherlands in 1994; 9th by Dr. U. Stanic, Ljubljana Slovenia in 1996; 10th by Prof. Wan-Jei Yang, Oahu Hawaii in 1998, 11th by Dr. Tim Kriewall of Medtronic Xomed, Maui Hawaii in 2000, 12th by Prof T. K. Karalis in Lemnos Island (Greece) in 2002, 13th by Prof F.C. Su, Tainan-Taiwan in 2003, and 14th by Prof G. Pallotti, Bologna, Italy in 2004.

CALL FOR PAPERS

Original scientific papers are invited for oral presentation. Authors should submit abstracts to the Congress Secretariat as early as possible but not later than April 30, 2006 in the following major theme areas, but not limited to:

- Orthopedic Biomechanics
- Biomedical Signal Processing
- Physiologic System Modeling
- Biomedical Imaging and Image Processing
- Biomedical Instrumentation and Biosensors
- Therapeutic Physics and Rehabilitation Engineering
- Neural Engineering
- Neuromuscular Systems and Biomechanics
- Healthcare Management Information Systems
- Cardiovascular System Engineering
- Clinical Biomechanics
- Computational Biology and Bioinformatics
- Nanobiotechnology, Cellular and Tissue Engineering
- Respiratory System Engineering, SARS and Avian Influenza Research
- Telemedicine and Healthcare
- Medical Robotics
- Biomedical Engineering Education, Industry, and Society

ICMMB-15 Organizing Conference Committee**Honorary Congress Chair:**

Yuan-Cheng Fung, USA
Shu Chien, USA

Congress Chair:

W-J Yang, USA

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- Ned H C Hwang, Taiwan
- A Kitabatake, Japan
- T K Karalis, Greece
- Tim Kriewall, USA
- D. Liepschl, Germany
- Denny TT Lie, SGH, Singapore
- Y W Chan, SGH, Singapore
- H E J Veeger, Netherland
- J H Wang, USA
- Savio L.-Y. Woo, USA
- J Y Yoo, SNU, Korea
- Bruce Milthorpe, UNSW, Australia
- Yos S Morsi, SUT, Australia
- J Mazumdar, UNISA, Australia
- F A Bljakhman, Russia
- R Zannoli, Italy
- M R Slawomirski, PAS, Poland
- Peter X. Ma, UMIC, USA
- S T Lim, NHC Singapore
- W K Chan, NTU Singapore
- T Chua, NHC Singapore
- S L Toh, NUS, Singapore
- K A Khor, NTU, Singapore
- C S Lim, NTU, Singapore
- W A Bakar, UM, Malaysia
- R Besar, MMU, Malaysia
- Morakot Tanticharoen, Thailand
- S Fok, Abu Dhabi
- Choff Craig, USA
- N M Sudharsan, India
- K K Phua, WSPC, Singapore

addition, selected high-quality articles presented at the Conference will be published in the following Journals after peer review according to the scope and relevance to the Journal.

- ◆ *Journal of Mechanics in Medicine and Biology*, (World Scientific Publishing Company, Singapore)
- ◆ *International Journal of Rotating Machinery*, (Hindawi Publishing Corporation, New York, U.S.A.),
- ◆ *Journal of Flow Visualization and Image Processing* (Begell House, Inc. Publishers, New York, U.S.A.) and
- ◆ *International Journal of Transport Phenomena* (Old City Publishers, Philadelphia, U.S.A.).

BEST PAPER AWARD

Selection of the best paper (3 in number) will be made at the Conference based on both the technical content and presentation. The winner will be chosen by the Technical Program Committee in consultation with the International Advisory Committee.

WEBSITE

For up to date information of the conference, please visit our website:-

<http://www.ntu.edu.sg/ICMMB15/>

VENUE

The conference will be held from Wednesday 6 December to Friday 8 December 2006 at Furama Riverfront Hotel, Singapore.

Address: 405 Havelock Road, Singapore 169633

Website: <http://riverfront.furama.com>

LANGUAGE

The official language of the congress will be English.

ACCOMMODATION

Preferential rates at the conference hotel and supporting hotels will be arranged. More information will be available on the conference website at a later date. Please forward your enquiries to the Congress Secretariat.

REGISTRATION FEES

The registration fees for the full and student delegates are as follows:

Registration Fee	Before 15 September 2006	After 15 September 2006
Full Delegate [†]	S\$750.00	S\$950.00
Student Delegate [§]	S\$600.00	S\$680.00

[†] Maximum of 2 papers are allowed for each registration.

The registration fee covers one copy of the book of abstracts, attendance to all technical sessions, reception, tea/coffee breaks, luncheons and conference banquet. Additional banquet tickets can be purchased at the subsidized rate of S\$100.00 per ticket.

[§] We require a letter from department head to certify student status. Please send/fax the certification letter together with registration form to secretariat. Student registration is entitled to all benefits of full delegate except for the banquet ticket.

EXHIBITION (to be confirmed)

During the Conference exhibition of equipment by companies connected with biomechanics, medicine, sport, and scientific research would be organized. Companies who are interested in the presentation of their company products (measurement equipment, medical and rehabilitation equipment, diagnostic equipment, software and other products) should contact the congress secretariat.

IMPORTANT DATES

- _ Submission of abstract: April 30, 2006
- _ Notification of acceptance: August 15, 2006
- _ Early bird registration: September 15, 2006
- _ Conference dates: December 6-8, 2006

CONGRESS OFFICE

ICMMB-15 Secretariat
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Conference Management Centre/CCE
Nanyang Executive Centre
60 Nanyang View, #02-08
Singapore 639673

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INVITED SESSIONS

ICMMB-15 is soliciting proposals for invited sessions focusing on topics of Mechanics in Medicine and Biology. Prospective organizers should submit proposals to the Chairman (wjyang@umich.edu) by 1 April 2006. As our conference is non-profit and self-financed and is founded purely on academic pursuits, we hope you can understand that, as with most other conferences, we do not make any financial commitments to Invited Session Organisers (except the Keynote Speakers).

ABSTRACT SUBMISSION

Please follow the format of the sample guide available in the URL site to complete your 2 page extended abstract and submit your abstracts via <http://www.ntu.edu.sg/ICMMB15/>.

The authors with accepted abstracts are encouraged to submit full-length papers. All full-length papers will be included on a CD of the Congress proceedings. In