

IFMBE Proceedings

Peng · Weng (Eds.)

Volume 19

7th Asian-Pacific Conference
on Medical and Biological
Engineering

APCMBE 2008, 22–25 April 2008,
Beijing, China



 Springer

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Series Editors: R. Magjarevic and J. H. Nagel

The International Federation for Medical and Biological Engineering, IFMBE, is a federation of national and transnational organizations representing internationally the interests of medical and biological engineering and sciences. The IFMBE is a non-profit organization fostering the creation, dissemination and application of medical and biological engineering knowledge and the management of technology for improved health and quality of life. Its activities include participation in the formulation of public policy and the dissemination of information through publications and forums. Within the field of medical, clinical, and biological engineering, IFMBE's aims are to encourage research and the application of knowledge, and to disseminate information and promote collaboration. The objectives of the IFMBE are scientific, technological, literary, and educational.

The IFMBE is a WHO accredited NGO covering the full range of biomedical and clinical engineering, healthcare, healthcare technology and management. It is representing through its 58 member societies some 120.000 professionals involved in the various issues of improved health and health care delivery.

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About IFMBE

The International Federation for Medical and Biological Engineering (IFMBE) was established in 1959 to provide medical and biological engineering with a vehicle for international collaboration in research and practice of the profession. The Federation has a long history of encouraging and promoting international cooperation and collaboration in the use of science and engineering for improving health and quality of life.

The IFMBE is an organization with membership of national and transnational societies and an International Academy. At present there are 52 national members and 5 transnational members representing a total membership in excess of 120 000 worldwide. An observer category is provided to groups or organizations considering formal affiliation. Personal membership is possible for individuals living in countries without a member society. The International Academy includes individuals who have been recognized by the IFMBE for their outstanding contributions to biomedical engineering.

Objectives

The objectives of the International Federation for Medical and Biological Engineering are scientific, technological, literary, and educational. Within the field of medical, clinical and biological engineering its aims are to encourage research and the application of knowledge, and to disseminate information and promote collaboration.

In pursuit of these aims the Federation engages in the following activities: sponsorship of national and international meetings, publication of official journals, cooperation with other societies and organizations, appointment of commissions on special problems, awarding of prizes and distinctions, establishment of professional standards and ethics within the field, as well as other activities which in the opinion of the General Assembly or the Administrative Council would further the cause of medical, clinical or biological engineering. It promotes the formation of regional, national, international or specialized societies, groups or boards, the coordination of bibliographic or informational services and the improvement of standards in terminology, equipment, methods and safety practices, and the delivery of health care.

The Federation works to promote improved communication and understanding in the world community of engineering, medicine and biology.

Activities

Publications of IFMBE include: the journal *Medical and Biological Engineering and Computing*, the electronic magazine *IFMBE News*, and the Book Series on Biomedical Engineering. In cooperation with its international and regional conferences, IFMBE also publishes the IFMBE Proceedings Series. All publications of the IFMBE are published by Springer Verlag. The Federation has two divisions: Clinical Engineering and Health Care Technology Assessment.

Every three years the IFMBE holds a World Congress on Medical Physics and Biomedical Engineering, organized in cooperation with the IOMP and the IUPESM. In addition, annual, milestone and regional conferences are organized in different regions of the world, such as Asia Pacific, Europe, the Nordic-Baltic and Mediterranean regions, Africa and Latin America.

The administrative council of the IFMBE meets once a year and is the steering body for the IFMBE: The council is subject to the rulings of the General Assembly, which meets every three years.

Information on the activities of the IFMBE can be found on the web site at: <http://www.ifmbe.org>.

The Seventh Asian-Pacific Conference on Medical and Biological Engineering (APCMBE 2008)

Foreword

Chinese Society of Biomedical Engineering (CSBME) has the great honor to organize the Seventh Asian-Pacific Conference on Medical and Biological Engineering (APCMBE 2008) at the agreement and invitation of IFMBE. APCMBE 2008 takes place together with the Seventh National Annual Meeting of Chinese Society of Biomedical Engineering in Beijing from April 22 to 25, 2008.

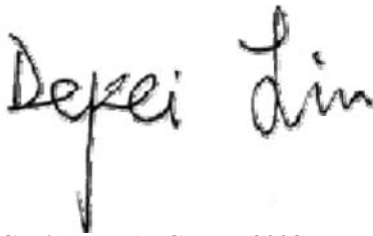
The theme of the conference is “Biomedical Engineering — Promoting Sustainable Development of Modern Medicine”. The conference provides a most appropriate platform for medical and biological engineering professionals to interact and exchange their ideas and experiences on the application of modern biomedical engineering to medical diagnosis, treatment and health promotion. The conference consists of plenary lectures delivered by leading scientists in the field, and organized sessions in important areas in biomedical engineering. I am very pleased that a strong program has been developed from a large number of submitted papers.

I would like to thank the members of Advisory Committee for their instructive suggestions, to thank the members of Scientific Program Committee and reviewers for their hard work to provide review comments and select the papers for inclusion in the program and conduct additional review for the papers involved in the Young Investigators Competition, to thank the members of Organizing Committee for their hard work to handle numerous arrangement affairs.

Participants from the Asian-Pacific countries have the opportunity of coming together to meet with the researchers and engineers on medical and biological engineering, from China in the world famous capital city of Beijing.

I hope you will enjoy the stimulating scientific program, and enjoy Beijing.

Dr. Depei Liu

A handwritten signature in black ink that reads "Depei Liu". The signature is written in a cursive style with a long vertical stroke extending downwards from the letter 'i'.

**Chairman, APCMBE 2008
President, Chinese Society of Biomedical Engineering**

Conference details

Name

The Seventh Asian-Pacific Conference on Medical and Biological Engineering

Short name

APCMBE 2008

Venue

Beijing, China
April 22 to 25, 2008

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Chinese Society of Biomedical Engineering (CSBME), China

Cosponsor

International Federation for Medical and Biological Engineering (IFMBE)

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China Association for Science & Technology (CAST), China

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