

1st Call for Papers

11th International
Congress of the IUPESM

MEDICAL PHYSICS AND BIOMEDICAL ENGINEERING

WORLD CONGRESS 2009

For the benefit
of the Patient.



September 7–12
Munich/Germany



Present your research to the world!



Wolfgang Schlegel



Olaf Dössel

The World Congress 2009 on Medical Physics and Biomedical Engineering – the triennial scientific meeting of the IUPESM – being held in Munich, Germany, on September 7 – 12, 2009, is the world's leading forum for presenting the results of current scientific work in health-related technologies to an international audience. We would like to invite you to participate in this outstanding scientific event – and to present your research to the world!

Medical physics, biomedical engineering and bioengineering have been the driving forces of innovation and progress in medicine and healthcare over the past two decades. As new key technologies arise with significant potential to open new options in diagnostics and therapeutics, it is a multidisciplinary task to evaluate their benefit for medicine and healthcare with respect to the quality of performance and therapeutic output.

Covering key aspects such as information and communication technologies, micro- and nanosystems, optics and biotechnology, the congress will serve as an inter- and multidisciplinary platform that brings together people from basic research, R&D, industry and medical application to discuss these issues.

As a major event for science, medicine and technology held every three years, the congress provides a comprehensive overview and in-depth, first-hand information on new developments, advanced technologies and current and future applications. More than 4,000 visitors are expected to attend the congress in Munich.

With this 1st Call for Papers, we are inviting you to present your research to the global community of leading experts and contribute to the further development of one of the most dynamic and innovative areas in modern science. Be a part of the future – and submit your papers!

Handwritten signature of Wolfgang Schlegel in black ink.

Wolfgang Schlegel
Congress President

Handwritten signature of Olaf Dössel in black ink.

Olaf Dössel
Congress President

Advance our professions and global health!

Since the first World Congress on Medical Physics and Biomedical Engineering convened in 1982, medically and biologically oriented engineers and physicists from every continent have gathered every three years to discuss how physics and engineering can advance medicine, health and health care and to assess the clinical, scientific, and technical progress in their fields. In the tradition and the mission of our professions, which are the only ones involved in the whole loop of health and health care from basic research to the development, assessment, production, management and application of medical technologies, the theme of WC 2009 is "For the Benefit of the Patient". Thus, in addition to scientific aspects, the Congress will focus on all aspects of safe and efficient health technology in both industrialized and developing countries, including economic issues, the perspectives that advanced technologies and innovations in medicine and healthcare offer for the patients and the development of societies, the progress of MBE and MP, including health policy and educational issues as well as the need for the regulation as health professionals of those biomedical/clinical engineers and medical physicists who are working in the health care systems.

The World Congress, bringing together physicists, engineers and physicians from all over the world, including the delegates of the 138 constituent organizations of the IUPESM representing some 140,000 individual members, is the best place to discuss these issues. I invite you to participate and to submit your papers regarding these topics – in addition to your scientific papers from all fields of medical & biological engineering and medical physics.

Even if you do not intend to submit a paper, still mark your calendar. The World Congress, as the most important event of our professions, provides the best possible opportunity for discussions, to meet old friends and to make new ones. I am looking forward to seeing you in Munich.



Joachim H. Nagel
President of the IUPESM



Joachim Nagel



Structure of the congress

To maximize synergies and the integration of themes on research, development and applications, the congress will be based on a unique structure that represents the two dimensions of technology and medicine.

13 congress themes on technology and innovation will be featured along with five medical topics representing some of the major future challenges for health professionals.

The themes will be chaired by leading experts from science and medicine. Specific aspects will be explored in depth.

Overall there will be more than 250 leading experts as theme- and track chairs offering multiple and excellent opportunities for exchange.

For more detailed information on the congress structure, please click on www.wc2009.org

1st day 2nd day 3rd day 4th day 5th day

08.09.2009

Oncology

09.09.2009

Radiology &
Nuclear
medicine

10.09.2009

Surgery &
Intervention

11.09.2009

Neurology,
Neurosurgery,
Rehabilitation

12.09.2009

Cardiology,
Cardiovascular
diseases

1. Radiation Oncology

2. Diagnostic Imaging

3. Radiation Protection and Dosimetry, Biological Effects of Radiation

4. Image Processing, Biosignal Processing, Modelling and Simulation, Biomechanics

5. Information and Communication in Medicine, Telemedicine and e-Health

6. Surgery, Minimal Invasive Interventions, Endoscopy and Image Guided Therapy

7. Diagnostic and Therapeutic Instrumentation, Clinical Engineering

8. Micro- and Nanosystems in Medicine, Active Implants, Biosensors

9. Neuroengineering, Neural Systems, Rehabilitation and Prosthetics

10. Biomaterials, Cellular and Tissue Engineering, Artificial Organs

11. Biomedical Engineering for Audiology, Ophthalmology, Emergency & Dental Medicine

12. General Subjects

13. Special Topics and Workshops

Medical topics of the congress days

1st day: Oncology

Which improvements of diagnostic tools and therapeutic regimes offer promising perspectives for patients with oncological diseases with respect to early detection and therapy?

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2nd day: Radiology & Nuclear medicine

How will current and future advanced technologies contribute to the success of diagnostics and therapies in radiology and nuclear medicine?

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3rd day: Surgery & Intervention

How could new materials and technologies for minimally invasive interventions revolutionize future therapies in surgery, implantation or intervention?

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4th day: Neurology, Neurosurgery and Rehabilitation

How can new developments in diagnostic and functional imaging, surgery tools, prosthetics, neuroengineering or nano- and microsystems open up new options for the diagnosis and therapy of neurological diseases?

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5th day: Cardiology & Cardiovascular diseases

Interventional cardiology has had a major impact on the quality and results of the diagnosis and therapy of cardiovascular diseases, and has significantly lowered death rates. What's new on the horizon?

Also of interest

- Plenary sessions with leading experts as speakers
- Experts from medicine, technology and science will discuss future innovations and technological options
- Workshops & tutorials
- Mini-symposiums & special sessions
- Exhibition showcasing products and innovations
- More than 100 tracks focus on specific topics
- Poster exhibition with special sessions will be an ideal platform for scientific networking
- WC2009 Innovation Award
- Attractive opportunities at various recruiting events
- Presentation of „Medtech 2020“ survey

Invitation for authors

The Scientific Committee of the World Congress 2009 invites you to submit your papers for consideration in the final program. Please use the theme- and track scheme (www.wc2009.org) in order to address the topic most suitable to you. Please note this does not guarantee that your paper will be grouped within this track in the final program.

Peer review process

Contributions will be peer reviewed and either presented as a poster or an oral paper within the scientific program.

Congress proceedings

After acceptance the final papers will be published in the IFMBE proceedings series by Springer Science+Business Media complete with ISSN reference. Proceedings of the congress on CD/DVD will be available when the World Congress 2009 opens.

Citations

Springer Science+Business Media will index all papers of the congress proceedings at SpringerLink, ISI proceedings, Google etc.

Paper submission

Papers of min 2 and max 4 pages are to be submitted via the congress website. Please visit www.wc2009.org and click on the "Paper Submission" button. Authors whose papers have been accepted will have the possibility to refine their papers for publishing in the congress proceedings.



Paper Submission (min 2, max 4 pages)

Closing Date: February 22, 2009, 12 midnight CET

For more information please click on www.wc2009.org

Important dates for authors

Oct	01	2008	1st call for participation "WC2009 Innovation Award"
Dec	01	2008	Online registration opens
Dec	01	2008	Launch of online paper submission system
Feb	22	2009	Paper submission due (min 2, max 4 pages) 12 midnight CET
Mar	01	2009	2nd call for participation "WC2009 Innovation Award"
Apr	03	2009	Paper acceptance notification
May	01	2009	Speakers registration due
May	01	2009	Early registration due
May	01	2009	Registration payment for authors due
May	15	2009	Short program available
Jun	15	2009	Final program available
Jul	15	2009	Deadline update paper
Sep	07	2009	Opening World Congress

Oral presentation or poster

Submitting authors have the option of choosing their presentation preference: oral or poster, but the Scientific Committee will make the final decision.

Copyright

Authors must accept the copyright conditions which will be given on the congress website.

Congress registration policy

According to the congress registration policy, each accepted WC2009 paper must have at least one registration attached to it before May 1st, 2009 in order to be included in the congress proceedings.

The Hosts

IUPESM – www.iupesm.org

The International Union for Physical and Engineering Sciences in Medicine, incorporating the IFMBE and the IOMP, represents more than 140,000 biomedical engineers and medical physicists and operates under the principal objective to advance sciences in medicine for the benefit and well-being of humanity.

IOMP – www.iomp.org

The International Organization for Medical Physics represents over 16,500 medical physicists worldwide and 76 national member organizations.

IFMBE – www.ifmbe.org

The International Federation for Medical and Biological Engineering is primarily a federation of national and transnational organizations. The Federation has an estimated 120,000 members in 58 affiliated organizations.

DGMP – www.dgmp.de

The German Society for Medical Physics (DGMP) was founded in 1969 and represents about 1,200 members working in science, industry and hospitals. Several regional sections of the Society have been established in recent years to improve communication channels among medical physicists in Germany and to support educational measures.

DGBMT – www.dgbmt.de

German scientists in the field of biomedical engineering are organized in the DGBMT, which was founded in 1972. The Society merged with the VDE in 2001 and now has about 1,900 members including physicians, engineers, scientists and companies.

EFOMP – www.efomp.org

The European Federation of Organizations in Medical Physics (EFOMP) was founded in 1980. The current membership covers 35 national organizations which together represent more than 5,000 physicists and engineers in the field of medical physics.

VDE – www.vde.com

The VDE Association for Electrical, Electronic & Information Technologies currently has over 34,000 members, including a broad spectrum of engineers, scientists and technicians, some 7,000 students and roughly 1,250 corporate and institutional members.

www.wc2009.org