



Happy New Year

# IFMBE NEWS

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### NEWS EDITOR :

Kang- Ping , Lin

[kp.lin@cycu.edu.tw](mailto:kp.lin@cycu.edu.tw)

### ASSISTANT EDITOR :

Brenda Chang

[ifmbenews.tw@gmail.com](mailto:ifmbenews.tw@gmail.com)

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- World Congress on Medical Physics and Biomedical Engineering(5/25-5/31,2012)



## EDITORIAL

### Expecting 2012

The year 2012 is just around the corner; we wish you all a prosperous year to come.

As usual, we keep working on gathering the latest news in the medical and biomedical engineering field from different regions of the world. In this issue of IFMBE News, we focus on the theme of *Biomedical Engineering and Medical Physics development in Europe*.

We are very thankful to Professor Paul J. Kostek for reporting news of the IEEE Global Humanitarian Technology Conference. Dr. Vo Van Toi provided the promotion of the 4th International Conference on the Development of Biomedical Medical Engineering in Vietnam. In addition, Professors Konstantina Nikita and James Lin prepared the information about MobiHealth 2011 for us. We also received a report from Professor. Akos Jobbagy regarding EMBEC 2011.

Special thanks to Dr. Yadin David who provided a column regarding the Clinical Engineering Division (CED), which is promoting global clinical engineering certification; additionally, we appreciate Professor Monique Frize and Susana Llanusa for contributing the latest news about the Women in Medical and Biological Engineering (WiMBE) Committee.

Furthermore, we promote the 4th International Conference on the Development of Biomedical Medical Engineering in Vietnam and the 2012 World Congress on Medical Physics and Biomedical Engineering in Beijing, China. We would like to encourage each one of you to check the information and keep tracking the updates on the web sites.

In the future, we would like all of your kind collaborations and contributions to make your IFMBE News better.

Happy New Year!



Kang-Ping, Lin  
Editor, IFMBE News



## IFMBE EXPRESS

### Words from IFMBE President Herbert Voigt @ifmbe\_hfv

#### Tying Up Loose Ends

Well, it is autumn in New England – a time for reflecting on the year nearly gone by and for tying up loose ends. It is a time when the leaves here in New England turn from a monotonous green to a splendid array of crimson, yellow and brown. The change in color is late this year, suggesting that global warming is indeed affecting us already. It is also the autumn of my IFMBE Presidency as well, and perhaps with only 6 months left in my term, I need to begin to tie up the loose ends of the numerous initiatives I suggested to the various IFMBE Committees/Working Groups and Divisions:

Societies Committee – we changed the name from Secretary's Committee to Societies Committee and encouraged involvement of the IFMBE Constitute Society Presidents. This is a work in Progress and we further seek to position this committee in its proper place in the IFMBE structure. It is more than a committee, and it needs to be regionally organized with appropriate regional representation on the IFMBE AC.

a.I asked for the constitute societies to produce a report on the level of funding for biomedical engineering in each country represented in the IFMBE. I still believe this is an important baseline that should be documented.

b.I asked for each of the constitute societies to review and update their Code of Ethics or create one if none existed. This continues to be a goal of mine. This is also a goal of the IFMBE Bioethics Working Group.

#### Special Leadership Meeting Called

I have just recently called an important meeting of the IFMBE Leadership to discuss and propose structural changes to IFMBE that

will insure consistent representation from the various regions of the world. We want to bring together medical and biological engineers from all over the world and also keep the chairs of our Divisions, CORAL, Asian/Pacific, and EAMBE leaders as well as the fellows of IAMBE in close communications with our AC. The meeting is planned for March 2012 in Brussels just after the EAMBES General Assembly.

#### Future Leadership

Elections for new IFMBE officers and AC members will take place at the WC 2012 in Beijing next May. The IFMBE Nominating Committee is actively seeking dedicated volunteers for the Medical and Biological Communities to stand for these positions. Please nominate outstanding, active and dedicated individuals for consideration for the office of Vice-President (President-elect), Secretary General, Treasurer and AC member (4 to be elected). Thank you for your thoughtful consideration.

#### WC 2012 – World Congress on Medical Physics and Biomedical Engineering

Work is well under way preparing for the WC 2012 -World Congress on Medical Physics and Biomedical Engineering- on 25 - 31 May 2012 in Beijing, China [www.wc2012.org](http://www.wc2012.org) The conference themes and tracks are now set and Theme and Session Chairs are being contacted now – if you are interested in serving in such a capacity, please contact the Congress Organizers as soon as possible. The deadline for submitting an abstract has been extended to 10 February 2012 and the early-bird registration fees have been reduced to the equivalent of \$600. Paper submissions are expected by 7 January 2012.



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### Calling all General Assembly Delegates

The IFMBE General Assembly will be held during the World Congress 2012 in Beijing, China 25-31 May 2012. At this time we are asking all constituent Societies of the IFMBE to appoint its delegates to the General Assembly. This is very important for the health of the IFMBE. Please communicate delegate appointments to General Secretary James Goh.

### Special WC 2012 programs

There are two special programs I have been working on for the WC 2012. The first involves creating Special Sessions on Undergraduate Student Projects regarding the development/ deployment of low-cost medical devices in resource-poor nations. So far I have secured funding for 8 students to attend the WC 2012 to report on their undergraduate projects – 4 from the IFMBE, 2 from the Biomedical Engineering Society, 1 from the IEEE/EMBS and 1 from Engineering World Health. I am hoping to get additional funding for this special program from sources outside of the United States. If you have any ideas for funding, please contact me immediately! The deadline for abstract submission is now 10 February 2012; please send me a copy of the abstract [hfv@bu.edu](mailto:hfv@bu.edu)

The second WC 2012 Program I am pushing is based on the highly successful Young Faculty Networking Fellows Programs started by the Asian/Pacific Rim working group of IFMBE. 4-5 Young Faculty members from these countries were identified as rising stars and provided travel support to visit the research homes of the other participants prior to attending the World Congress. Inaugurated for the WC 2006 in Seoul, Korea, this program

was also successful for the WC 2009 in Munich, Germany. My goal is to establish three additional regional Young Faculty Networking Fellows Programs – in addition to the continuing Asian-Pacific Rim Program, these will include:

- a new CORAL Program for Central and South America,
- a new North American Program, and
- a new European Program.

The IFMBE is committed to providing substantial funding for these programs as long as the procedures for selecting the Fellows are acceptable, and the candidate's Society is in good standing with the IFMBE. We are hoping to have the CORAL and North American Programs in place for WC 2012.

@ifmbe\_hfv

What is this? Well this is my twitter account. I believe we need to use modern communication channels to relay important information regarding your IFMBE in a timely manner. Please follow me at @ifmbe\_hfv. You will get instant info about the IFMBE!

Best wishes,  
Herb



Herbert F. Voigt, Ph.D.  
President, IFMBE



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### Information Regarding the 2012 World Congress on Medical Physics and Biomedical Engineering

#### Registration Fee Reduced

The Congress Organizing Committee (COC) of WC 2012 has reduced the registration fee by about 25%. The updated Member Delegate Registration with Early Bird Rate is as low as USD600. More information is available at

<http://www.wc2012.org/registration.html>.

Join us and register for WC 2012 now!

Participation is open to everyone interested in 2012 World Congress on medical physics and biomedical engineering. Those wishing to attend the congress should register via the Online System. Only registered participants are entitled to attend the scientific sessions of the Congress.

#### Registration Fee

Registration Fees are updated in Chinese RMB, 1USD=6.4 Chinese RMB

ITEM	Early Bird Rate	Standard Rate
	Before or on March 15, 2012	After March 15, 2012
*Full Delegate Registration (Member)	3,800 (USD600)	4,800 (USD750)
Full Delegate Registration (Non-Member)	4,500 (USD700)	5,500 (USD850)
**Student Registration	1,900 (USD300)	2,300 (USD350)
<b>** Special Rate Registration (SRR)</b>		
SRR - Full Delegate Registration	1,900 (USD300)	2,900 (USD450)
SRR - Student Registration	1,300 (USD200)	2,100 (USD325)
Accompanying Person Registration	1,800 (USD250)	
Congress Banquet	900 (USD140)	
****Lunch Buffet (Mar 27-31, 2012)	840 (USD130)	

\*Member Registration are quoted and specified for those from organizations listed as members by the IFMBE ([www.ifmbe.org](http://www.ifmbe.org)) and the IOMP ([www.iomp.org](http://www.iomp.org)).

\*\*Full time students (not including postdocs) MUST provide proof of full time status when submitting registration form and payment (copy of valid student ID card or letter from affiliated

institution head or program director)

#### \*\*\* Special Rate Registration (SRR)

The SRR rates are quoted and specified for those attendants from Low-income economies and Lower-middle-income economies (Based on the data of the World Bank

<http://data.worldbank.org/about/country-classifications/country-and-lending-groups>)

\*\*\*\* Lunch Buffet needs at least 50 persons with reservation, or it will be changed into Lunch Box.

#### Entitlements

The Full Delegate Registration (Member and Non-Member) includes:

- Access to Opening Ceremony and Welcome Reception
- Access to Closing Ceremony
- Access to all Scientific Sessions
- Access to Exhibition
- Congress kit (Bag, badge, Program book and CD of abstracts and Proceedings, etc.)
- Coffee breaks

The Student Registration, SRR Registration (Full Delegate and Student) include:

- Access to Opening Ceremony and Welcome Reception
- Access to Closing Ceremony
- Access to all Scientific Sessions
- Access to Exhibition
- Congress kit (Bag, badge, Program book and CD of abstracts and Proceedings, etc.)
- Coffee breaks

The Accompany Person Registration entitles to the following:

- Access to Opening Ceremony and Welcome Reception
- Access to Closing Ceremony
- Beijing city tour



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### How to register

You are kindly requested to make registration via online registration system. If you encounter the problem while making the online registration, you may contact secretariat at:

CICCST

Room. 416, East Hall

China Hall of Science and Technology

No. 3, Fuxing Road, Beijing 100863

E-mail: [info@wc2012.org](mailto:info@wc2012.org)

Tel: +86-10-62174061

Fax: +86-10-62180142

### Registration for Japanese Participants

Japanese participants may contact Travel Partner Co. Ltd., Japan, an official travel agency for the convenience of the participants from Japan to China, for registration and hotel reservation, visa application, international air tickets and insurance.

Ms. Yuriko Matsukawa / Ms. Yuki Shinmura /  
Mr. Yuji Totsuka

Travel Partners Co., Ltd.

KCM Bldg. 2F, 25-6, Hakozaki-cho,  
Nihombashi

Chuo-ku, Tokyo 103-0015

Tel. 03-5645-3700

Fax. 03-5645-3775

Email: [chinadesk8@gold.ocn.ne.jp](mailto:chinadesk8@gold.ocn.ne.jp)

## Information Regarding the 4th International Conference on the Development of Biomedical Medical Engineering in Vietnam



You are invited to participate in the 4<sup>th</sup> International Conference on the Development of Biomedical Engineering from January 8-12, 2012 in Ho Chi Minh City, Vietnam. Website:

[www.hcmiu.edu.vn/bme2012](http://www.hcmiu.edu.vn/bme2012).

Vietnam is a dynamic country that offers an unrivaled experience to international researchers and educators. This mega-conference will be kicked off by the Regenerative Medicine Conference (Jan 8-10, 2012) with the theme " BUILDING A FACE" USING A REGENERATIVE MEDICINE APPROACH" and endorsed mainly by the Tissue Engineering and Regenerative Medicine International Society (TERMIS). It will be followed by the Computational Medicine Conference, endorsed mainly by the Computational Surgery International Network (COSINE) and the Computational Molecular Medicine of German National Funding Agency (Jan 10-12);



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and the *General Biomedical Engineering Conference*, endorsed mainly by the International Federation for Medical and Biological Engineering (IFMBE) (Jan 10-12). Tutorial sessions, round-table discussions, social events and tours will also be organized.

Conference topics include: Regenerative Medicine and Tissue Engineering, Medical Robotics and Image guided Surgery, Modeling and Simulation, Functional Near Infrared Spectroscopy, Medical Instrumentations, E-Healthcare Technology, Nanotechnology for Healthcare and Drug Delivery, Biomedical Signal and Image Processing, Computational Molecular Medicine, Biomechanics, Healthcare for Developing Countries, Telemedicine.

Keynote and guest speakers include: Sylvie Testelin, U. of Amiens (France); Arthur Epstein, Ohio State U. Columbus (USA); Frederic Lesage, Ecole Polytechnique de Montreal, (Canada); Michele Parrinello, ETH-Zurich (Switzerland); Alejandro Giorgetti, U. of Verona (Italy); Maria Joao Ramos, U. of Porto, (Portugal); Riitta Surronen, Ins. of Reg. Med. Tampere (Finland); Andrew Ruys, U. of Sydney (Australia); Beom-Jin Lee, Kangwon National U. (South Korea); Qing-Feng Li, JiaoTong U. (China); Paul Salins, Bangalore (India); Swee Hin Teoh, National U. (Singapore).

Organizers: Stephen E. Feinberg, U. of Michigan Health System, Ann Arbor (USA); Anh Le, U. of Southern California, Los Angeles (USA); Paolo Carloni, U. of Aachen, (Germany) and Vo Van Toi, International U.-Vietnam National Universities-Ho Chi Minh City (Vietnam).

Sponsors:

Email: [bme2012@hcmiu.edu.vn](mailto:bme2012@hcmiu.edu.vn)

*Vo Van Toi Professor*  
Conference Chair





## IFMBE EXPRESS

### The International Council for Science (ICSU)

Founded in 1931, the International Council for Science ([www.icsu.org](http://www.icsu.org)) is a non-governmental organization representing a global membership that includes both national scientific bodies and international scientific unions. The Biomedical Engineering community is represented in ICSU through the International Union for Physical and Engineering Sciences in Medicine (IUPESM), which was admitted to ICSU as a full member in 1999. Membership in IUPESM includes the International Federation for Medical and Biological Engineering (IFMBE) and the International Organization for Medical Physics (IOMP).

Through this international network, ICSU coordinates interdisciplinary research to address major issues, facilitates science education and capacity building. In addition, the Council actively advocates the universality of science, which implies freedom in the conduct of science, and equitable access to scientific data and information. The Principle of the Universality of Science has been embedded in the statutes of ICSU from its very early days. All Members agree to adhere to this Principle and it provides a model of equity and non-discrimination across the international science community. Because of its broad contact with thousands of scientists worldwide, ICSU is increasingly called upon to speak on behalf of the global scientific community and to act as an advisor in matters ranging from the environment to scientific ethics.

ICSU's mission is to strengthen international science for the benefit of society. Its strategy is to identify major issues of importance to science and society that no single discipline or country can address. It facilitates interaction among scientists across disciplines and from all countries, and provides independent, authoritative advice to stimulate dialogue between the scientific community and governments, civil society, and the private sector. The long-term strategic vision is for a world where science is used for the benefit of all, excellence in science is valued and scientific knowledge is effectively linked to policy making. To implement its mission, ICSU relies on its 30 scientific unions, representing scientists worldwide who give freely of their valuable time, and national science academies in more than 120 countries.

ICSU is currently implementing the final year of its first-ever strategic plan, the product of a major consultation and planning process. This new strategic approach responded to the recommendation that the organization needed to become strategic in addressing key international interdisciplinary issues that are important for science and society. It has just approved a new strategic plan during the General Assembly in Rome. One important goal of the strategic plan, which provided for a new direction of the organization and which is most relevant to our profession is "to ensure that health considerations are duly taken into account in the planning and execution of future activities by building on the relevant strengths of Scientific Unions and Interdisciplinary Bodies".



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This is a new goal for ICSU and was added in recognition that health is essential to many new scientific innovations, that it is an important component of interdisciplinarity and that it is critical to sustainability.

One of the strengths of ICSU is its governance structure, which has developed over time to ensure transparency and accountability, with a minimum of bureaucracy. The main ICSU Secretariat (19 staff in 2011) is based in Paris and ensures the day-to-day planning and operations under the guidance of an elected Executive Board. A small number of Policy Committees assist the Executive Board in its work and a General Assembly of all Members is convened every three years. ICSU has three Regional Offices—Africa, Asia and the Pacific, and Latin America and the Caribbean. The offices support scientific networks in their regions, facilitate the participation of scientists from developing countries in the activities of ICSU and its members, and ensure that the ICSU strategy and activities are responsive to the needs of developing countries.

ICSU also has 17 Interdisciplinary Bodies, established with various strategic partners, which address major issues of relevance to both science and society. Interdisciplinary Bodies focus on specific areas of international research that are of interest to all or many ICSU Members. Their roles vary, depending on the area of science and on the related needs of the international science community, but usually combine operational and policy/advisory functions. They are designed to become self-sufficient and independent in terms of day-to-day operations and financing. Most Interdisciplinary Bodies have their own Secretariat.

The General Assembly is the highest authority of ICSU and consists of representatives of the Scientific Union members and of the National Scientific members. The GA meets every three years and is responsible for setting the general direction, policies and priorities for the following three years. The Executive Board is responsible to the General Assembly. In addition to overseeing the operations of ICSU, it provides advice and direction on priorities to the General Assembly, taking into consideration the recommendations of the appropriate committees. The Executive Board also implements and communicates ICSU's policies and views between sessions of the General Assemblies. The ICSU Executive Board consists of 14 members: six elected officers (President, Past President, Vice-President for Scientific Planning and Review, Vice-President for External Relations, Secretary General and Treasurer), four members elected from the National Members of the organization and four members elected from the Scientific Unions. Dr. Jaron, past president of IFMBE, was recently re-elected to a second 3-year term on the board.

ICSU's principal source of 'core' income is dues from Members and a subvention from the host country, France. The other major sources of income are grants from various organizations and foundations. These are restricted grants, which support specific programs and/or research. The General Assembly approves draft budgets for the next triennium upon proposals received from the Executive Board, which is charged with finalizing the annual budgets. After consideration by the Committee on Finance and the Executive Board, the audited annual accounts are sent to all members for approval.



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Due to its limited budget, ICSU does not have the resources to initiate major strategic initiatives. However, one mechanism by which ICSU facilitates the development of initiatives is by providing modest seed funding through its grants Program. The total annual budget for the grants program is approximately 300,000 Euros and the ceiling for a single grant is approximately 30,000 Euros. Grant proposals are competitive and are evaluated for quality, interdisciplinary and whether they meet and support ICSU's overall objectives. Grant proposals are also assessed to determine whether the programs to be supported are likely to attract other funding sources and whether the results generated by the grants might grow into a major program.

As a rule, ICSU identifies the problem, provides seed funding and seeks other organizations and countries for collaboration and major funding. One example of research program, which was facilitated by a small grant from ICSU is the Global Change program. In 1979 ICSU co-sponsored the first World Climate Conference, which led to the establishment in 1980 of the World Climate Research Program in partnership with the World Meteorological Organization. The Intergovernmental Oceanographic Commission of UNESCO later joined as a co-sponsor. The results of the conference, which was funded by a few thousand US dollars grew to a major research activity worldwide, involving scientists and engineers from many disciplines and from many countries with an estimated overall investment in research activities, reaching a few billion US dollars.

A more recent example of the mechanism used by ICSU for implementation of a new program is the establishment of an interdisciplinary program on "Integrated Research on Disaster Risk." The aims of this initiative are to provide answers to the growing global problem of disasters and how countries can reduce the root causes of disaster risk. The program will combine diverse expertise and perspectives into one coordinated effort, drawing on the natural, socio-economic, health and engineering sciences. Whereas the program was organized and facilitated by ICSU, its program office is located in Beijing. China is supporting the program's infrastructure and staff. The program is in the process of establishing scientific and national collaborations and raising funds to support research activities. In September of this year, the General Assembly approved the establishment of a new interdisciplinary initiative on "Health and Well Being in the Changing Urban Environment: A Systems Analysis Approach." The implementation of the initiative is about to begin with the initial steps of finding an appropriate host, establishing support and staff structure, creating an advisory board and embarking on fund raising for research. It is expected that a large number of ICSU Unions, including IUPESM, and particularly member of IFMBE, will become active partners in this initiative.



## IFMBE EXPRESS

### Dr. Dov Jaron's Re-election to the Executive Board of the International Council for Science (ICSU)



Dr. Dov Jaron, past president of the IFMBE was elected to a second 3-year term on the Executive Board of the International Council for Science (ICSU). He was the only individual from the previous Executive Board who was re-

-elected to membership on the board. There were a number of reasons that contributed to his re-election but the most critical one had to do with the new ICSU initiative on " Health and Well Being in the Changing Urban Environment: A Systems Analysis Approach" . The initiative has just been approved by the General Assembly, which was held in September in Rome. The initiative, which ICSU will be launching in the next few months, is a very ambitious interdisciplinary program that includes participation by a large number of scientific disciplines as well as other health- related entities.

Dr. Jaron was responsible for heading the efforts that led to the formulation of the initiative and participated in the group that defined the science plan for it. This initiative reflects a new strategic direction for ICSU and by re-electing him, the General Assembly recognized that Dr. Jaron's continuation as member of the Executive Board is critical to the implementation of the initiative.

Dr. Jaron's re-election to the Executive Board places an IFMBE/IUPESM representative at the apex of one of the most prestigious international scientific organizations dealing with interdisciplinary global issues and representing more than 2 million scientists and engineers worldwide. (IFMBE and IOMP are represented in ICSU through IUPESM, which is one of the 30 scientific unions that are members of ICSU).



## IFMBE EXPRESS

### Professor Monique Frize Elevated to Fellow of IEEE

Women in MBE - News

IEEE has just announced the elevation of Monique Frize to the status of Fellow, as of January 2012, for her work in clinical engineering and engineering education.

Monique Frize is Distinguished Professor at Carleton and Professor Emeritus at University of Ottawa. She was a biomedical engineer for 18 years in hospitals (1971-1989) and a Professor in electrical and biomedical engineering since 1989. Monique Frize published over 200 papers in journals and conference proceedings on artificial intelligence in medicine, infrared imaging, ethics and women in engineering and science. She is Senior Member of IEEE, Fellow of the Canadian Academy of Engineering (1992), Fellow of Engineers Canada (2010), Officer of the Order of Canada (1993) and recipient of the 2010 Gold Medal from Professional Engineers Ontario and the Ontario Society of Professional Engineers. She was awarded five honorary doctorates in Canadian universities since 1992. Her first book: *The Bold and the Brave: A history of women in science and engineering* was released by University of Ottawa Press in November 2009. The second book: *Ethics for Bioengineers* is currently in press with Morgan & Claypool Publishers.

### Call for Editor - Medical and Biological Engineering and Computing

#### Call for Nominations

The Federation Journal Committee of the International Federation of Medical and Biological Engineering (IFMBE) is calling for nominations for the position of Editor of the Federation's flagship publication, *Medical and Biological Engineering and Computing (MBEC)*. It is a leading international journal in biomedical engineering, and covers the entire spectrum of biomedical and biological engineering. It presents exciting and vital experimental and theoretical developments in biomedical science and technology, and reports on advances in computer-based methodologies in these multidisciplinary subjects. The journal also incorporates new and evolving technologies including cellular engineering and molecular imaging. MBEC publishes original research articles as well as reviews, technical notes and rapid communications.

This appointment is to replace the current editor, Jos Spaan, and will commence on January 1, 2013, and last for three years, which may be renewable. The Editor should have a broad understanding of biomedical engineering. The successful candidate will need to be responsive, able to make timely decisions, and be firm when necessary. They should have proven standing in the international research community, a solid publication list and a good citation score.



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Confidential nominations should be made to the Federation Journal Committee through the IFMBE Office in the form of a Curriculum Vitae (CV) and covering letter. The deadline for nominations is March 1, 2012. **Please send the CV and covering letter by email to: [webadmin@ifmbe.org](mailto:webadmin@ifmbe.org)**

The duties of the Editor are to:

- Manage and oversee the editorial team during the peer-review process; resolving conflicts with authors and reviewers as needed.
- Edit the material to a level acceptable for MBEC and forward material to our Publisher, Springer, in accordance with an established publication schedule.
- Make editorial decisions to ensure that MBEC is publishing high quality, relevant content that is in compliance with accepted editorial standards.
- Decide on the contents for each issue.
- Recruit new authors and reviewers for MBEC.
- Meet with and report at least annually to the Federation Journal Committee, IFMBE Administrative Council and the Publication and Publicity Committee.

If you would like to inquire about the job description or remuneration for editorial support, or would like an informal discussion about the role, please contact:

*David Holder*, MA, MA, PhD, F Inst P, FRCP,  
Chair, Federation Journal Committee  
Professor of Biophysics and Clinical  
Neurophysiology,  
Department of Medical Physics,  
Malet Place Engineering Building,  
University College London,  
Gower Street,  
London WC1E 6BT, UK. [d.holder@ucl.ac.uk](mailto:d.holder@ucl.ac.uk)  
Or the current Editor-in-Chief, *Prof. Jos Spaan*,  
[j.a.spaan@amc.uva.nl](mailto:j.a.spaan@amc.uva.nl).



## FROM THE SOCIETY

### - CED Committee - Towards Global Clinical Engineering Certification

For some, Clinical engineering (CE) profession is relatively a new profession but, according to the International Standard Classification of Occupations of the International Labour Organization as well as the US Department of Labor, it is part of the fastest growing community of expanding professions that make up the future healthcare work force. Apart from traditional health occupations such community also include biomedical/CE professionals. Thus, it stands to reason that their formal career path and related competencies should be demanding similar, if not the same as, demonstration of skills as those expected from career paths of other health professionals. However, despite this recent positive career-related good news, it appears that there is a slow embracement by national healthcare systems in many countries to fully integrate the CE profession. Perhaps, CE professionals need to more clearly demonstrate to policy makers and the public the benefits derived from well trained professionals who achieved and sustain mastering of the defined body of knowledge.

The Clinical Engineering Division of the International Federation for Medical and Biological Engineering (CED/IFMBE) is dedicated, among other goals, to the advancement of international guidelines for professional education, professional development and certification in CE, and to the advancement of the CE role in the institutional frameworks of healthcare policy, strategy, planning, and management worldwide.

Therefore, in 2010 the CED/IFMBE has initiated a project to examine global status of CE professional recognition that included a global survey of CE certification programs. The main purpose of this effort was to gather, analyze and synthesize all available information in order to determine the need and the model for establishing an international program for certification in CE. The main goal of the project is to provide recognition for meeting benchmarks, a certificate – as a formal document issued by a global awarding body, which records the achievements of candidate following an assessment and validation against a predefined standard.

Since some may confuse terms like accreditation, certification, licensing or registration in professional context, it may be worth highlighting that there are differences and describe them. For example, a certification is a 'third-party attestation related to...persons', as defined by ISO/IEC(International Organization for Standardization/International Electrotechnical Commission). Thus, certification is the process of issuing a certificate, diploma or title formally attesting that a knowledge, know-how, skills and/or competences acquired by an individual have been assessed and validated by a competent body against a predefined standard. Accreditation is a 'third-party attestation related to a conformity assessment body conveying formal demonstration of its competence to carry out specific conformity assessment tasks' as defined by ISO/IEC. Accreditation is a process of quality assurance through which accredited status is granted, showing it has been approved by the relevant legislative or professional authorities by having met predetermined standards.



## FROM THE SOCIETY

In simple words, certification is issuing the document of completion or qualification, while accreditation is like certification of the certification body, registration is recording or registering the certificates, and licensing is issuing a permission to do something that otherwise is forbidden.

Well-defined specific qualifications and experience in clinical practice are necessary requirements for those interested to actively participate in the field of CE, and such qualifications and experience should be subject to certification. The purpose of CE certification is primarily to promote and assure safe and efficient healthcare delivery worldwide through the certification process and continuing assessment of competency of professionals who support and advance patient care by applying engineering and managerial skills to healthcare technology in line with the best professional clinical practice. In that context, an e-letter on behalf of the CED/IFMBE was sent to:

- (1) affiliated National Societies of the IFMBE (using contact data from [http://www.ifmbe.org/index.php?option=com\\_content&view=article&id=114&Itemid=219](http://www.ifmbe.org/index.php?option=com_content&view=article&id=114&Itemid=219) and <http://who.ceb.unicamp.br/>),
- (2) members of the Yahoo! Group - CED Global, Clinical Engineering Division ([http://health.groups.yahoo.com/group/CE\\_DGlobal/](http://health.groups.yahoo.com/group/CE_DGlobal/)), and
- (3) hard copy to all CED/IFMBE Board Members for distribution between June/October 2010. The e-letter was kindly asking recipients to try to provide as much as possible information (criteria, procedures, titles, legislation, documents, links...) on any attempted or established national or international program for certification in CE.

Further information on certification in other clinical sciences or for other professionals within that healthcare system was also requested. Then, final e-reminder was sent again in November 2010. It has estimated that survey requests were sent to approximately 200 e-mail addresses in about 50 countries.

Only a few e-mails were reported by mail server software as undeliverable. So far, information has been received from 17 countries, resulting in a survey's response rate of approximately one-third. The certification in CE appears to exist in 5 out of those 17 countries. In 2 countries there is an explicit legal framework i.e., acts on biomedical/clinical engineering, including the scheme for mandatory professional certification. In an additional 3 countries, the certification in clinical engineering exists on a voluntary basis.

Presently, the CED/IFMBE is exploring and discussing all aspects of the whole process of CE certification: eligibility requirements (education, practice, job content), administration, application procedure (resume, references, transcripts, fees), grandfathering (first national examining authorities), preparation (study materials, literature availability/accessibility), examination (written, oral, language-barriers), levels of certification (clinical engineer, clinical engineering expert), certificate attainment, renewal and revocation, funding, etc.





## FROM THE SOCIETY

Global coordination of national or regional program for CE certification has the potential to strengthen and promote minimum level of requirements that can be administered locally by a national/regional board of examiners and adjusted to the acknowledge and respect of cultural and professional differences in the body of knowledge that is practiced by local clinical engineers in executing their day to day job. In that way, the existence of a viable and secure international CE certification program would greatly help to tread the path towards a full perception, regulation and integration of clinical engineers in healthcare communities and systems worldwide.

Finally, it is noteworthy to take a look exactly thirty years back and to remember the document entitled 'Agreement on Mutual Recognition of Qualifications for Clinical Engineers', where 22 affiliated National Societies of the IFMBE mutually agreed in 1981 to recognise any holder of the IFMBE's certificate of registration as a clinical engineer. Formally, the agreement seems to be still in place, but since certification and registration have never been made mandatory by national legislations in most of the countries, the agreement has been neglected. We believe that global CE community in the 21st century needs and deserves single global CE certification program to come into life. Let us know what do you think?

Submitted by  
Mario Medvedec,  
Division of Biophysics  
Hospital Centre Zagreb University of Zagreb  
School of Medicine  
Kispaticeva 12 HR-10000 Zagreb Croatia, and

*Yadin David*

Chairman, IFMBE/CED  
Biomedical Engineering Consultants, LLC  
Houston, Texas, USA



## FROM THE SOCIETY

### - WiMBE -

#### News from the WiMBE Committee (Fall 2011)

In Budapest, at EMBEC2011, our committee organized a panel: We had presentations from Maria Siebes, Eleni Kaldoudi, Kathleen Geraedst from Belgium and Monique Frize. Herbert Voigt, IFMBE president, was the moderator. As in Medicon last year, it was most gratifying to see many attendees and good questions and comments. We plan a different formula for the World Conference in Beijing. Plans are underway to organize a workshop where men and women will be discussing current obstacles for girls and women to choose a career in engineering, and strategies to increase their participation at all levels: University programs, workplaces, and associations. We hope to see many of you at this workshop that will be followed by a networking lunch. Everyone welcome!! But you must register at least 48 hours before the session in order to facilitate the planning for the workshop and the lunch.

### - WiMBE -

#### Women in Science and Engineering – A Greek Experience

Eleni Kaldoudi, Member of the WiMBE Assistant Professor in " Physics of Medical Imaging – Telemedicine" School of Medicine Democritus University of Thrace Alexandroupolis, Greece  
E-mail: [kaldoudi@med.duth.gr](mailto:kaldoudi@med.duth.gr)  
Tel.: +302551030329  
Fax: +302551076146

#### Abstract

During the last century, women have made an impressive progress in society, education and the workplace, increasing considerably their participation in historically male-dominated fields such as business, law, and health sciences. However, in science and engineering women's involvement has been less dramatic, and their progress in the respective workplace (especially senior posts and decision making bodies) even slower. In Greece, the cradle of science and philosophy, this situation is even more pronounced. Although Greek women are over-represented in undergraduate studies (more than the European mean), their proportions quickly decrease as one moves up the academic scale. Recent statistical surveys also indicate that this situation may not be adequately apparent, thus more publicity and possibly mainstreaming is required.



## FROM THE SOCIETY

### Keywords

Women in science and engineering, gender issues, Greece

I was invited as a panelist in a special session on "Women in Engineering" in the 12th Mediterranean Conference on Medical and Biological Engineering and Computing (MEDICON 2010), held under the auspices of the International Federation of Medical and Biological Engineering (IFMBE) in Chalkidiki, Greece. Considering that, in the western tradition, ancient Greek philosophy is considered as the establishment of science, the conference and session chairs, Prof. Nicolas Pallikarakis and Prof. Monique Frize respectively, thought that the Greek reality on women in science and engineering should be also presented, preferably by a Greek person. The invitation was a surprise. I'm a woman, and I consider myself a scientist in the field of biomedical engineering and informatics, and this is where my relevance to the topic of this panel would end a few months ago. So I took up the challenge in awe, and during this engagement a number of interesting findings came up, some of which I would like to share here as part of this editorial.

In the western tradition, physical philosophy and thus science are believed to have originated in ancient Greece. Although there are considerable differences (and remarkable exceptions), across the ancient Greek world of historic times women were mostly restrained at home, under the oppression of men (father, then husband), not allowed to participate in social and political activities, solely relegated to child bearing [1,5].

However, interestingly enough there was an equal men/women representation in the Greek pantheon and an indirect but significant political influence by the hetaerae, accomplished female companions who received good education and enjoyed considerable freedom. Moreover, although not many historical references exist, it is known that there was significant involvement of women in the making of philosophy and mathematics. A striking example is the Pythagorean School where women entered on an equal basis with men [1,7]. Pythagoras himself was surrounded by women. His teacher was Themistocleia, a Delphic priestess, and his wife, Theano, was a mathematician herself and the director of the School after Pythagoras' death. Three of their daughters, Damo, Myia and Arignote were also distinguished mathematicians and philosophers. Later, Pythagorean women include Periktione, who is commonly identified as Plato's mother, and the well-known mathematician and astronomer Hypatia of Alexandria in the 4th century AC.

Greece today is still mostly a patriarchal society, but there are continuous improvements on gender equality due to women's obligatory education and the overall socio-economic development. There is no specific gender mainstreaming plan, but rather a general gender equality plan. For example, an enactment of 2000 on equal gender treatment requires that a minimum of 1/3 of each gender be represented in all public decision-making bodies. On the basis of specific initiatives in Greece, today there are considerably more than 100 societies dealing with gender equality and related issues.



## FROM THE SOCIETY

According to an official report from the Greek Ministry of Development [4], during the past 50 years there is an impressive increase of women's representation in the educational system and a gradual reduction of the gender gap. While in 1969-1970 women were only 31% of the total undergraduate university population, thirty years later they prevailed over men, i.e. 59% women undergraduates in 2000-2001. Women constitute almost half of the student population of the Technological Institutions and gradually start prevailing over men: 50% in 1994 and 53% in 1998. Although gender-based differences in student's participation in various scientific fields are being reduced, a difference among sciences still exists. Thus, in Humanities, Arts, Law and Social Sciences women outnumber men. Women's participation in the Natural Sciences has increased significantly, increasing from 20% in 1971 to 43% in 1997. Finally, in the field of engineering, the women's ratio increased from 6% to 25% during the same period. In 2004 Greece was one of the seven European countries (Bulgaria, Portugal, the Former Yugoslav Republic of Macedonia, Lithuania, Estonia and Romania being the other six) that had reached the point at which one third of women graduates in engineering were women [6] – a level that the European Commission had suggested as the target for 2010.

Indeed, in the year 2006 the Periktione Network, a newly founded women researchers' network under the auspices of the General Secretariat for Research and Development, Ministry of Development, conducted a statistical research among 2.200 women in 50 Greek research institutions

(description and results are available from National official site for mapping women researchers in Greece, <http://ereunitries.ekt.gr/ereunitries/>). The majority of the responders were active in the social sciences and humanities, 34% in medical sciences, 12% in natural sciences and only 4% in engineering and technology. The survey also highlighted the fact that only 20% of the women responders were participating in management organisations, while a mere 10% had been appointed as a national representative in EU and/or national institutions. The quantitative part of the same survey showed that the majority of women (67%) do not experience direct gender discrimination in the workplace, while indirect gender discrimination was mentioned mostly by elder women researchers (%33). More than 50% of the survey participants realize that women do face more problems, and they mainly attribute these to time overload due to concurrent family commitments. Actually the majority admits that their role as active researchers interferes with their family and vice versa. For these reasons, more than 66% consider gender to be an impediment to their career advancement. However, despite all of the above issues, it is striking that the majority of survey participants report very good working relationships with their male colleagues and they are satisfied or very satisfied by their choice of profession.

This registered contentment could probably be explained by looking at the relative figures for Greece and the rest of European Union States.



## FROM THE SOCIETY

As indicated by recent official European Union (EU) data [2,6] (indicative figures summarized in Table 1), the proportion of women graduates in tertiary education in Greece is around 62%, higher than the EU mean. Moreover, the proportion of women graduates in engineering, manufacturing and construction in Greece is 45%. This figure is much higher than the EU mean and actually is the maximum for the EU countries. Although the figures are not as positive for the proportion of women researchers in general, and per sector (namely, higher education, government, business), the figures for Greece are still higher than the EU mean. However, the situation is reversed when women proportions in senior research positions are considered. What is known as the "leaky pipeline", (i.e. the fact that the proportion of women declined significantly as they moved towards higher levels in the academic and research career) is more pronounced in Greece than in the EU. For example, the statistical data shows that in 2004 only 11% women were Grade A professors in Greece as opposed to 13% EU mean (which is still a low figure).

The official national data [8] for a typical academic career (students and staff) in all Greek Universities for the year 2007 is shown in Figure 1. Women make-up 65% of graduate students, and as MSc/MA degree holders, they outnumber men. However, these figures decline rapidly as one advances to higher level positions, with women being only 18% of Grade A professors.

So where do we really stand? In recent years, women in Greece were highly and successfully involved in higher education and postgraduate studies, and they are steadily progressing following academic and research careers, even in fields traditionally dominated by men. In their research working environment, they seem to encounter a positive attitude from males and, although they face some gender related difficulties (mainly due to family commitments) they seem satisfied with their research and academic professional life.

To draw an analogy that I used during my speech in the MEDICON Conference in Chalkidiki, at first glance, it seems that Greek women researchers are pleased to be standing amidst a charming Greek scenery. Only they do not seem to be aware that right next to them stands the uniqueness of Mount Athos (The Monastic Community at the Holy Mountain in Chalkidiki, Greece, <http://www.mountathos.gr/>), where no women are allowed to enter. Although the status of Mount Athos is a matter of faith and religion and is not an issue in this very discussion, senior research posts is another matter altogether. The fact that women's representation in science and engineering declines significantly in the senior scientific/academic grades and research decision-making bodies is a European and international problem, addressed regularly in a number of official reports, e.g. [2,3,6,9].



## FROM THE SOCIETY

As stated in the executive summary of the WIRDEM 2008 report [9], "such a situation must inevitably mean that the individual and collective opinions of women are less likely to be voiced in policy and decision-making processes, which may lead to biased decision-making on topics of future research". And this most likely leads to a vicious circle on women under-representation in science. The same report concludes to a number of measures that should be taken towards equality, and thus quality, in the research arena. These include the following: a sincere commitment by national governments towards equality and mandatory gender balance in decision-making bodies; transparency and meritocracy should be enhanced; decision-makers, peers and the public should be regularly updated and educated about the inequality issue and how to address it.

In conclusion, action must be taken. A good friend of mine, Adamantios Koumpis, Research Director of ALTEC S.A., when presented with these facts and issues, commented that: "Clemenceau said that 'war is much too serious a matter to be entrusted to the military' – in the same way, one could dare say that research is much too serious a matter to be entrusted only to the men" ...

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## FORM THE SOCIETY

Table 1				
	Greece	EU mean	EU max	EU min
proportion of women graduates in tertiary education (2004) [6]	62%	59%	77% Cyprus	30% Bosnia & H.
proportion of women graduates in engineering, manufacturing & construction (2004)[6]	45%	26%	45% Greece	13% The Netherlands & Switzerland
proportion of female researchers (2006)[2]	36%	30%	49% Lithouania	18% The Netherlands)
proportion of female researchers in higher education sector (2006)[2]	38%	37%	51% Latvia	25% Malta
proportion of female researchers in the government sector (2006)[2]	41%	39%	64% Malta	29% The Netherlands
proportion of female researcher in the business sector (2006)[2]	28%	19%	41% Romania	10% The Netherlands
proportion of women Grade A professors (2004) [6]	11%	13%	29% Romania	8% Ireland

Table 1. Some figures on proportions of women's participation in research for Greece as opposed to the European Union. The figures are based on statistical data as presented in [2] and [6].

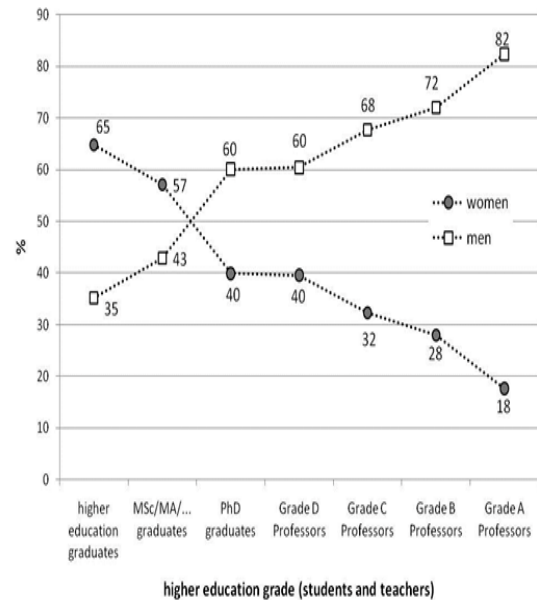


Figure 1. Proportions of men and women in a typical academic career in Greece. The data refers to total numbers of students or academic staff in all Greek Universities at the end of academic year 2006-2007 [8].



## BME AROUND THE WORLD

### Report of EMBEC 2011, Budapest, Hungary

5th European IFMBE Conference  
4 – 18 September, 2011, Budapest

The Conference addressed the main contribution biomedical engineers can offer to medical doctors:

Cooperation for Effective Healthcare



*Fig.1 Folklore dance at the Opening Ceremony*

The Conference was popular world-wide: paper submissions came from 60 countries. 4 keynote lectures were given:

Herbert F. Voigt: Ethical Issues Facing the Medical and Biological Engineering Profession

Robert M. Nerem: Regenerative Medicine: The Past, the Present, and the Future

Sergio Cerutti: Cardiovascular Variability Signals: Assessment of Autonomic Controlling Systems with Novel Application Tools

Niilo Saranummi: Rethinking Health ICT Enabled Services to Empower People to Manage Their Health

13 invited lectures were held by outstanding experts in the field of BME: Geoffrey Chase, Olaf Dössel, Gábor Forgács, Christopher J. James, Dov Jaron, Timo Jämsä, Ratko Magjarevi, Damijan Miklavic, Marc Nyssen, Nicolas Pallikarakis, Günter Rau, Rita Stagni and Jos Vander Sloten. The "Meet-the-Editor" plenary was offered by Jos A. E. Spaan, editor-in-chief of MBEC.

227 papers were accepted for oral presentation, distributed into 42 sessions. 144 posters were displayed. The presentations covered 24 topics, the most popular were: Cardiovascular system analysis, Modeling and simulation, Biomechanics and movement analysis, Biomaterials and biosensors, Imaging and image processing, Home health monitoring. Special sessions included: Bioimpedance, Green Methods and Engineering behind the Synthesis of Biologically Active Compounds, Disaster Preparedness for Health Technology Management, CAD in Digital Radiology, Technology for Home Monitoring of Diabetic Patients, Women in BME, Curricula Reformation and Harmonisation in the Field of Biomedical Engineering.

Out of the 80 young investigator applicants (53 oral, 27 poster presentation) 11 finalists were selected. The Young Investigator Award Committee (chair: Gábor Horváth, members: Lenka Lhotska, Tomaz Jarm, Shankar Krishnan, Igor Lackovi and Mart Min) gave the following honors:





## BME AROUND THE WORLD



Fig.2 Young Investigator Award winners with IFMBE officers, committee members and conference chair.

### Oral presentations:

- 1<sup>st</sup> prize (500€) Lukas Traxler (Austria)
- 2<sup>nd</sup> prize (350€) Utku Gülan (Switzerland)
- 2<sup>nd</sup> prize (350€) Pepijn Van Horssen (The Netherlands)
- 3<sup>rd</sup> prize (200€) Patrique Fiedler (Germany)

Book award: Jana Holmar (Estonia), Patrick Berlitz (Germany), Yoshiaki Shibasaki (Japan), María Amparo Callejón (Spain).

### Poster presentations

- 1<sup>st</sup> prize (350€) Utako Yamamoto (Japan)
- 2<sup>nd</sup> prize (250€) Denis Pavliha (Slovenia)
- Book award: Attila Bonyár (Hungary)

Professor Ákos Jobbágy  
Conference chair

## 10<sup>th</sup> International Workshop on Biomedical Engineering, Kos Island, Greece



10<sup>th</sup> International Workshop on Biomedical Engineering  
DoubleTree by Hilton Resort Kos-Helona, Kos, Greece  
5-7 October 2011

The 10th IEEE International Workshop on Biomedical Engineering was held in Kos, Greece, on 5-7 October, 2011 at DoubleTree by Hilton Resort Kos-Helona. The workshop was completed successfully. The overall objective of 10thBioEng was to cover the state of the art of Biomedical Engineering, targeting in the latest developments in the area.

The workshop was the tenth in a series of workshops, initiated in 1994, which has jointly been organized by the University of Patras, the University of Ioannina, the National Technical University of Athens, the University of Thessaly, the Hellenic Open University and the IEEE EMBS Greece Chapter.



## BME AROUND THE WORLD

This year with had the honor and pleasure the workshop to be technically co-sponsored by the Institute of Electrical and Electronics Engineers (IEEE), the Engineering in Medicine and Biology Society (EMBS) and the International Federation for Medical & Biological Engineering (IFMBE).

This year the 10<sup>th</sup> International Workshop on Biomedical Engineering was dedicated to Prof. Yannis Missirlis for his valuable contribution to the field of Biomedical Engineering.



*Fig.1 10th International Workshop on Biomedical Engineering*

A total of 60 papers were presented covering a wide range of topics. The 27 of them were presented by students. The papers came from 15 different countries. The workshop was organized in 11 sessions, 1 in the area of Computational and System Biology, 1 in the area of Biosensors and Instrumentation, 1 in the area of Medical Informatics, 1 in the area of Tissue Engineering and Regenerative Medicine, 2 in the area of Biomechanics, 2 in the area of Modeling of Physiological Systems and 3 in the area of Biomedical Signal and Image Processing.

The program featured three keynote presentations which have been given by Prof. Yannis Missirlis, Laboratory of Biomechanics and Biomedical Engineering, Mechanical Engineering & Aeronautics Dept., University of Patras

" Engineering proper tissues and organs: the cells require ALL the appropriate signals"

Prof. Nigel Lovell, Graduate School of Biomedical Engineering, University of New South Wales, UNSW Sydney NSW 2052 Australia

" From Falls Prevention to Vision Restoration: Medical Device Technologies for Improving Quality of Life"

Prof. Robert Allen, Professor of Biodynamics and Control, Institute of Sound and Vibration Research, University of Southampton

" Clinical Assessment of the Motion of the Lumbar Spine and of Resistance to Fatigue of the Spinal Muscles"

During the conference the participants visited Asclepieion which was used as a medical centre in the ancient times and the International Hippocratic Foundation.

The organizing committee would like to cordially thank all the participants of the 10<sup>th</sup> International Workshop on Biomedical Engineering. Their attendance and the quality of their papers were the main factors contributing toward its success. We hope that everyone enjoyed both the scientific and social programs, established new friendships and partnerships and consider 10thBioEng as a memorable event that stimulated their thinking and refreshed their motivation and energy.



## BME AROUND THE WORLD

### 2<sup>nd</sup> International ICST Conference on Wireless Mobile Communication and Healthcare – Mobile 2011, Kos Island, Greece

The 2<sup>nd</sup> International ICST Conference on Wireless Mobile Communication and Healthcare (MobiHealth 2011) took place on 5-7 October 2011 on Kos Island, Greece. The conference covered a broad range of topics and revealed in a unique manner the rapidly changing face and context of healthcare delivery services facilitated by wireless communications, mobile computing and sensing technologies.

During its course, participants had the privilege to attend keynote lectures by leading experts, which motivated innovative discussions. Dr Yadin David (Biomedical Engineering Consultants, LLC) outlined the recent progress in telehealth and telemedicine systems emphasizing on on-demand communication of clinical information. Dr Nikolaos Bourbakis (Wright State University) addressed the issue of securely protecting private patient data in continuous monitoring applications. Dr Yang Hao (Queen Mary University of London) focused on body centric wireless communications with the use of wearable and implantable wireless sensors. Finally, Dr Sergio Guillen (Polytechnic University of Valencia) outlined the concept of "Ambient Assisted Living" as a strategy to develop applications and services that enable older people to live independently longer, while reducing the dependency time.



New research, applications and case studies were featured within the framework of MobiHealth 2011. A number of highly timely mobile communication systems that can be used for patient monitoring and healthcare delivery were presented, while a number of Information and Communication Technology (ICT) platforms were presented for chronic disease management and support of the ageing population. The field of wireless medical devices was also explored. Novel implantable and wearable sensory and monitoring devices were proposed, and the performance of protocols which are widely used for biomedical telemetry was examined. Mobile and wireless technologies for healthcare delivery and emergency, as well as ambient assistive technologies for pervasive healthcare services were also investigated.



*Fig.1 Conference of Mobile 2011*

Several open issues and technical challenges were identified within MobiHealth 2011 as key factors for revitalizing health care delivery and assisting the shift towards preventive, personalized and citizen-centered care.



## BME AROUND THE WORLD

Emphasis should be placed on usability, user acceptance, standardization and interoperability towards ubiquitous and pervasive healthcare delivery services. Emerging applications include lifestyle and general well-being monitoring, monitoring and management of neurodegenerative diseases, computer assisted rehabilitation and therapy and social networking of relatives and peers for monitoring of elderly.

The social program of MobiHealth 2011 featured, on 5 October 2011, a plenary talk by Prof. Stefanos Geroulanos, President of the International Hippocratic Foundation, entitled "Hippocrates, Asclepius and Asclepeia". The talk was followed by a welcome cocktail at the DoubleTree Resort by Hilton Hotel. On 6 October 2011, an excursion was organized in the Island of Kos. The tour took the participants to the Hippocratic Museum and the International Hippocratic Foundation, which are dedicated to the "Father of Medicine", Hippocrates, and ended at Asclepeion, the most important and popular ancient sight in Kos. Asclepeion was an ancient sanctuary, dedicated to Asclepius, god of healing. It was also a healing centre and the place where Hippocrates taught medicine. At Asclepeion, participants had the opportunity to watch a short retrospection in the life and science of Hippocrates, and witness the re-enactment of taking the Hippocratic Oath, a ceremony drifting back 2,500 years into antiquity. In the evening, an enjoyable Gala Dinner was organized at the DoubleTree Resort by Hilton Hotel, which comprised sumptuous and tasteful dishes under live music.



*Fig.2 Best Student Papers were awarded in Mobihealth 2011*

In Mobihealth 2011, best student papers were awarded based on their relevance, content, significance, originality, presentation and overall recommendation. First, second and third place winners were acknowledged with a MobiHealth 2011 Best Student Paper Certificate.

The conference organization was the combined effort of many people working as reviewers, authors, committee members and support staff and we want to thank all of them for their contribution. We hope all participants enjoyed both scientific and social events, established new friendships and partnerships and experienced Mobihealth 2011 as a memorable event that stimulated their thinking and refreshed their motivation and energy.

### The MobiHealth 2011 General Chairs



*Prof. James C. Lin  
University of  
Chicago*



*Prof. Konstantina S. Nikita  
National Technical  
University of Athens*



## BME AROUND THE WORLD

### IEEE Global Humanitarian Technology Conference, Seattle, Washington USA

The inaugural IEEE Global Humanitarian Technology Conference was held October 30-November 1<sup>st</sup> in Seattle, Washington USA. The conference jointly sponsored by the IEEE Seattle Section ([ieeeseattle.org](http://ieeeseattle.org)) and IEEE Region 6 ([sites.ieee.org/r6](http://sites.ieee.org/r6)) had 222 attendees from industry, NGOs, government, foundations and academe. There were 94 papers and 19 posters presented as part of the conference.



On Sunday attendees could sit through tutorials on power generation projects Affordable Energy Solutions for Developing Communities (Robin Prodmore –IEEE PES); Village-Level Renewable Energy projects for the Developing World (Michel Maupoux – Technical Director Green Empowerment) and Systems Thinking and Village Development (John Coonrod EVP The Hunger Project). Day one opened with a welcome from Conference Chair Paul Kostek, followed by remarks from 2011 IEEE President Dr. Moshe Kam. The first conference keynote was given by Dr. Tony Marjoram (retired UNESCO STEM group leader). A panel on the good and bad issues related to technology was held with Dr. Kentaro Toyama (UC – Berkeley) and Akhtar Badshah, (Senior Director, Microsoft Community Relations).

First day sessions (both poster and presentation) addressed Power, Agriculture, Water, Health, and Data Connectivity. Panels were held on topics What Works What Doesn't and Results from IEEE Humanitarian Technology projects.



Fig1. What Works, What Doesn't Panel .

At dinner on Monday October 31<sup>st</sup> the attendees heard from Lawrence Friedl of NASA. He discussed how NASA's work in earth observation could be used to improve lives and respond to natural disasters.



Fig.2 Dr. Lawrence Friedl from NASA gave a speech.

Dr. Patrick Ball (VP Human Rights Benetech, Corp) was the day two opening plenary speaker and highlighted the work Benetech does and his personal experience in the use of technology in developing nations and the study/research of war crimes.



## BME AROUND THE WORLD

A panel was held on the role of professional engineering societies in humanitarian activities – the speakers included – Cathy Leslie (ED -Engineers Without Borders – USA), Noha ElGobashy (ED Engineers for Change) and Pete Sobel (IEEE – Director Global Development). Each discussed what their organizations are currently doing and planned projects and collaborations.

Sessions (Poster and presentations) were held addressing power, innovation, and disaster response. A panel was held on finding/developing funding resources and how entrepreneurship can play a role in bringing projects to successful completion.



*Fig3. Exhibiting booths and Prototype Displays*

The conference closed with a presentation by Dr. Mike North (Reallocate.org) on the use of technology and collaboration and IEEE 2012 President Gordon Day discussed the IEEE plans for 2012 in humanitarian technology.

The conference brought together a diverse audience and provided some excellent opportunities for sharing of work, networking, and identifying new collaboration possibilities.

The 2012 Conference will again be held in Seattle from October 21 -24. A call for papers has been posted at [www.ieeeghtc.org](http://www.ieeeghtc.org).

We look forward to seeing you in Seattle.

*Paul Kostek, 2011 Conference Chair  
Keith Moore, 2011 Program Chair  
Soon Wan, 2011 Publicity Chair*



## EVENTS

The 4<sup>th</sup> International Conference on the Development of Biomedical Medical Engineering in Vietnam; January 8<sup>th</sup>-12<sup>th</sup>, 2012, Ho Chi Minh City, Vietnam

The Fourth International Conference on the Development of Biomedical Engineering in Vietnam will be held from January 8-12, 2012 in Ho Chi Minh City.

Many renowned researchers in the fields have graciously accepted our invitation to be the keynote or guest speakers. You are invited to join us either as organizers of special interest sessions or individual presenters or auditors. We accept both oral and poster presentations. Please check the Call for papers, the deadlines, format for submission of one of the 3 conferences you want to submit your works.

Please find the further information at:  
<http://125.234.238.106/BME2012/>

World Congress on Medical Physics and Biomedical Engineering; May 26<sup>th</sup>- 31<sup>st</sup>, Beijing, China

The World Congress on Medical Physics and Biomedical Engineering in Beijing, China will be held from May 26 to 31, 2012.

During the World Congress 2012, participants will share the latest information on global health challenges, advanced technologies and innovative applications. It will be a window to show case up-to-date representation of research, education development and industrial contribution in the field of medical physics and biomedical engineering.

For further information, please log on:  
<http://www.wc2012.org/index.htm>