

IFMBE News

International Federation for Medical and Biological Engineering

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International Federation for Medical and Biological Engineering

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Editorial

In this issue we have a report on EAMBES and IFMBE European CoS meeting in Brussels by Timo Jämsä, IFMBE regional group representative for Europe-Africa region.

In the Events section we bring a report on the II International Conference on Medical and Biological Engineering CMBEBIH 2017 that was held in March 2017 in Sarajevo, Bosnia and Herzegovina.

Have a look at the photo gallery of merged EMBEC'17 and NBC'17 conference that was held in Tampere, Finland in June.

Marta Zequera contributed a report on the First Latin American CORAL – IFMBE Summer School on Emerging Technologies to Support Health Care and Independent Living. This summer school was organized in June, in Bogotá, Colombia.

In the News in Brief section we have two reports from Clinical Engineering Division related to CED 2017 Teamwork Awards and IFMBE CED2017 Manuscript Awards.

Also, we bring updated calendar of IFMBE related events in 2017 and 2018. We highlight two IFMBE cosponsored conferences – International Conference on Biomedical and Health Informatics ICBHI 2017 and Asia Pacific Conference on Medical and Biological Engineering (APCM-BE2017) which is organized this time in conjunction with ICIBEL 2017.

Igor Lacković
Editor, IFMBE News



IFMBE Express

EAMBES and IFMBE European CoS meetings in Brussels

Brussels and Leuven, Belgium, March 13-14, 2017

Timo Jamsa, IFMBE Regional Representative of the Europe-Africa region

We had an IFMBE European Council of Societies meeting organized during the EAMBES meetings on March 13-14, 2017, in Brussels and Leuven, Belgium. Here is a short overview on the meetings.

The first day started with the **EAMBES General Council**. New council members were welcomed. Prof. Panyiotis Kyriacou will serve next two years as President and Prof. Jari Hyttinen as Past President. Prof. Timo Jämsä was elected as President Elect. Associate Prof. Eleni Kaldoudi will continue as Secretary General and Prof. Erik Schkommodau as Treasurer. The whole new council can be found under the recently updated webpages eambes.org.

EAMBES General Assembly discussed the past and current activities and future plans of EAMBES. Leandro Pecchia as chair of the Policy Affairs Working Group of EAMBES presented the recognized targets to demonstrate BME economic and social impact, to have specific calls on BME in Horizon2020, and to achieve BME professional recognition in European level. Amongst others, EAMBES has shown good success in the discussions with the European Parliament, which established the European Parliament Interest Group (EPIC) in Biomedical Engineering in 2016.

IFMBE European Council of Societies meeting discussed the activities of IFMBE. Thirteen society representatives were present, including IFMBE Treasurer Marc Nyssen, Chair of the IFMBE HTA Division Leandro Pecchia and IFMBE Regional Representative of the Europe-Africa region Timo Jämsä. There was interest on the IFMBE collaboration with WHO, as well as initiatives to promote BME in Africa. The role of EAMBES as a significant European alliance for promoting BME was highlighted. The European regional IFMBE conferences were also discussed. Stronger involvement of the regional societies themselves was expected in future. There was some interest to postpone the future Nordic-Baltic Conferences by one year, to avoid overlapping NBC and EMBEC after the Tampere meeting in 2017. In that case, NBC would be at the same year as World Conference, which needs still to be considered.

The second day was for the **EAMBES Fellows seminar** in Leuven. The seminar was entitled **Frontiers of BME in Europe**. EAMBES activities and challenges, including EAMBES and IFMBE activities to promote BME in Europe and worldwide were discussed. Fellows' perspectives at the Frontiers of BME in Europe were presented by excellent talks by seven fellows. The day was concluded by a visit to Materialise NV.



Panayiotis Kyriacou



Timo Jämsä



Jari Hyttinen



Eleni Kaldoudi



Erik Schkommodau

Events

The II International Conference on Medical and Biological Engineering (CMBEBIH 2017)

Sarajevo, Bosnia and Herzegovina

Almir Badnjević, Conference Chair



The II International Conference on Medical and Biological Engineering (CMBEBIH 2017) was held in Sarajevo, the capital of Bosnia and Herzegovina, from 16 to 18 March 2017. CMBEBIH 2017 was Organized by Bosnia and Herzegovina Medical and Biological Engineering Society (DMBIUBIH) and was endorsed by the International Federation for Medical and Biological Engineering (IFMBE) and European organization Educating Students in Engineering and Medicine (ESEM). The Conference had co-sponsorship from IEEE, while all accepted papers were published in IFMBE Springer Proceedings. CMBEBIH 2017 gathered more than 700 participants from 37 different worldwide countries.

Welcome Addresses at the Official opening of the Conference were given by the Head of EU Delegation to Bosnia and Herzegovina Ambassador Lars-Gunnar Wigemark, Prime Minister Elmedin Konaković,



Registration Desks



Local Organizing Committee

The Mayor of the City Sarajevo Abdulah Skaka, the mayor of Municipality Ilidža Senaid Memić, General Secretary of IFMBE Kang Ping Lin, representative of IUPESM Ratko Magjarević, representative of IEEE Eddie Custovic, representative of ESEM Sebastian Dendorfer, Rector of International Burch University Damir Marjanović and Chair of CMBEBIH 2017 Almir Badnjević.

The Conference program consisted of plenary sessions, invited, oral

and poster sessions, industry workshops, exhibitions and possibilities for start-up financing. The Conference program included a variety of topics:

- Biomedical signal processing
- Biomedical imaging and image processing
- Biosensors and bioinstrumentation
- Bio-micro/nano technologies
- Biomaterials





Opening Ceremony

- Biomechanics, robotics and minimally invasive surgery
- Cardiovascular, respiratory and endocrine systems engineering
- Neural and rehabilitation engineering
- Molecular, cellular and tissue engineering
- Bioinformatics and computational biology
- Clinical engineering and health technology assessment
- Health informatics, e-health and telemedicine
- Biomedical engineering education
- Pharmaceutical engineering
- Genetic engineering

Plenary talks were presented by scientists from USA, Switzerland, UK, Italy, Turkey and Montenegro.

The first day of the Conference, Ernesto Iadanza from Italy held a talk titled: Biomedical and Clinical Engineers: the key to success is a wide knowledge. Ervin Sejdić from USA held a keynote lecture titled: From big data to functional outcomes: Can we use big data to understand functional changes in swallowing, gait and handwriting? Nesrin Hasir-



Welcome Speeches at the Opening Ceremony

ci from Turkey held a lecture titled: Multifunctional Biomaterials and Tissue Engineering Applications.

Second day of the Conference, Tawab Hamidi from Oracle Business Development Healthcare Division talked about Digital/CX Transformation in Healthcare. Sevik Suzer from Turkey talked about: Use of Layer-By-Layer Deposition Technique for Inserting AntiBacterial Nanoparticles and their Characterization by XPS. Shankar Krish-

nan from USA held a lecture titled: Innovative Technologies in Emerging Clinical Cardiovascular Applications.

Third Day of the Conference, Christopher James from UK held a keynote lecture titled: Independent Component Analysis in Brain Signals. Tomislav Milekovic from Switzerland held a lecture titled: Neuroprosthetic technologies to restore movement and communication of people with paralysis.



Sponsors exhibition during the coffee break

During 3 days Conference, the authors presented oral or on posters more than 110 papers which were divided in 16 sessions.

During the Conference, there was 5 different Workshops. The first one was BIOIRC where all participants had opportunity to work on Software PlannerVasc and CFDVasc for planing operation in the hospitals. More than 50 doctors participated in this workshop.

Second workshop was related to Oracle who demonstrated the latest software technologies used in health-care division. The participants got demo versions of this software.

Third workshop was related to Building a thriving Medical and Biological Engineering Industry in Bosnia and Herzegovina, where international and local experts had discussion regarding this topic. A lot of opportunities and new steps were defined.

Fourth workshop was related to financing possible start-up ideas. Youth Employment Project (YEP) from Switzerland Embassy participated and offered 1 million of Euro budget for all good ideas. There was 12 different start up ideas which passed in the next round by their criteria's.

The fifth workshop was organized by BH Future Foundation who provided scholarships to the best student applications in Bosnia and Herzegovina.



Students with Scholarships

During the second day of the Conference University book titled: Introduction to nanotechnology (local language: Uvod u nanotehnologiju) by professors Enisa Omanović Mikličanin and Almir Badnjević was promoted, as the first University book in this field in Bosnia and Herzegovina. Book promoters were prof. Ervin Sejdić from USA and prof. Ratko Magjarević from Croatia.



Book promotion

On the first night of the Conference Student party was organized. There was more than 200 of young people who had great fun and enjoy Sarajevo's music and atmosphere.

The second night of the Conference was gala dinner with great live music and famous local food and drinks. During the dinner, the CMBEBIH 2017 Organizing Committee awarded professor Ratko Magjarević as Life Honorary Chair of CMBEBIH Conference and Life honorary member of our Society.



A Conference cake with Local Organizing Committee and life honorary chair

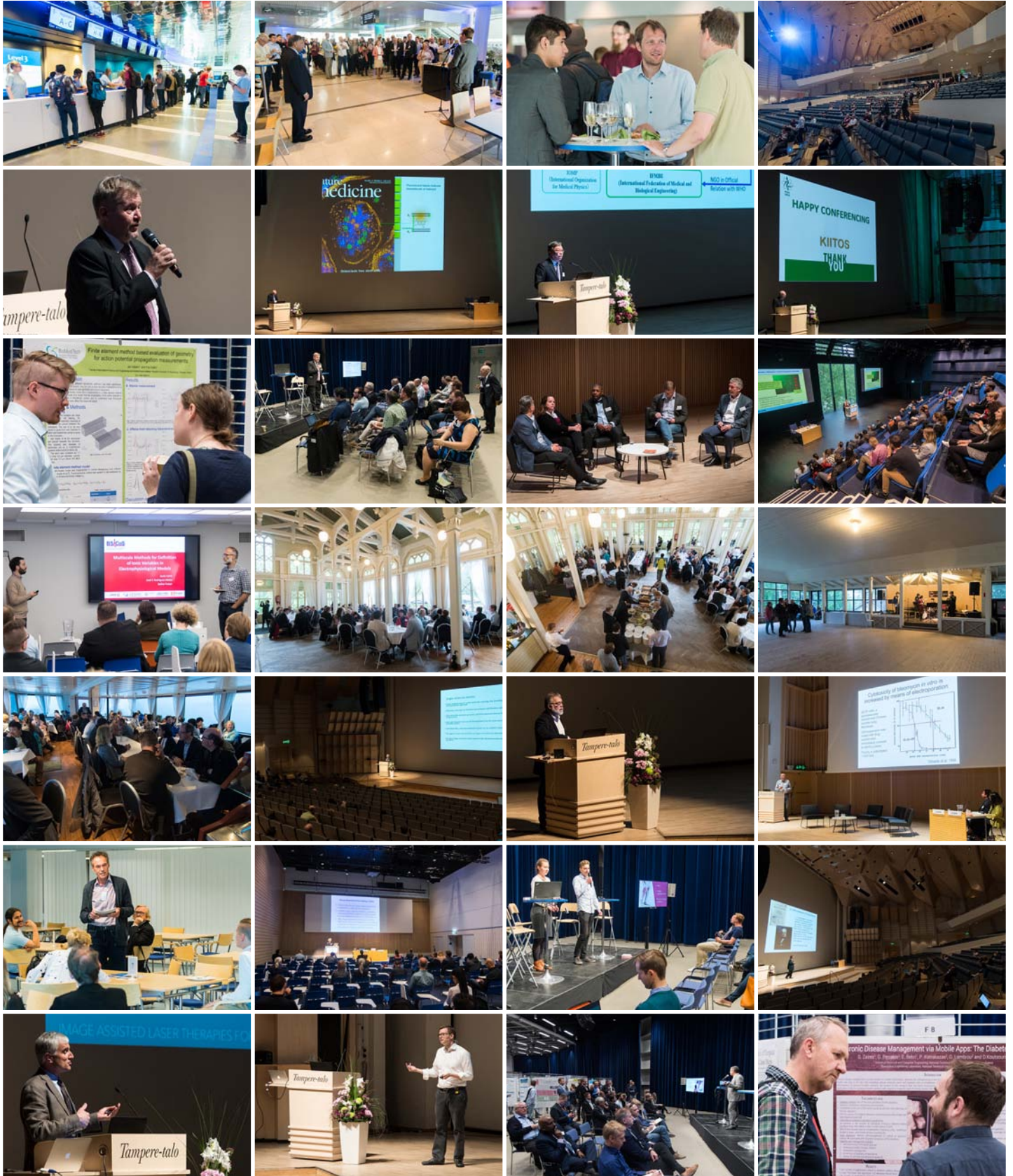


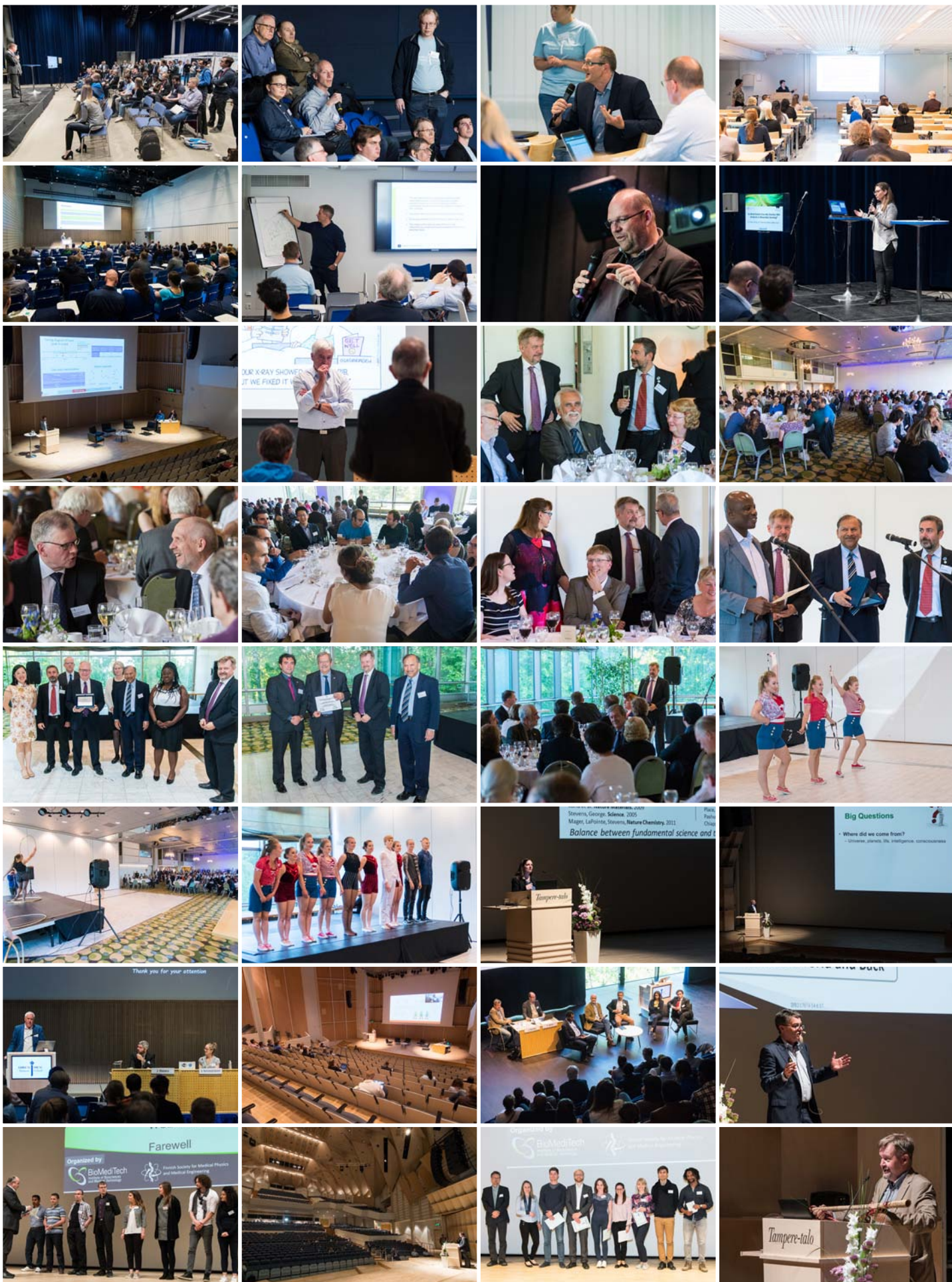
Conference gala dinner

EMBECE'17 & NBC'17 Photos

Photos from the EMBEC'17 & NBC'17 conference (Tampere, Finland, 11-15 June 2017) taken by **Aapo Tervonen**.

You will find full resolution photos on the page <http://embec2017.org/gallery/> and more photos on the page <https://darasuum.kuvat.fi/kuvat/EMBECE++NBC+2017/>





The first Latin American CORAL - IFMBE Summer School “Emerging Technologies to Support Health Care and Independent Living”

Bogota, Colombia

Martha Lucia Zequera Diaz



Speakers and students of the First Summer School “Emerging Technologies to Support Health Care and Independent Living” at Pontificia Universidad Javeriana



The joint summer school for students and young researchers on “Emerging Technologies to Support Health Care and Independent Living” was organized in June 2017 by IFMBE and CORAL with the support of IEEE EMBS at Pontifical Xavierian University, Bogota, Colombia, as a new strategic action to promote Biomedical Engineering education in Latin America.

Twenty-three postgraduate and undergraduate students of Biomedical Engineering, Electronics, Mechanical and Computer Science Engineering, Biophysics, and Medicine, from Argentina, Colombia, Costa Rica, Ecuador, Mexico and Peru attended the Summer School.

SPEAKERS

Professor Kang Ping Lin, Ph.D.,
Chung Yuan Christian University, Taiwan

Professor Shankar Krishnan, Ph.D.,
Wentworth Institute of Technology, Boston, USA.

Professor Paolo Bonato, Ph.D.,
Spaulding Rehabilitation Hospital, Boston, USA.

Professor Ratko Magjarevic, Ph.D.,
University of Zagreb, Croatia

Professor José Luis Pons Rovira, Ph.D.,
Instituto Cajal – CSIC, Madrid, Spain

Professor Metin Akay, Ph.D.,
University of Houston, USA.

Luis Carlos Trujillo, Eng.

Liliana Quevedo León

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Pontifical Xavierian University, Colombia, Chair

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National University of Mar del Plata, Argentina

Luis Miguel Zamudio, Eng.,
National Polytechnic Institute, Mexico

Dr. Eric Laciari,
National University of San Juan, Argentina

Dr. Nubia Arroyo Pulido, *Colombia*

Based on to the success of this First Summer School, the second joint International Summer School will be organized in Bogota, Colombia, from June 25th – 30th, 2018. This experience will be transferred to other Latin American countries.



Academic Committee of the Summer School

News in Brief

CED 2017 Outstanding Teamwork Awards

Tony Easty

Two Outstanding Teamwork Award Winners are:

The Clinical Engineering Division e-learning Project, awarded to **Shauna Mullally** and **Anna Worm**

A brief description of the work on the project:

- doing a review of publicly available clinical engineering / HTM / medical equipment maintenance training materials for low-resource setting trainees
- working with the University of Vermont (Tobey Clark) to plan for his course to be delivered remotely to African trainees, starting in Jan 2018
- engaging Engineering World Health to develop 'tear down' training videos for maintenance on specific devices
- working with other organizations (THET Zambia and NORTEC, Digital Colours Consultancy) to pilot other training materials on the Moodle platform
- identifying three 'super user' African countries that will pilot newly developed materials and provide feedback
- developing a framework for QA of training materials developed / made available through the project (project advisory committee TOR)



Shauna Mullally



Anna Worm

Clinical Engineering team of the Irmandade Santa Casa de Misericórdia de Porto Alegre Hospital – Brazil, led by **Dr. Leria Holsbach**

Irmandade Santa Casa de Misericórdia de Porto Alegre is a health complex with seven hospitals. Due to its technical cooperation with some universities, last year it was possible to produce around 5 million diagnosis through picture exams, generating 20 terabytes per year.

The Clinical Engineering team of the Irmandade Santa Casa de Misericórdia de Porto Alegre Hospital consists of clinical engineers, students, technicians, nurses, physicists, IT professionals, physicians, biologists and business associates. Its aim is to provide improvements for patient safety, new health products, processes, hardware and software solutions.

Part of the team works on health Technology management, proposing solutions using innovative methods to solve problems related to health care in general and also works in the hospitals of the complex. The other part of the team works in universities and manufacturers.

The Clinical Engineer teamwork has every two years to exchange information and Knowledge. In this meeting

are invited experts on the theme chosen and related to health technologies. It is building relationships across different teams of stakeholders (SAP Labs Network, Siemens, General Electrical...), startups, hospitals and universities in partnership with Medical Valley/Germany.

In the last 4 years, working with the University Technology Center, our team has designed and developed 17 projects with 12 of them successfully concluded.



Clinical Engineering team of the Irmandade Santa Casa de Misericórdia de Porto Alegre Hospital - Brazil

IFMBE-CED 2017 Manuscript Awards

Tony Easty

Each year, the Clinical Engineering Division Awards Committee selects two manuscripts published in IFMBE journals or proceedings for awards. The major criteria for the awards are as follows; originality and significant impact on the field of clinical engineering, quality of presented arguments, and quality of writing style.

Here are the winning manuscripts for 2017:

Crisis, What Crisis? How Clinical Engineers will Solve the Billion Dollar Healthcare Funding Gap, published in the Proceedings of the Medicon 2016 Meeting, Paphos, Cyprus, March-April 2016. **Author: Dr. Daniel Clark (UK)**

Medical Devices Management Strategy in the Republic of Moldova, published in the Proceedings of the Third International Conference on Nanotechnologies and Biomedical Engineering, Chisinau, Republic of Moldova, September 2015. **Authors: Dr. Victor Sontea, Dr. Silvia Morgoci, Dr. Gheorghe Turcan, Dr. Cornel Pislaru (Republic of Moldova)**

Announcements



<http://icbhi.med.auth.gr/>





<http://www.iupesm2018.org/>

Calendar

ICBHI2017

International Conference on Biomedical and Health Informatics 2017

<http://icbhi.med.auth.gr/>

18 - 21 Nov 2017

Thessaloniki, Greece

ICIBEL 2017

International Conference for Innovation in Biomedical Engineering and Life Sciences

http://cime.my/icibel_2017/

10 – 13 Dec 2017

Penang, Malaysia

ISMBE 2018

Annual Meeting of the Israeli Society for Medical and Biological Engineering

<https://ismbe.org.il/biomedical-engineering-2018/>

22 Feb 2018

Haifa, Israel

ICBEM 2018

11th International Conference on Bioelectromagnetism

<https://icbem2018.rwth-aachen.de/>

23 - 25 May 2018

Aachen, Germany



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The newsletter appears on the web page <http://www.ifmbe.org> in downloadable PDF format. Articles and announcements for **IFMBE News** should be sent to Prof. Igor Lackovic, Faculty of Electrical Engineering and Computing, University of Zagreb, Unska 3, HR-10000 Zagreb, Croatia, Phone: +385 1 6129 808, Fax: +385 1 6129 652, E-mail: igor.lackovic@fer.hr. Please include „IFMBE News“ when e-mailing materials.

Submission guidelines

Text may be submitted via e-mail (to igor.lackovic@fer.hr) as either an ASCII (unformatted text) file in the body of the message or as an attachment in its native word processor format, which is preferable. Microsoft Word is the preferred format (doc or rtf). Please do not embed your photos in your document file. Instead submit them as separate attachments (TIF, JPEG, ...) at high enough resolution (preferably 300 dpi). Along with your photos, please submit suggestions for captions. Captions can be provided via a text document with a list of filenames and captions. Usually, the article can be around 3 to 4 pages in regular single space Microsoft Words format with 2 to 6 high resolution photos.

