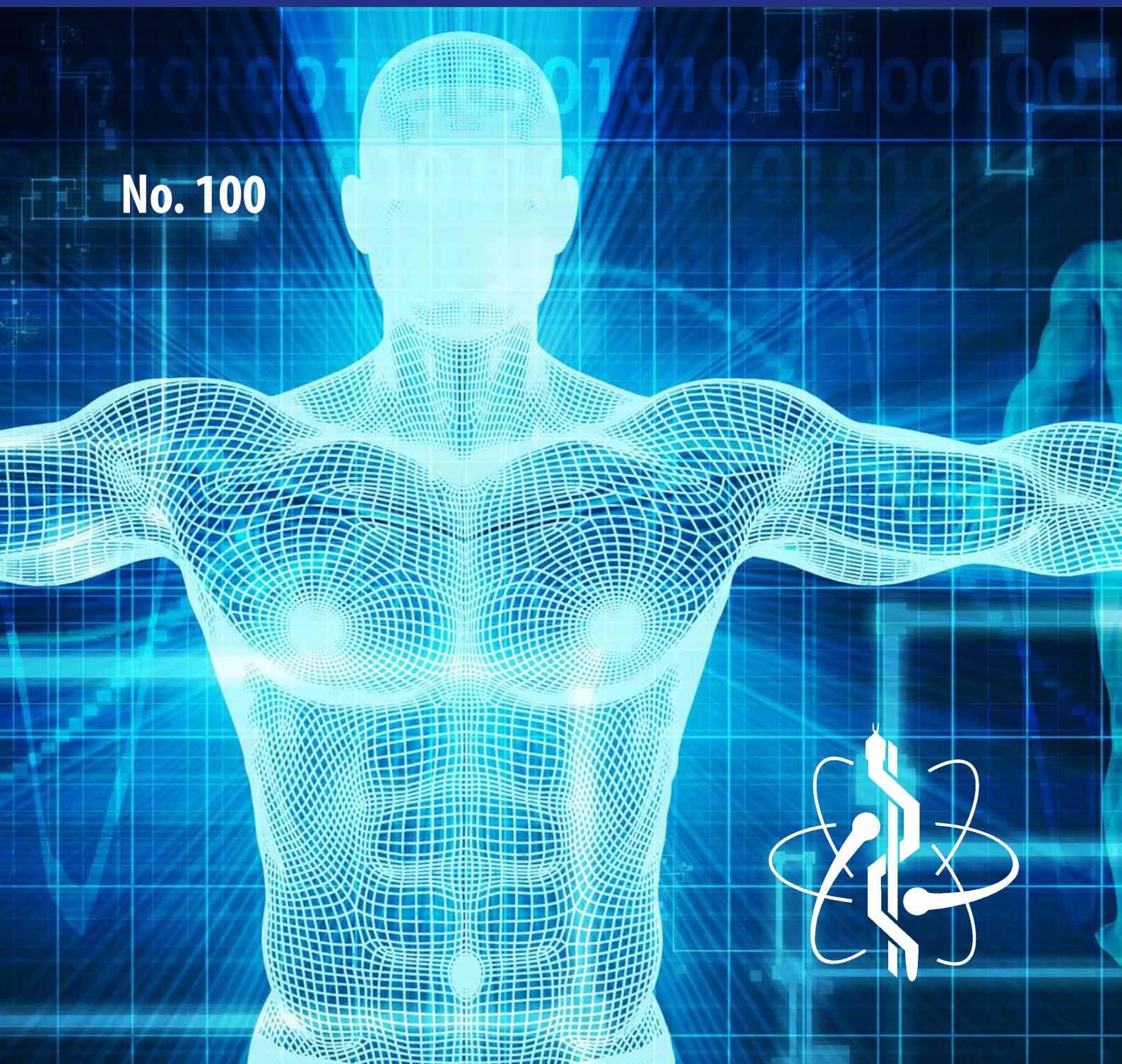


# IFMBE News

International Federation for Medical and Biological Engineering

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**No. 100**



# International Federation for Medical and Biological Engineering

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## Editorial

This is our 100<sup>th</sup> issue as the newsletter of the IFMBE – and my second as the Editor. I want to thank you, our readers and contributors, for staying with us for our 100-issue journey.

At the beginning IFMBE News were published in conjunction with our Federation Journal, Medical and Biological Engineering & Computing. The newsletter was printed and circulated to national member societies, and then secretaries organized distribution of copies to individual members. This led to delays in distributing information. With its 17<sup>th</sup> issue from September 1995, IFMBE News started to appear on the Internet, in addition to its printed format. The idea was clear - to keep all members up to date. Since November 2003 (No. 63) electronic version of IFMBE News got an ISSN, and new issues were published regularly till 2007. After nearly four years pause IFMBE News were back in 2011.

The Federation newsletter had its ups and downs during long years of its existence. In the era of social media when everybody has the possibility to become a content creator, with opportunities to rapidly reach wider audiences, we are facing the challenge what IFMBE News should look today.

As the Editor I encourage you to get your views aired throughout the world, to honour the achievements of your colleagues, to send conference reports, book reviews etc. The IFMBE News will also serve as a channel for distributing messages from the IFMBE President, officers, AC members, Council of Societies Chair and other bodies toward its members.

In this anniversary issue we have a message from our President professor James Goh. Also, we bring a report from Chair of the Council of Societies professor Monique Frize. Dr. Leandro Pecchia prepared a report on launching the first Euro Parliament Interest Group on Biomedical Engineering. For this anniversary issue, past IFMBE President and past IFMBE News Editor professor Ratko Magjarević prepared a few words. In the Events section, we bring a report on MEDICON 2016 and photo memories from Council of Societies Meeting in Cyprus 2016. Highlight in the News in Brief section is the information about 2016 National Alpha Eta Mu Beta (AHMB) Outstanding Dedication and Service Award, which was presented to our past president, professor Herbert F. Voigt. In this issue we also have two obituaries commemorating the lives of Antonio F. C. Infantsi and Robert Albert Brown. Finally, the Announcement section brings information on upcoming events in 2016 and 2017 including events calendar.

As we move forward with the newsletter, we are very excited about many new initiatives that will soon be underway. I am looking forward to receive your contribution for our IFMBE News. We can't wait to see what the next 100 issues bring.

Igor Lacković  
Editor, IFMBE News



# IFMBE Express

## Message from the President

In the last 18 months or so, we welcomed 4 national and 1 transnational societies as new members to the IFMBE family. They are: the Moldovan Society of Biomedical Engineering, the Macau Society of Biomedical Engineering, the Asocacion Peruana De Bioingenieria, the Mongolian Society of Biomedical Engineering and the Latin America Regional Council on Biomedical Engineering (CORAL). I hope in 2017 we will have more national and transnational societies joining IFMBE to make the Federation a truly global organization to effectively promote medical and biological engineering.

***In recent years, the advances in our understanding of human biology has resulted in the development of new innovative technologies for effective and precise diagnosis, treatment and monitoring.***

This undoubtedly has potential impact on medical practice. As part of this ecosystem, medical and biological engineering plays an important role in advancing scientific invention and translating innovation to practice. However, to achieve better global healthcare, there are four key challenges to overcome. First, is having sufficient comparative data to demonstrate that a new healthcare intervention is an im-

provement over existing treatment methods. Second, is cost containment and reduction to ensure that the public has greater affordable accessibility to high-quality healthcare. Third, is to bridge the divide between wealthy and poor nations by implementing procedures to support fair healthcare provision. And forth, is to provide adequate access of effective and safe medical technologies for patients from around the world. As such a holistic approach involving all stakeholders is necessary to address the complex interactions to achieve better healthcare services. This model of approach is embodied in the IFMBE mission statements.

In reflecting on IFMBE mission, I am heartened to note that our global network of professionals at the international level have collaborated to bring about cooperation between national and transnational societies, industry, government and non-governmental organizations engaged in health care and in biomedical research and its applications. For instance, in June 2016 we initiated a partnership with WHO on an internship program to assist in the editing of WHO medical devices series publications as well as to define needs and expertise required on medical devices aspects for health interventions in the different WHO program areas and disseminate Health Technology Management and Health Technology Assessment tools for medical devices to support WHO



James Goh  
President, IFMBE

Member States. Another example is the tremendous effort by the Clinical Engineering Division led by Drs Ernesto Idanza and Yadin David in mounting the unique Global Clinical Engineering Day on October 21, 2016. On that day, CE events were broadcast around the world starting from China to India and then to Australia, United Kingdom, Ethiopia, Italy, Albania, Brazil, USA, Peru, and Mexico. This event truly brings CE from around the globe with real-time viewing peaked at 70,303 log-ins. Kudos to the CED team.

On the European front, Dr Leandro Pecchia (IFMBE HTA Division/ EAMBES PAWG Chairman) and his team was instrumental in the es-



establishment of the Euro Parliament Interest Group on Biomedical Engineering (EPIG on BME), which was launched on 31<sup>st</sup> May 2016 with 3 Members of European Parliament, i.e. Mr Nicola Caputo (S&D, Italy and President, EPIG on BME), Jens Gieseke (EPP, Germany) and Ms Lara Comi (EPP, Italy). This is a significant development, particularly in engaging the European Commission to fully recognize BME as a profession and as an independent area of research. This could have a positive impact on BME globally.

We had two wonderfully organized IFMBE regional conferences held in 2016 to facilitate scientific exchanges and sharing of best practices. I would like to congratulate Prof Constantinos Pattichis and his team for the excellent organization of MED-ICON 2016 in Paphos, Cyprus, and Prof Isnardo Torres and his team, for the marvelous CLAIB 2016 in Bucaramanga, Colombia. As President of IFMBE, I was also invited to give Opening Addresses in ICIBEL 2015 (Kuala Lumpur, Malaysia), E-Medic Global 2016 (Hong Kong) and ICBME 2016 (Singapore). I treasured the networking and friendship developed across continents. Profs Marc Nyssen and Mario Secca represented IFMBE in the 1<sup>st</sup> African Conference on Biomedical Engineering (17-21 October 2016) which was held in Abuja, Nigeria.

Prof KP Lin represented IFMBE in the 3<sup>rd</sup> Mongolian Biomedical Engineering Conference (1<sup>st</sup> October 2016) which was held in Ulan Bator, Mongolia.

I would like to highlight some of the activities undertaken by the working groups and committees. Prof Siew Lok Toh (Chair, Education Committee) organized a fruitful BME/CE Education Workshop during the ICBME 2016 in Singapore. Prof Paulo Carvalho who took over from Prof YT Zhang as the new Chair of the Biomedical and Health Informatics Working Group organized the BHIWG meeting in Hong Kong during the Gordon Conference on Health Informatics in July 2016. The BHIWG is planning the 2nd International Conference on Biomedical and Health Informatics 2017 which will be held from 11-14 November 2017 in Thessaloniki, Greece. I would like to take this opportunity to thank Prof YT Zhang for his impeccable service all these years. Prof Piotr Ladyzynski has graciously agreed to be the new Chair of the Industry Working Group. He organized a very successful workshop on BME Industry Engagement in CLAIB 2016.

The CED Board members have been very active, meeting monthly on-line. One major CE event is the 2nd International Clinical Engineer-

ing and Health Technology Management Congress on 21-22 Sept 2017 to be held in Sao Paulo, Brazil. The Congress Chair is Dr. Saide Jorge Calil (Brazil). The HTAD Board has also been meeting regularly on-line. They have developed an E-Learning Platform which is available on the IFMBE HTAD website. Dr Leandro Pecchia conducted a training session on the use of this platform at ICBME 2016. He had also organized the IFMBE Summer School on HTA in September 2016 at Warwick University.

In 2017, we will have two other regional conferences. In Europe, the combined EMBEC/NBC chaired by Prof Jari Hyttinen will be held in Tampere, Finland from 11-15 June 2017. The IFBME Administrative Council and the Council of Societies will be having their meetings there. In the Asia Pacific, the APCBME chaired by Michael Flood will be held in Sydney, Australia from 17-19 July 2017. I urge you to support these regional meetings.

Let me take this opportunity to wish all of you and your family a blessed 2017. May the year be filled joy and that you will enjoy good health.

James Goh  
President, IFMBE



## Report from the Chair of the Council of Societies



**Dr. Monique Frize** reported that the major goals for 2016-2018 encompass enhancing communication between the Societies and IFMBE, via strengthening relationships between Regional Group Representatives (RGRs) and Ordinary

Members and amongst Administrative Council (AC) officers, Members and the Council of Societies (CoS). While there have been new applications from Malta, Bosnia and Herzegovina there is still room for expanding mem-

bership in areas with low representation such as: Africa, the Middle East, and Russia. Specific areas of focus would be to ensure the newsletter has pieces from each region, RGRs or chair CoS should attempt to organize meetings with Ordinary members who are attending conferences within their region and there should be an attempt to implement practices instituted by Societies which can be shared amongst the group. In addition, the total budget requested for 2016-2018 is 25,500 Euros and includes student assistance, travel fees and dinner for CoS members.

### Events which transpired from June - December 2015

- Election Chair (General Assembly, June).
- Election of the RGRs December/January and nomination of Ordinary Members.
- Vice Chair and Secretary EB: Herbert Voigt; Past Chair: Andrel Linnenbank.
- Charter of the CoS was modified slightly and approved by AC Officers in October.
- A budget was submitted to the Treasurer

### Events which transpired from January - February 2016

- There was an introduction of RGRs to get to know each other and to discuss an agenda for Cyprus on February 1<sup>st</sup>
- The agenda for the Cyprus meeting was finalized on March 30<sup>th</sup>
- RGRs invited Ordinary Members in their region to attend the meeting and dinner in Cyprus; and to obtain proxies for those who could not attend
- Planned a meeting with the Executive Board (EB) of the CoS with AC Officers on March 29<sup>th</sup>
- Thank you to the Past Chair (Andrel Linnenbank) and the EB (2012-2015)

**Dr. Timo Jämsä**, the Europe-African representative, has reported an increase in membership as Bosnia and Herzegovina have joined the region. The relationship between the EU Parliament and the European Alliance of Medical and Biological Engineering and Science (EAMBES) is growing as technology advances within the medical field are placed under public spotlight. EAMBES has made a position paper and given recommendations for the EU Medical Device Regulations. In addition, the EU Parliament has formed a Parliament Interest group on BME and have consulted EAMBES pertaining to the role of internet technology within the healthcare sector. Specifically, the focus of the questions were centered around eHealth and mHealth. In 2017, Nature BME will

be launched, it will be a research journal that connects the biomedical engineering community. The journal aims to attract bench scientists, engineers, and clinicians to highlight areas of improvement in healthcare advances with a biological, medical and engineering focus.

**Dr. Min Wang**, the Asian-Pacific representative reported, since the International Union for Physical and Engineering Sciences in Medicine (IUFPEM) conference, academic development has progressed, as the IFMBE Asia-Pacific Working Group has continued the tradition of providing four researchers with an opportunity to network and share research. During the World Congress conference, this organization presented a special session involving



Innovation in Biomedical Engineering Research in Asia. Lastly, the Commission for the Advancement of Healthcare Technology is working towards promoting and developing Clinical Engineering in India.

**Dr. Herbert F. Voigt, III**, the North American representative, summarized the objectives of the societies: The American College of Clinical Engineering and the American Institute for Medical & Biological Engineering aims to make significant contributions within the field of medical engineering stemming from a variety of industries e.g. academia, industry etc... Additionally, the 38<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society will take place in Orlando, Florida from August 16-20<sup>th</sup> 2016 and organizers were accepting one page abstracts

**Dr. Guillermo Avendaño C.**, the Latin-American representative, introduced the BIOINNOVA 2017 summer school targeted at Masters and Doctor students to gain skills from experts within the rehabilitation field, helping to improve quality of life for the elderly in Latin America. Also, future plans for the Latin-American region include: working with other countries not affiliated with CORAL (Argentina, Brazil, Colombia, Chile, Costa Rica, Cuba, Ecuador, Mexico and Peru), organizing specialized courses in Biomedical Engineering, empowering clinical engineers in hospitals and promoting an international congress of engineers working in health institutions within Latin America. The progression of international events within the Latin-American region include: attending the Pan American Health Care Exchanges (PAHCE) in 2017, participating in the third Latin American Conference on Bioimpedance (CLABIO), intro-

ducing specialized courses in hospital design and electromedical safety at the University of Chile and Argentina, and widespread publication of issues concerning the field of biomedical engineering. Note that the city of Vina del Mar is a complementary seat of the PAHCE event in Chile.

**Dr. Leandro Pecchia**, the Chair of Health Technology Assessment Division (HTA), reported on the current activities within the working group. The HTA submitted 10 papers to the International Journal of Clinical Engineering which are under review. Another area the HTA is active in is contributing to conferences which began in 2015. HTA has partnered with MEDICON2016 where 17 oral presentations were presented. Last year, the HTA formed the first IFMBE Summer School on Health Technology Assessment where 41 attendees were registered from a variety of institutions such as universities and hospitals.

**Dr. Peter Hunter**, the Chair of International Academy of Medical and Biomedical Engineering, reported on the status of academy activities which includes 120 members and 8 recently nominated Fellows. Several presentations were given at the IFMBE Congress in Toronto. Notable speakers include: Bob Nerem, Shoogo Ueno & Fumihiko Kajiya, Niilo Saranummi and Roger Kamm. In addition, academy award recipients include: Liesbet Geris, Carmen Poon and Aysegul Gunduz. For future plans, Dr. Hunter has suggested that better integration is needed of the IAMBE program in Prague. Additionally, it has been recommended that 5 challenges be addressed during the 5 talks at the IFMBE's Global Challenges session; proposed topics can be sent to Fellows.

## Past Events

- PolyU's Symposium on Biomedical and Rehabilitation Engineering in Hong Kong, China on May 15<sup>th</sup> 2015
- PAHCE was on March 23<sup>rd</sup> - 25<sup>th</sup> 2015 in Santiago, Chile The Biomedical Engineering Society's 9<sup>th</sup> Scientific Meeting (BES9SM) was held on May 16<sup>th</sup> 2015 at the Hwa Chong Institution in Singapore, organized by students for students
- BME Experience event organized by the Student Chapter of Biomedical Engineering Society (Singapore) was held from June 16<sup>th</sup> - 17<sup>th</sup> 2015 comprising of talks and Bioengineering Lab Tours at the National University of Singapore
- The 5<sup>th</sup> International Conference on Bio-based Polymer was held from June 24<sup>th</sup> - 27<sup>th</sup> 2015 at the National University of Singapore and was attended by about 100 delegates from 16 countries.





- The 7<sup>th</sup> World Association for Chinese Biomedical Engineers organized the World Congress on Bioengineering from July 6<sup>th</sup> – 8<sup>th</sup> 2015 at the National University of Singapore and was attended by about 280 delegates from 18 countries.
- “Let’s Chat Biomedical - Design your career path” was held on July 9<sup>th</sup> 2015 in Nepal Park, Singapore.
- The 11<sup>th</sup> Asian Conference on Computer Aided Surgery was held from July 9<sup>th</sup> – 11<sup>th</sup> 2015 at the National University of Singapore and was attended by around 140 delegates from Japan, Korea, Singapore, Hong Kong and China.
- The International Conference for Bioeconomy took place in Tianjin, China from July 23<sup>rd</sup> - 25<sup>th</sup>, 2015
- The annual BES Members’ Night/Zhejiang University event was held on August 6<sup>th</sup> 2015 in Hangzhou, China.
- HKU’s Symposium on Bioengineering in the 21<sup>st</sup> Century in Hong Kong, China on August 20<sup>th</sup> 2015
- There was a Tropical Health and Education Trust Meeting in Johannesburg, South Africa on October 25<sup>th</sup> 2015, 15 sub-Saharan Africa professional associations for biomedical professionals were present
- The Sociedad Argentina de Bioingeniería took place on October 29<sup>th</sup> - 30<sup>th</sup> 2015 in the city of San Nicolas, Argentina
- CLABIO took place from October 30<sup>rd</sup> - November 2<sup>nd</sup> 2015 at the Universidad de la Republica, Uruguay
- The BES Student Chapter (Singapore) organized their very first video making competition with the theme “What is Biomedical Engineering to you?” and submissions were due on November 1<sup>st</sup> 2015
- Student-Industry Networking evening was on November 5<sup>th</sup> 2015 led by the Biomedical Engineering Society at the National University of Singapore
- Exhibition and booths were presented at the InnoCarnival event in Hong Kong, China from Oct. 31<sup>st</sup> - Nov. 8<sup>th</sup>, 2015
- The Korea Society of Medical and Biological Engineering hosted the IBEC conference from November 12<sup>th</sup> - 14<sup>th</sup> 2015 in Gyeongju, Korea
- The World Robot Conference took place in Beijing, China November 23<sup>rd</sup> 2015
- The International Conference for Innovation in BME and Life Sciences took place in Putrajaya, Malaysia on December 6<sup>th</sup> - 8<sup>th</sup> 2015
- The Malaysian Society of Medical and Biomedical Engineering will host the International Conference for Innovation in Biomedical Engineering and Life Sciences (ICIBEL 2017) on Dec. 6<sup>th</sup> - 8<sup>th</sup>, 2015 in Kuala Lumpur, Malaysia
- CityU’s Robotics Workshop took place in Hong Kong, China on February 26<sup>th</sup> 2016
- American Institute for Medical and Biological Engineering held their annual event in Washington D.C., US from April 3<sup>rd</sup> - 4<sup>th</sup> 2016
- The BES Student Chapter (Singapore) organized the Biomedical Engineering Society’s 10<sup>th</sup> Scientific Meeting (BES10SM) on May 14<sup>th</sup> 2016.



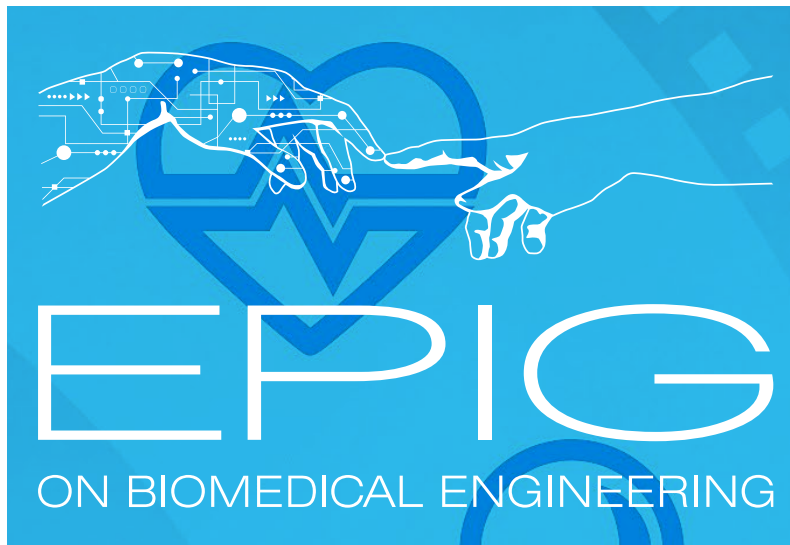
## Upcoming Events

- The 38<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'16) will be hosted at Disney's Contemporary Resort at Walt Disney World® Resort, Lake Buena Vista (Orlando), Florida USA on August 16 - 20. <http://embc.embs.org/2016/>
- Taiwanese Society of Biomedical Engineering will host the 2016 Global Conference on Biomedical Engineering, August 17<sup>th</sup> - 19<sup>th</sup>, 2016 in Taipei, Taiwan. <http://bme.ym.edu.tw/GCBME2016/Home.html>
- The Congress of Engineering in Biology and Medicine will be hosted by the Mongolian Society in October 2016.
- Biomedical Engineering Society (BMES) Annual Meeting - Transforming Discovery Into Health Technology October 5<sup>th</sup> - 8<sup>th</sup>, 2016 Minneapolis, Minnesota, USA. <http://www.bmes.org/4dcgi/indexc.html>
- IEEE International Conference on Systems, Man, and Cybernetics 6<sup>th</sup> Workshop on Brain-Machine Interface Systems will be held from October 9<sup>th</sup> - 12<sup>th</sup>, 2016 in Budapest, Hungary. <http://brain.ieee.org/upcoming-events/smc2016-bmi-workshop/>
- Afrobiomedic 2016 takes place in Abuja, Nigeria from October 17<sup>th</sup> - 21<sup>st</sup>, 2016. <http://www.afrobiomedic2016.org/>
- Latin American Congress on Biomedical Engineering from October 26<sup>th</sup> - 28<sup>th</sup>, 2016 at the Universidad Autonoma de Bucaramanga, Colombia. <http://www.24x7mag.com/event/claib-2016-latin-american-congress-biomedical-engineering/>
- 8<sup>th</sup> International Workshop on Biosignal Interpretation, November 1<sup>st</sup> - 3<sup>rd</sup>, 2016 in Osaka, Japan. <http://www.p.u-tokyo.ac.jp/~bsi2016/home.php>
- The Biomedical Engineering Society (BES) will host the 16<sup>th</sup> International Conference on Biomedical Engineering at the National University of Singapore from December 7<sup>th</sup> - 10<sup>th</sup>, 2016. <http://www.icbme.org/>
- There will be the Annual Biomedical Engineering Society Scientific Meeting in May 2017 at the Hwa Chong Institution, Singapore. <http://www.bes.org.sg/events>
- European Medical and Biological Engineering Conference (EMBEC) and the Nordic-Baltic Conference on Biological Engineering and Medical Physics (NBC) will take place from June 11<sup>th</sup> - 15<sup>th</sup> 2017 in Tampere, Finland. <http://embec2017.org>
- Korean Society of Medical and Biomedical Engineering will host the IEEE Engineering in Medicine and Biology (IEEE EMBC) conference in Jeju Island, Korea on June 17<sup>th</sup> 2017. <http://embc.embs.org/2017/>
- 10<sup>th</sup> Asian-Pacific Conference on Medical and Biological Engineering in Sydney, Australia from July 16<sup>th</sup> - 19<sup>th</sup> 2017
- Annual BES Members' Night will be in July/August 2017 and will take place at the Hwa Chong Institution, Singapore. <http://www.bes.org.sg/Events>
- The annual BES members' night will hold a joint evening with Zhejiang University BME students in July/August 2017. <http://www.bes.org.sg/Events>
- The IUPESM World Conference on Medical Physics and Biomedical Engineering will take place from June 3<sup>rd</sup> - 8<sup>th</sup> 2018 in Prague, Czech Republic. <http://www.iupesm2018.org/>



## Euro Parliament Interest Group on Biomedical Engineering

Leandro Pecchia, IFMBE HTA Chairman



Biomedical Engineering (BME) is one of the faster growing and most impactful branch of engineering. This is widely perceived from healthcare workers or patients, which are directly impacted by BME outputs, as for instance innovative medical devices. Nonetheless, there is a clear lack of attention to BME at political level, especially in Europe. For instance, BME is not officially recognized as profession, BME dedicated funding are missing and scientific organizations of BME are not directly involved in the preparation or revision of European legislation on medical devices, differently from medical scientific societies.

Since 2015, the IFMBE Healthcare Technology Assessment Division (IFMBE HTAD<sup>1</sup>), in cooperation with the European Alliance of Medical

and Biological Engineering and Science (**EAMBES**), worked closely with the European Institutions in order to increase recognition of BME at political level.

A first milestone was achieved in April 2015, when for the first time, European Economic and Social Committee (EESC) stated that “Biomedical Engineering is not simply a subset of modern medicine, but modern medicine predominantly secures important advances through the use of the products of biomedical engineering”<sup>2</sup>.

Starting from this important milestone, in July 2015, Dr Leandro Pecchia, as Chairman of the IFMBE HTAD and EAMBES Public Affair Working Group (PAWG) coordinator, contacted two Euro-Parliamentary

tarian Members, Dr Lara Comi and Dr Nicola Caputo, which agreed to table two Parliamentary Questions. The former<sup>3</sup> asking why, different to the USA, the Horizon 2020 vision does not have a dedicated space for BME and the latter<sup>4</sup> asking why BME is not listed among the professions that the European Commission officially recognizes.

In order to reinforce this political action and to help the European Commission to fully recognize BME as profession and as independents area of research, 3 Parliament Members (MPs), cooperated with EAMBES and IFMBE HTAD to set the first **Euro Parliament Interest Group on Biomedical Engineering** (EPIG on BME), which was launched the 31st of May 2016: Mr. Nicola Caputo (S&D, Italy), which is the President of the EPIG on BME, Mr. Jens Gieseke (EPP, Germany) and Ms. Lara Comi (EPP, Italy).

Some of the most representative International and European BMEs contributed to prepare and participated to the very constructive discussion, including prof Shankar Krishnan, IFMBE Vice President, prof Marc Nyssen, IFMBE Treasurer, prof Ratko Magjarevic, IFMBE Past President and prof Nicolas Palikarakis, IFMBE HTAD past-Chair.

<sup>1</sup> <http://htad.ifmbe.org/>

<sup>2</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52014IE4419>

<sup>3</sup> <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-%2f%2fEP%2f%2fTEXT%2bWQ%2bE-2015-011613%2b0%2bDOC%2bXML%2bV0%2f%2fEN&language=EN>

<sup>4</sup> <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-%2f%2fEP%2f%2fTEXT%2bWQ%2bE-2015-011612%2b0%2bDOC%2bXML%2bV0%2f%2fEN&language=EN>



The following speakers participated to the event:

- Professor Jari Hyttinen, President of [EAMBES](#), which gave an overview of how BME has revolutionized modern medicine;
- Mr. Edgardo Maria Iozia, Rapporteur of [EESC report on biomedical engineering and Black SWAN](#) President, which presented a report on how BME is a strategic economic and social sector;
- Adriana Velazquez, Senior Advisor and Focal Point of [Medical Devices at World Health Organization](#), which reported on how BME is crucial to face emerging social challenges;
- John Brennan, Director Regulations & Industrial Policy [Medtech Europe](#), which demonstrated how the medical technology industry sector growth in the past 10 years;
- Dr. Leandro Pecchia, [IFMBE HTA Division](#) and PAWG [EAMBES](#) Chairman, which presented the vision of the EIP on BME and launched 3 urgent action points that the EIP on BME, supported by the IFMBE and the EAMBE, should face in the next years:
  - to insure that *BME will be inserted in the next revision of the Professional Qualifications Directive*, otherwise patient safety in hospital would remain uncertain and procurement not cost-effective;
  - to recognize *BME scientific organization as official stakeholders in the Medical Devices Coordination Groups*, which is the group responsible for medical devices legislation revision in Europe;
  - to recognize *BME as an independent research area* in Horizon 2020 and forthcoming funding schemes.



EPIG on BME lunch. From left: prof Nicolas **Pallikarakis**, IFMBE HTAD past-Chair, Prof Richard A **Black**, University of Strathclyde and Editor-in-Chief of Medical Engineering & Physics IPEM Journal, John **Brennan**, Medtech Europe Director Regulations & Industrial Policy, Dario **Pirovano** Medtech Europe Senior Regulatory Adviser, prof Birgit **Glasmacher**, EAMBES Past President, prof Heinrich **Schima**, EAMBES Fellow Chair, MP Nicola **Caputo**, European Parliament S&D, prof Jari **Hyttinen**, EAMBES president, dr Leandro **Pecchia**, IFMBE HTAD Chairman and PAWG EAMBES Chairman, prof Shankar **Krishnan**, IFMBE Elected President, prof Jos Vander **Sloten**, University of Leuven –Belgium, prof Marc **Nyssen**, IFMBE Treasurer, Adriana **Velazquez**, Director WHO Medical Device Unit, dr Andrel **Linnenbank**, EAMABES General Secretary, prof Ratko **Magjarevic**, IFMBE Past President.



Attendees before entering the European Parliament (from left: prof Nicolas Pallikarakis, IFMBE HTAD past-Chair, prof Ratko Magjarevic, IFMBE Past President, prof Jary Hyttinen, EAMBES president, prof Birgit Glasmacher, EAMBES Past President, Edgardo Iozia, European Economic and Social Committee, dr Andrel Linnenbank, EMABES General Secretary, prof Heinrich Schima, EAMBES Fellow Chair, prof Shankar Krishnan, IFMBE Vice President, dr Leandro Pecchia, IFMBE HTAD Chairman and PAWG EAMBES Chairman, Adriana Velazquez, Director WHO Medical Device Unit).

A very constructive discussion followed and the fourth point emerged from the discussion: *to ask the Commission to start a new study on BME to demonstrate, if needed, BME economic and social impact in Europe.*

As result of the day, Nicola Caputo, on behalf of the EPIG on BME, accepted bringing those 4 IFMBE/EAMBES inspired action points to the attention of the European Commission. Accordingly, 3 letters have been prepared, in collaboration with the EAMBES and the IFMBE HTAD, and addressed to the key European Commissioners: Vytenis Andriukaitis, Health and Food Safety European Commission Department; Carlos Moedas, Research, Science and Innovation European Commission Department; Elżbieta Bieńkowska, Internal Market, Industry, Entrepreneurship and SMEs European Commission Department.

The EPIG on BME will meet again in November 2016, to monitor the progress that the European Commission made and to identify new challenges.



EIP on BME preparation meeting, hosted at the University of Warwick Office in Brussels (from left: prof Birgit Glasmacher, EAMBES Past President, dr Leandro Pecchia, IFMBE HTAD Chairman and PAWG EAMBES Chairman, prof Ratko Majarevich, IFMBE Past President, Adriana Velazquez, Director WHO Medical Device Unit, Edgardo Iozia, European Economic and Social Committee, prof Shankar Krishnan, IFMBE Vice President, dr Andrel Linnenbank, EMABES General Secretary, prof Jary Hyttinen, EAMBES president, prof Heinrich Schima, EAMBES Fellow Chair, prof Nicolas Pallikarakis, IFMBE HTAD past-Chair).

## A few words with the hundredth issue of the IFMBE News

from the past Editor **R. Magjarevic**



It was a pleasure for me to accept the position of the Editor of the IFMBE News with its 53<sup>rd</sup> issue in March 2002. At that time, digital publishing of electronic magazines became much easier due to new programs for text editing, the res-

olution of average monitor became large enough to display graphics, primarily photos in high quality, and also color became a standard for publishing such kind of a magazine. So, I think I may say that within the next two years, the layout of the News significantly changed.

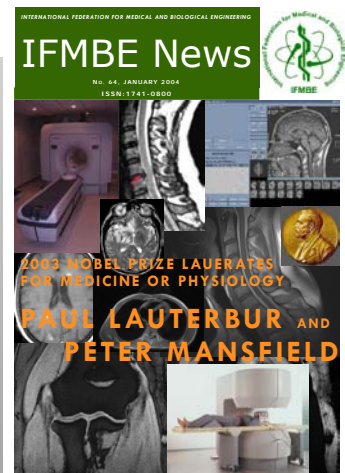
Late in 2003, the Nobel Prize for medicine and physiology was awarded to Paul C Lauterbur and Peter Mansfield for their discoveries concerning "magnetic resonance imaging" so I was able to incorporate into the first issue under my "conductor rod" news on that event so very much important medical technology. And I was proud that one of senior colleagues from IFMBE told me that he was using my text for teaching.

The content of the IFMBE News is about us, the biomedical engineering community, with the aim to share information of past and future events, to convey thoughts from distinguished members of our community, to honor researchers and professionals for their significant results in science and engineering and many other information dealing with biomedical engineering.

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International Federation for Medical & Biological Engineering  
Encouraging research and the application of knowledge,  
disseminating information, and promoting collaboration in the  
field of medical, clinical and biological engineering

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The News started receiving reports on international and national events from all over the world with a lot of photos with known and unknown colleagues dedicated to BME during their presentations to the audience or presentation of posters, but also during cultural programs which took place during those events. Publishing of the News enabled building of a BME network and strengthening of the relations between the IFMBE affiliated societies. Also, the appearance of the News on-line made it accessible to everybody, without complications of sending physical, printed issues to numerous Societies, and further to individual members.

On the occasion of publishing the hundredth issue of IFMBE News, I wish that the News remain one of the pillars of information exchange between the affiliated

Societies and in building a strong biomedical engineering network which will also in future support all activities in biomedical engineering around the world. To the current Editor, Prof. Igor Lackovic, and to all Editors to be, I wish a lot of success in editing the news and a lot of pleasure in performing this important social function in the IFMBE!



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Every effort has been made by the publisher to acknowledge organizations and individuals with regard to the supply of written contributions, photographs and illustrations. The publisher apologizes for possible omissions which will be corrected in future editions.





## Events

### XIV Mediterranean Conference on Medical and Biological Engineering and Computing (MEDICON 2016)

Paphos, Cyprus

Constantinos S. Pattichis, Prodromos Kaplanis, Stelios Christofides, Efthymoulos Kyriacou



The XIV Mediterranean Conference on Medical and Biological Engineering and Computing (Medicon 2016) was held March 31<sup>st</sup> – April 2<sup>nd</sup> in Paphos, in the sunny island of Cyprus. Medicon 2016 was the XIV in the series of regional meetings of the International Federation of Medical and Biological Engineering (IFMBE) in the Mediterranean. The goal of Medicon 2016 was to provide updated information on the state of the art on Medical and Biological Engineering and Computing under the main theme “Systems Medicine for the Delivery of Better Healthcare Services”.

Medical and Biological Engineering and Computing cover complementary disciplines that hold great promise for the advancement of research and development in complex medical and biological systems.

Research and development in these areas are impacting the science and technology by advancing fundamental concepts in translational medicine, by helping us understand human physiology and function at multiple levels, by improving tools and techniques for the detection, prevention and treatment of disease. Medicon 2016 provided a common platform for the cross fertilization of ideas, and to help shape knowledge and scientific achievements by bridging complementary disciplines into an interactive and attractive forum under the special theme of the conference that is Systems Medicine for the Delivery of Better Healthcare Services. The programme consisted of some 290 invited and submitted papers on new developments around the Conference theme, presented in 3 plenary

sessions, 29 parallel scientific sessions and 13 special sessions. The conference was attended by more than 300 participants.

More specifically the parallel scientific sessions covered the topics of Biomedical Signal Processing, Biomedical Imaging & Image Processing, Bioinstrumentation, Biosensors & Bio-Micro/Nano Technologies, Bioinformatics, Computational Biology and Systems Biology, Biomechanics, Robotics and Rehabilitation, Therapeutic and Diagnostic Systems, Devices and Technologies & Clinical Engineering, Healthcare Information Systems & Telemedicine, Technologies for Active Ageing & Wellbeing, Biomedical Engineering Education and Society, Clinical Engineering and Health Technology Assessment and Advanced Computational Modelling & Analytics.



The special sessions included the topics of mHealth Medical Video Communication Systems: The Promise that Lies Ahead, Wearable Sensors and Sensor Networks for intelligent personalized health-care, Towards an improved and unifying framework of CTG-based monitoring for foetal welfare assessment, Ambient Assisted Living Technologies based on Internet of Things, Ventilation Monitoring with Electrical Impedance Tomography, Rehabilitation Technologies/Systems, IFMBE Session on Biomedical Engineering Education, Optimizing the diagnostic value of Myocardial Perfusion Imaging using a dynamic phantom assembly, Health Technology Assessment, BME Education, Current and Future Trends in the HTA of Medical Devices and Women in Biological Engineering and Science.

Furthermore the Conference programme was highlighted by the three plenary sessions. The first one was a panel of experts that discussed the Conference theme "Systems Medicine for the Delivery of Better Healthcare Services" by first presenting the conference theme



from the perspective of the panelist's organisation, followed by a general discussion. The second plenary session concentrated on the "Frontiers of Neuroengineering" with the presentations "Mind and Machines" by Nitish Thakor, "Real Time Work-

load Assessment using EEG Signals in Virtual Reality Environments", by Shen Ren, Fabio Babiloni, Nitish V. Thakor and Anastasios Bezerianos, "Effective use of multimodal imaging for affordable personalized medicine", by A.A. Ioannides and L.C. Liu





and “Neuroscience, brain training, precision medicine: quo vadis?”, by P. Bamidis, followed by a general discussion. The theme of the 3rd plenary session was “Medical Imaging in the Fight Against Disease” with the presentations “Image Analysis of Carotid Bifurcation Atherosclerotic Plaques and Stroke Risk Stratification using Ultrasound”, by Andrew Nicolaides, and “Trainable COSFIRE filters for pattern recognition in medical imaging” by Nicolai Petkov.

We would like to thank all the track chairs, the special session chairs, program committee members and reviewers who put a great deal of their time and effort, under very tight deadlines, in order to help us review all the papers and put the program together.

The proceedings of the conference were published by Springer. More-

over, the following three thematic journal special issues will be published based on selected papers presented at the conference: “mHealth – Emerging Mobile Health Systems and Services” in the Healthcare Technology Letters, “Systems Medicine for the Delivery of Better Healthcare Services” in the Health and Technology and “Emerging Trends in Biomedical Physics and Engineering” in the Biomedical Physics & Engineering Express.

Furthermore, the students paper competition winners were the following. The first prize was awarded to Kyle Edmunds, Reykjavik University, Iceland, for his paper on “Multi-modal Quantitative Assessment for Pre-Operative Prosthesis Selection in Total Hip Arthroplasty”. The second prize was awarded to Giulia Lioi, University of Southampton, UK, for his paper on “Changes in Functional

Brain Connectivity in the Transition from Wakefulness to Sleep in different EEG Bands”. The third prize was awarded to Miguel Reyes Adame, Furtwangen University, Germany, for his paper on “Mobility Support System for Elderly, Blind People with a Smart Walker and a Tactile Map”. Furthermore, the short paper presentation winners were the following: first prize to Carriou Vincent, Université de Technologie de Compiègne, France, for his paper on “Sensitivity analysis of HD-sEMG amplitude descriptors relative to grid parameter variation”; second prize to Ambra Cesareo, Scientific Institute, IRCCS E. Medea, Italy, for his paper on “A comparative study among CIMT, robot-aided therapy and physiotherapy in upper limb rehabilitation of children with acquired brain injury”; third prize to Rosanne Zerafa, University of Malta, Malta, for his paper on “A Real-Time SSVEP-Based Brain-Computer Interface Music Player Application”.

Particular thanks are expressed to the kind support and effort of a limited number of external sponsors to which we would like to express our appreciation.

Finally heartfelt thanks to all of the participants for their paper contributions. We hope that Medicon 2016 offered opportunities for professional growth, and establishing new contacts with fellow colleagues. Media gallery is available at <http://www.cyprusconferences.org/medicon2016/gallery.html>

**Constantinos S. Pattichis**  
**Prodromos Kaplanis**  
*General Co-Chairs*

**Stelios Christofides**  
**Efthymoulos Kyriacou**  
*Program Committee Co-Chairs*



## Council of Societies Meeting and Networking

Paphos, Cyprus 2016 - Photo gallery







## News in Brief

### Herbert F. Voigt awarded 2016 National Alpha Eta Mu Beta (AHMB) Outstanding Dedication and Service Award



IFMBE is proud to announce that our past president, Herbert F. Voigt, has been awarded the 2016 National Alpha Eta Mu Beta (AHMB) Outstanding Dedication and Service Award.

Alpha Eta Mu Beta is the International Biomedical Engineering Honor Society. Established in 1979, Alpha Eta Mu Beta was formed to recognize and encourage excellence in the field of Biomedical Engineering and Bioengineering. Members of Alpha Eta Mu Beta are recognized in an outstanding manner for having conferred honor on their Alma Mater by distinguished scholarship, exemplary character, honorable activities, and leadership.

Herbert Voigt, a Professor of Biomedical Engineering at Boston University, is the 9<sup>th</sup> recipient of the award, which was presented to him at the AHMB Reception and Award Ceremony on 6 October 2016 following the AHMB Annual Meeting during the Annual Biomedical Engineering Society meeting in Minneapolis, Minnesota.

*"I am very honored and grateful to be recognized by the Biomedical Engineering Honor Society, Alpha Eta Mu Beta (AHMB), which, for years, I have been referring to as the 'farm team' for the College of Fellows of the American Institute for Medical and Biological Engineering (AIMBE)."*

*"One of our chief responsibilities to society is to nurture our most precious capital resource, our future generations of biomedical engineering leaders. AHMB represents the very top of engineering college students studying to participate in one of the most important professions of the 21<sup>st</sup> century."*

Herbert F. Voigt

### Croatian Medical and Biological Engineering Society changed its name to the Croatian Biomedical Engineering and Medical Physics Society

We would like to inform you that the Croatian Medical and Biological Engineering Society (short name: CROMBES), proud member of the IFMBE, has just recently changed its name to the Croatian Biomedical Engineering and Medical Physics Society (short name: CROBEMPS). The new name of the Society in Croatian is Hrvatsko društvo za biomedicinsko inženjerstvo i medicinsku fiziku (short name: HDBIMF).

Prof. Igor Lacković,  
President, CROBEMPS

#### Croatian Biomedical Engineering and Medical Physics Society

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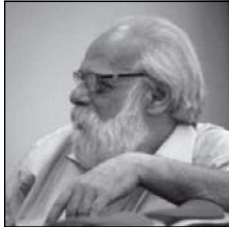


## Obituaries

### Antonio F. C. Infantosi

1<sup>st</sup> September 1947 – 16<sup>th</sup> March 2016

Dear colleagues of Biomedical Engineering,



The board of the Brazilian Society of Biomedical Engineering (SBEB) is sad to announce that our colleague Professor Antonio Fernando Catelli Infantosi passed away on 16 March 2016.

Prof. Infantosi is one of the biggest names in Biomedical Engineering in Brazil, he was one of the founders of the Biomedical Engineering Program of COPPE-UFRJ, the SBEB and journal Research on Biomedical Engineering (RBE). He was President of SBEB several times and president of the Latin American Regional Council on Biomedical Engineering (CORAL).

The board of the SBEB deeply regrets this loss and sends sincere condolences to Prof. Infantosi's family, friends and students.

Prof. **Sérgio Santos Mühlen**, DSc, CCE  
President of the Brazilian Society of  
Biomedical Engineering – SBEB

### Robert Albert Brown

15 January 1952 - 4 February 2016



Our friend and our colleague Prof Robert Brown sadly passed away on 4<sup>th</sup> February 2016 at the age of 64. An extraordinary human being, Robert is survived by his mother Doris Brown, his daughter

Elizabeth Pelichet, his son Michael Brown and grandson Finlay Brown. His passing is a huge loss to the UCL community and the tissue engineering community in the UK, Europe and Internationally. He was as well a key figure of the IFMBE Working Group for Cell and Stem Cell Engineering.

Robert was awarded his Ph.D. in 1976 by Manchester University where, under the supervision of Dr J.B.Weiss, he successfully defended his research into "A Molecular Dissection of Rheumatoid and Normal Synovial Membranes with Special Reference to their Collagen Contents". This started his lifelong fascination of all things

collagen. He had a brief stint with industry working first as a research assistant and then as Deputy Head of R&D with Blood Products Laboratory (Elstree) between 1977-1983 before joining UCL Institute of Orthopaedics and Musculoskeletal Science, Royal National Orthopaedics Hospital, Stanmore as a Lecturer/Senior Lecturer (1984-1992). In 1992 on his promotion to Reader he moved his research base to Bloomsbury as Director of the Tissue Repair Unit which he setup along with the UCL Tissue Engineering Centre (TREC). In 2002 he was appointed as UCL's first Professor of Tissue Engineering and moved his research base back to Institute of Orthopaedics and Musculoskeletal Science, Royal National Orthopaedics Hospital, Stanmore. He was a founding member of the British Tissue Engineering community and past president of the Tissue and Cell Engineering Society (TCES) UK.

His key research achievements were in understanding the control of growth, especially nano-micro structure, in 3D tissue models. 2 key output innovations underpinned this: orientated fibrillar fibronectin cell scaffolds and the Culture Force Monitor (CFM) model, measuring/applying directional loads to 3D culture. He was a pioneer in developing 3D models and their use in elucidating the effect of mechanics. His research innovation (Plastic Compression -rapid, biomimetic fabrication process for collagen tissues) established him as an international leading scientist for biomimetic tissue engineering. His ability to collaborate across disciplines resulted in many successful research alliances with leading scientists in the UK, Europe and Internationally. He successfully supervised over 30 M.D. and Ph.D. students, over 60 M.Sc. projects and numerous post-doc researchers. Throughout his career at UCL Robert was a beloved teacher, a sought after research supervisor, collaborator and friend to many UCL colleagues across Faculties. He was also a very popular and highly regarded scientist in the Tissue Engineering community nationally and internationally.

Robert leaves behind a rich legacy of scientific innovations, motivated students with successful careers and scientifically productive collaborations across the UK, Europe and Internationally. But most importantly he leaves behind a legacy of global friendships brought together by Robert's passion for science and human beings. We feel honoured to have spent time with a distinguished scientist, a funny storyteller and remarkable man. Rest in peace our dear Robert.

**Gerhard Artmann**,  
Chair IFMBE Working Group,  
Cell and Stem Cell Engineering,  
February 11th, 2016

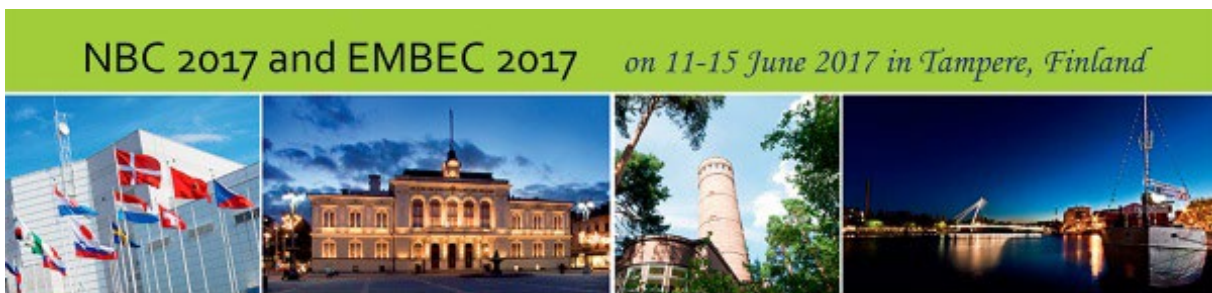
## Announcements



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



<http://www.bmt2016.ch/>



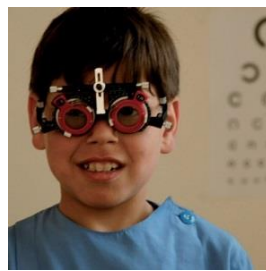
<http://embec2017.org/>



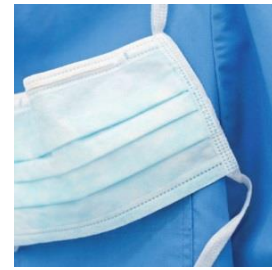
<http://apcmbe17.com/>



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



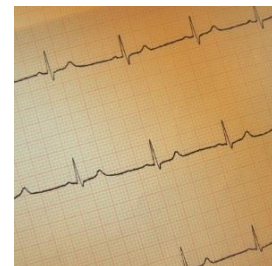
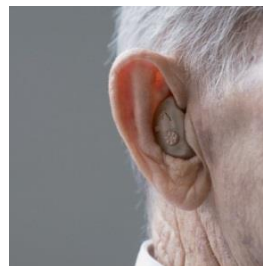
Innovation  
Affordability  
**Safety**  
Equity  
Effective



Improving access  
to safe, effective  
and innovative  
quality medical  
devices



Research  
Assessment  
**Training**  
Maintenance



# Third WHO Global Forum on **Medical Devices**

Centre International de Conférences Genève (CICG)  
Switzerland  
**10 – 12 May 2017**



**World Health  
Organization**



## Calendar

<b>ICDBE 2016</b> The 6 <sup>th</sup> International Conference on the Development of Biomedical Engineering in Vietnam <a href="http://csc.hcmiu.edu.vn/bmeconf/bme2016/">http://csc.hcmiu.edu.vn/bmeconf/bme2016/</a>	27 – 29 Jun 2016 Ho Chi Minh City, Vietnam
<b>EMedic Global 2016</b> 2016 Engineering Medical Innovation Global Competition <a href="http://www.emedicglobal.org/">http://www.emedicglobal.org/</a>	18 – 20 Aug 2016 CUHK and Hong Kong Science & Technology Park, Hong Kong
<b>EMedi Summit 2016</b> Engineering Medical Innovation Summit: Medicine for the Future 2016 <a href="http://tcim.cuhk.edu.hk/en/events_details.php?id=16">http://tcim.cuhk.edu.hk/en/events_details.php?id=16</a>	20 – 21 Aug 2016 Hong Kong Science Park, Hong Kong
<b>MoHE2016</b> 3 <sup>rd</sup> International Conference on Movement, Health and Exercise <a href="http://www.mohe2016.com/">http://www.mohe2016.com/</a>	28 – 30 Sep 2016 Swiss Garden Hotel, Malacca, Malaysia
<b>ICDBEM 2016</b> First International Conference on the Development of Biomedical Engineering in Mongolia <a href="http://www.mohe2016.com/">http://www.mohe2016.com/</a>	30 Sep – 02 Oct 2016 Ulaanbaatar, Mongolia
<b>BIOMAG2016</b> The 20 <sup>th</sup> International Conference on Biomagnetism <a href="http://www.biomag2016.org/">http://www.biomag2016.org/</a>	01 – 06 Oct 2016 Seoul, South Korea
<b>MediTech 2016</b> International Conference on Advancements of Medicine and Health Care through Technology <a href="http://www.meditech.utcluj.ro/">http://www.meditech.utcluj.ro/</a>	12 – 15 Oct 2016 Grand Hotel Napoca, Cluj Napoca, Romania
<b>AFROBIOMEDIC 2016</b> 1 <sup>st</sup> African Conference on Medical Physics, Biomedical Engineering & Sciences <a href="http://www.afrobiomedic2016.org/">http://www.afrobiomedic2016.org/</a>	17 – 21 Oct 2016 Abuja, Nigeria



<b>CLAIB 2016</b> VII Latin American Congress on Biomedical Engineering <a href="http://www.abioin.com/convocatory.html">http://www.abioin.com/convocatory.html</a>	26-28 Oct 2016 Bucaramanga, Colombia
<b>BSI2016</b> The Eighth International Workshop on Biosignal Interpretation <a href="http://www.p.u-tokyo.ac.jp/~bsi2016/home.phpCASEIB2016">http://www.p.u-tokyo.ac.jp/~bsi2016/home.phpCASEIB2016</a>	01 – 03 Nov 2016 Osaka, Japan
<b>CASEIB2016</b> XXXIV Congreso Anual de la Sociedad Española de Ingeniería Biomédica <a href="http://caseib16.es/">http://caseib16.es/</a>	23 – 25 Nov 2016 Valencia, Spain
<b>ICBME 2016</b> The 16 <sup>th</sup> International Conference on Biomedical Engineering <a href="http://www.icbme.org/">http://www.icbme.org/</a>	07 – 10 Dec 2016 Singapore
<b>CMBE2017</b> 2017 BMES Cellular and Molecular Bioengineering Conference	03 – 07 Jan 2017 Hawaii, USA
<b>CONIIC2017</b> III Congreso Internacional de Ingeniería Clínica 2017 <a href="http://www.coniic.com/">http://www.coniic.com/</a>	14 – 18 Mar 2017 Medellin, Antioquia, Colombia
<b>CMBEBIH2017</b> 2 <sup>nd</sup> Conference on Medical and Biological Engineering in Bosnia and Herzegovina <a href="http://cmbebih.com/">http://cmbebih.com/</a>	16 – 18 Mar 2017 Sarajevo, Bosnia & Herzegovina
7 <sup>th</sup> Panhellenic Conference on Biomedical Technology <a href="http://www.elevit.org.gr/">http://www.elevit.org.gr/</a>	07 Apr 2017 Athens, Greece
VI Spring School on ICT, economical and organizational issues for e-health integration in the enlarged Europe <a href="http://ssic.units.it/spring-school">http://ssic.units.it/spring-school</a>	22 – 24 May 2017 Koper-Capodistria, Slovenia

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<b>CMBEC 40</b> Canadian Medical & Biological Engineering Conference <a href="http://cmbes.ca/">http://cmbes.ca/</a>	23 - 26 May 2017 Winnipeg, Canada
<b>APCES2017</b> Asia Pacific Clinical Engineering Summit	october 2017 (Dates to be confirmed) Xiamen, China
<b>ICBHI2017</b> International Conference on Biomedical and Health Informatics 2017 <a href="http://icbhi.med.auth.gr/">http://icbhi.med.auth.gr/</a>	18 - 21 Nov 2017 Thessaloniki, Greece
<b>ICIBEL 2017</b> International Conference for Innovation in Biomedical Engineering and Life Sciences <a href="http://cime.my/icibel_2017/">http://cime.my/icibel_2017/</a>	10 – 13 Dec 2017 Penang, Malaysia





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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](mailto: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](mailto: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. 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.



