
IFMBE News
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International Federation for Medical and Biological Engineering

Contents

Editorial

In this 103rd issue of the IFMBE newsletter we bring message from our President professor James Goh, in which he highlighted the most important moments for the IFMBE over the last three years.

The 25th World Congress on Medical Physics and Biomedical Engineering 2018 will be held in Prague, Czech Republic, at the beginning of June. During this triennial congress, IFMBE will have its General Assembly (GA) and all other IFMBE bodies will have their meetings. The important part of GA will be the elections for IFMBE Officers, Administrative Council members, Clinical Engineering Division members and Health Technology Assessment Division members. Council of Societies (CoS) will also elect the Chair during CoS meeting. Therefore, we bring short biographies and position statements of all nominees.

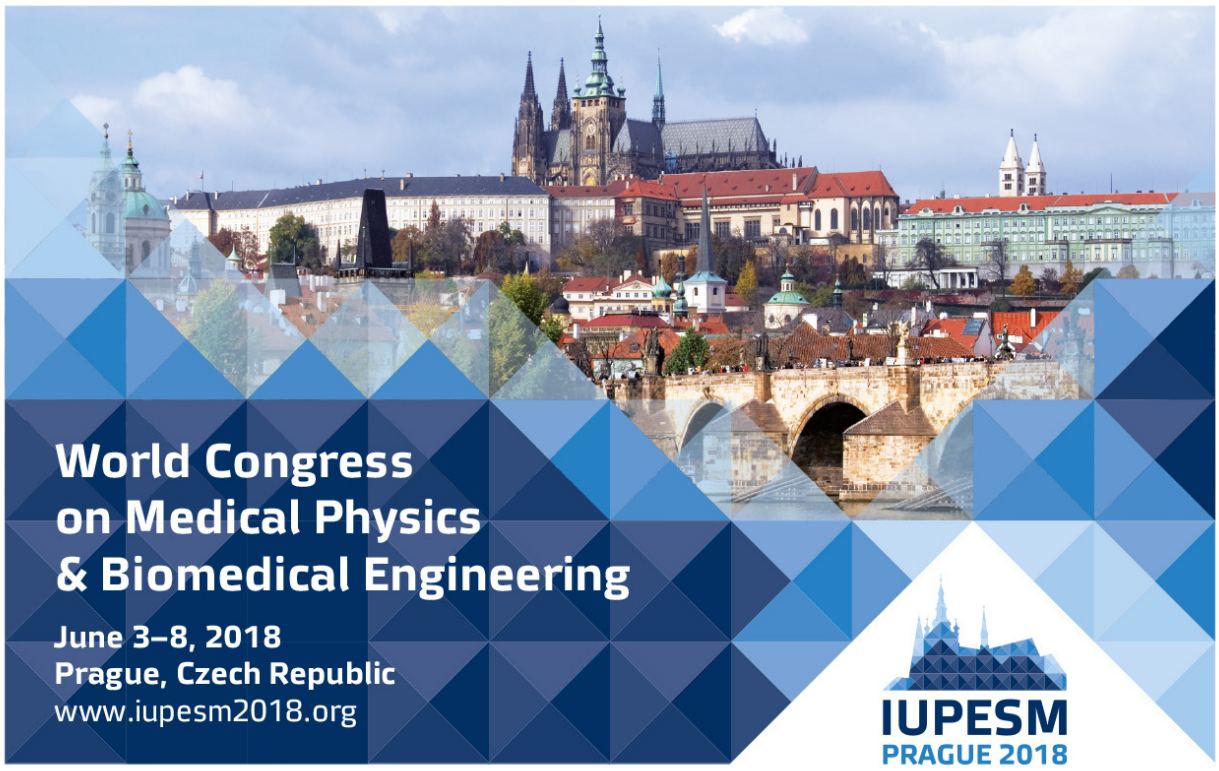
Working with Ashenafi Hussein, President of the Ethiopian Society of Biomedical Engineers and Technologists (ESBET), IFMBE Officers organized the 1st African BME Forum in Addis Ababa, Ethiopia in March 2018. We bring the report from this 2-day Forum.

In the obituary section we are commemorating the life of our dear friend Professor Herbert F. Voigt, Past President of the IUPESM and the IFMBE.

Once again, let me encourage you to send your contributions to the IFMBE newsletter and share news from your region related to biomedical engineering with the IFMBE community around the world.

Igor Lacković

Editor, IFMBE News



IFMBE Express

Message from IFMBE President

James Goh
President, IFMBE

It gives me great pleasure to welcome all of you to Prague, Czech Republic for the 25th World Congress on Medical Physics and Biomedical Engineering 2018. This triennial congress is an excellent platform to disseminate and deliberate medical and biological engineering advances and implementation. Our field has over the past decades contributed significantly to medical practice. Moving ahead, there are multiple factors that will drive the rapid changes in healthcare industry. These are, economics-driven healthcare system reform, better understanding of human biology that impact medical practice, and new innovative technologies providing effective and precise diagnosis, treatment and monitoring. Advances in technology, in particular the development wearables, data analytics, Internet of Things (IoT), artificial intelligence (AI) and coupled with Industry 4.0 will undoubtedly contribute significantly to the future of medicine.

The proliferation of health centric devices and digital health will certainly give rise to connected health with increased fitness awareness. Thus, improving health and wellness overall.

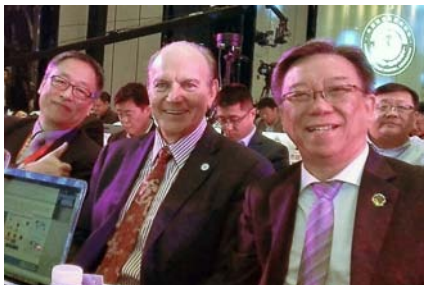
Aside from the digital revolution, multi-scale bioengineering approaches are also making impact in healthcare and medicine. The field of medical physics and biomedical engineering will continue to play an important role in scientific innovation as well as translating invention to practice, to enhance the healthcare interventions. The IFMBE journal "Medical & Biological Engineering & Computing" under the able leadership of Editor-in Chief Prof Nitish Thakor serves as a dedicated platform for publication and communication of such advances and novel development.

IFMBE continues to pursue its mission in global networking of professionals to bring about cooperation between national and transnational societies, industry, government and non-governmental organizations engaged in healthcare and in biomedical research and its applications. Our collaboration with WHO which started in June 2016 has yielded a new book entitled: "Human Resources for Medical Devices: The Role of the Biomedical Engineers". It was launched at the Third WHO Global Forum on Medical Devices held in Geneva, May 2017. It provides comprehensive information on academic programs, professional societies and relevant WHO and UN documents related to human resources for health.

I am heartened to note that our global network of professionals at the international level have collaborated to bring about tangible cooperation. An excellent example is the wonderful effort by the Clinical Engineering Division led by Drs Ernesto Idanza and Yadin David in mounting the unique Global Clinical Engineering Day on every October 21 starting from 2016. I was at the launch of the 2017 edition in Beijing, China. On that day, CE events were web broadcast from 33 locations around the world. This is truly a plausible feat.

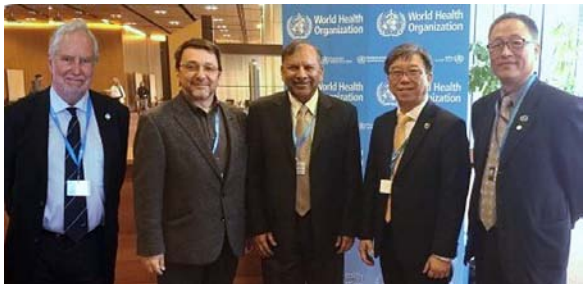
The CED and HTAD Boards continued to be very active, meeting monthly on-line. They were involved in the successful organization of the second International Clinical Engineering and Health Technology Management (ICEHTM)

Fred Hosea, Adriana Velazquez Berumen, James Goh. In Geneva, at launch of book "Human Resources for Medical Devices: The Role of the Biomedical Engineer"



Kang-Ping Lin, Yadin David, James Goh at Global CE Day launch in Beijing Oct 21, 2017

IFMBE African BME Forum delegates meeting in the Committee Room of the African Union, Addis Ababa, Ethiopia



Marc Nyssen, Ratko Magjarevic, Shankar Krishnan, James Goh, Kang-Ping Lin

Combined EMBEC & NBC 2017 President Dinner in Tampere, Finland

Congress on 21-22 Sept 2017 held in Sao Paulo, Brazil.

I had the privilege of attending all the IFMBE regional meetings during my term as President; MEDICON 2016 in Paphos, Cyprus, CLAIB 2016 in Bucaramanga, Colombia, Combined EMBEC & NBC 2017 in Tampere, Finland and APCBME 2017 in Penang, Malaysia. The IFMBE regional meetings not only provide a forum for intense scientific exchanges but also create opportunities to forge collaborations and broadening of one's network. These were wonderful occasions where I have had the distinct honour of interacting and sharing with members of our constituent societies.

In Africa, IFMBE has only 2 constituent societies, i.e. in South Africa and Nigeria. Therefore, it is important that IFMBE continue its outreach effort in this vast continent. Working with Er Ashenafi Hussein, President of the Ethiopian Society of Biomedical Engineers and Technologists (ESBET), the IFMBE Officers organized the 1st African BME Forum in Addis Ababa, Ethiopia on March 2 to 3, 2018. The delegates to the Forum were from Ethiopia, Burundi, DR Congo, South Africa, Ghana, Nigeria, Kenya, Uganda, Tanzania, Mali and Benin. The Forum concluded with six action points. Subsequently, IFMBE AC established an Interim Working Group on African Activities to facilitate conversion of these points to activities for the next three years. We hope to receive into IFMBE membership BME societies from Ethiopia, Ghana, Kenya, Uganda and Benin in the coming General Assembly in Prague. We will also hopeful receive into membership BME societies from Thailand, Vietnam, Saudi Arabia and El Salvador.

Over the last three years, the other Officers (Krishnan, KP, Marc and Ratko) and I have had numerous meetings, either physically or virtually. It was such a joy working with them. I sincerely thank them for their dedication and commitment to the work of IFMBE. The Executive Board of the Council of Societies was also very active, having regular virtual meetings to maintained constant communication.

Like all of you, I was shocked and saddened by the passing of our three Past-Presidents, Prof Herb Voigt (25 January 2018), Prof Joachim Nagel (20 July 2017) and Prof Nandor Richter (8 October 2015). Each one of them had contributed significantly to field of Biomedical Engineering and had made tremendous impact to our global community. I believe it is befitting to celebrate the lives of these three great individuals at the World Congress 2018 in Prague. We will be holding a Memorial Session on 7 June 2018 from 4 to 6pm in Room Club A, I urge you to come and join us.

It has been an exhilarating journey for me these past three years. Most of my memorable and joyful moments has been meeting new friends from all corners of the world. I have learnt so much and appreciate the diversity of cultures and unique talent each one of us possesses. I hope to see all of you in Prague. I trust that you will have fruitful scientific discussions, at the same time establish many new collaborations, and renew friendship. I also hope you will have the opportunity to explore Prague, one of Europe's most charming, colourful and beautiful cities.

Let me take this opportunity to wish all of you and your family good health, and that your life will be filled with joy and laughter.

James Goh
President, IFMBE

IFMBE Nominations for 2018 Elections

IFMBE - 2018 Election Nominations	
President Elect	Jari Hyttinen, *Finland*
	Ratko Magjarević, *Croatia*
Secretary-General	Lin Kang Ping, *Chinese Taipei*
Treasurer	Marc Nyssen, *Belgium*
Administrative Council Members (2 members to be elected)	Martha Lucia Zequera Diaz, *Colombia*
	Ernesto Iadanza, *Italy*
	Lenka Lhotska, *Czech Republic*
	Qingming Luo, *China*
	Jurandir Nadal, *Brazil*
	Mikael Persson, *Sweden*
Council of Societies Chair	Monique Frize, *Canada*
	Ichiro Sakuma, *Japan*
Regional Group Representative (1 rep. per region to be elected)	Gilda Barabino, *USA*
	Timo Jamsa, *Finland*
	Tomas Jansson, *Sweden*
	Eric Laciar, *Argentina*
	Subrata Saha, *USA*
	Ichiro Sakuma, *Japan*
	Min Wang, *Hong Kong*
Clinical Engineering Division Members (4 members to be elected)	Almir Badnjevic, *Bosnia & Herzegovina*
	Stefano Bergamasco, *Italy*
	Li Bin, *China*
	Bjorn-Erik Erlandsson, *Sweden*
	Fabiola M M Licona, *Mexico*
	Eduardo Oliveira, *Brazil*
	Leandro Pecchia, *UK*
	Kazimierz Peczalski, *Poland*
	Raymond Tong, *Hong Kong*
Health Technology Assessment Division Members (4 members to be elected)	Almir Badnjevic, *Bosnia & Herzegovina*
	Daniel Clarke, *UK*
	Murilo Conto, *Brazil*
	Ernesto Iadanza, *Italy*
	Lorenzo Leogrande, *Italy*
	Albert Poon, *Hong Kong*
	Jiwu Zhang, *China*

President Elect Nominees

Name: **Jari Hyttinen**

Affiliated Society: Finnish Society of Medical Physics and Biomedical Engineering, and EAMBES

Current Position *(in Affiliated Society):* member (FSMPBME), Past-President (EAMBES)

Current Profession: Professor, Tampere University of Technology, Finland

Brief Biography

M.Sc. and Ph.D. Tampere University of Technology (TUT), Tampere, Finland 1986 and 1994. Currently Professor, Faculty of Biomedical Sciences and Engineering, TUT and head Computational Biophysics and Imaging Group www.tut.fi/cbig. Visiting researcher at Penn State 1989, University of Tasmania 1989 and Duke University 1994. Visiting professor at University of Wollongong 2017. Head Department of BME TUT 2008-2012, member of the board BioMediTech (www.biomeditech.fi) (2012-2014). Graduated over 100 MSc and 16 PhDs on BME. Authoring over 380 scientific papers with wide BME scope including over 140 referee journal papers (http:// scholar.google.com/citations?user=YKuQ-YsAAAAJ&hl=fi&oi=ao). Secretary (1992-1998), Treasurer (1989-1999) and Chair (2001-2004) of the Finnish Society of Medical Physics and Biomedical Engineering (affiliate to IFMBE and EAMBES). Council member (2011-2013), Chair of Policy Affairs (2013-2014), President-Elect (2014-2015), President (2015-2017), Past-President (2017-2019) of EAMBES, EAMBES Fellow. (www.eambes.org). Expert positions in Belgium, Israel, USA, Canada, UK, Norway, Czech Republic, Ireland, Estonia and EU. Active organization of conferences, chair of the joint EMBEC and NBC (www.embec2017.org). In Finnish Society and in EAMBES contributed to the revival of the societies' activities. As EAMBES PAWG chair and as President imitated and contributed to the strong EAMBES presence in EU policies and collaboration with IFMBE and aligning their policy activities.

Position Statement

BME has become important industry and enabler of healthcare delivery worldwide giving us good position to further improve the status of BME as profession and

science. My contribution on filling this will focus on three initiatives:

1) Reinforce the IFMBE cooperation with international institutions, agencies and scientific societies (e.g.,UN,WHO,ILO), as well as the global and local BME industry and funding organizations.

2) In line with the IFMBE strategy foster the collaboration within IFMBE global functions with regional players such as Coral,EAMBES, Asian-Pacific and developing countries WG to align the global message and use the local success stories to strengthen the local and regional activities and collaboration with local and regional institutions. In Europe we have excellent example where the regional alliance EAMBES in collaboration with IFMBE and its active divisions created a direct link to EU parliament.

3) Foster the continuing work on improving the recognition of BME Science with initiatives to im prove the quality of publications and local,regional and global conferences with capacity building in BME science,especially in developing countries.

To reach this,collaboration of people of IFMBE,Council of Societies,CED and HTAD,WGs, committees, regional consortiums and national societies are instrumental.

Name: **Ratko Magjarević**

Affiliated Society: Croatian Biomedical Engineering and Medical Physics Society (HDBIMF)

Current Position *(in Affiliated Society):* Immediate Past President

Current Profession: Professor at University of Zagreb Faculty of Electrical Engineering and Computing

Brief Biography

Ratko Magjarević received his Ph.D. in Electrical Engineering in 1994 from the University of Zagreb, Faculty of Electrical Engineering. He is full professor in the Electronic Measurement and Biomedical Engineering Group at the University of Zagreb Faculty of Electrical Engineering and Computing. His scientific and professional interest is in fields of electronic and biomedical instrumentation and health informatics, in particular in cardiac potentials analysis and pacing, in research of new methods for drug delivery based on electropermeabilisation and recently in research of personalised intelligent mobile health systems. He is author or co-author of numerous journal and conference papers, several text books and book chapters. He is the Vice-President of the International Union for Physical and Engineering Sciences in Medicine (IUPESM) and Immediate Past-President of the International Federation for Medical and Biological Engineering (IFMBE).

Ratko Magjarević dedicated a lot of time and effort to IFMBE. He served as Secretary General (2003-2009), IFMBE News Editor, Chair or member of Committees in the Federation. He holds the Office of IFMBE Proceedings Series. He is one of main initiators of the regional reorganization of the Federation. R. Magjarević contributed to establishment close relations of the Federation with the WHO, IUPESM and other non-governmental organizations.

Position Statement

In the latest two decades, IFMBE grew in numbers and in its influence in biomedical engineering related policy matters on international scene which also reflected national relations in some countries. Such larger and more influential IFMBE needs leadership which will ensure sustainable development and further rise in biomedical engineering and related initiatives, networking as well as in BME scientific and professional activities. In future, the Federation will have to attract more volunteers from all affiliated societies and specially among early career researchers and professionals, to enable the continuation of already provided services, their widening and to enable new initiatives as well as coordinated actions and better efficiency of leadership and of the Federation as a whole.

Further development of research and innovation in BME are of large importance for the Federation, therefore support to the Federation's Journal MBEC, the IFMBE Proceedings and other publications need high beware, understanding of publishing and experience of the IFMBE leadership, which I gained in previous years.

Finally, I believe that I have the knowledge and skills for successful leading of the Federation and I am willing to put all my efforts to properly and faithfully serve the IFMBE.

Secretary General Nominee

Name: **Kang-Ping Lin**

Affiliated Society: Taiwanese Society of Biomedical Engineering

Current Position *(in Affiliated Society):* Chair of International Cooperation Committee

Current Profession: Distinguished Professor, Chung-Yuan Christian University, Taiwan

Brief Biography

Kang-Ping Lin obtained his Ph.D. degree in 1994 at the University of California, Los Angeles (UCLA) in Biomedical Physics. He is Distinguished Professor of Electrical Engineering at Chung- Yuan Christian University, Taiwan. He served as Director of Medical Device Technology Division of the Biomedical Engineering Center in Industrial Technology Research Institute in Taiwan (2000~2004). He was the president of Taiwanese Society of Biomedical Engineering (2007~2010) and the Editor-in-Chief of the Journal of Medical & Biological Engineering (1999~2007). He is now the Director of Technology Translation Center for Medical Device in his university (2011~now), and the Board member of Taiwanese Society of Molecular Imaging (2009~now). He is the Secretary General of IFMBE, and several roles in IFMBE. He is also an Administrative Council member, Chair of Public and International Relations Ad-hoc Committee, Congress Coordinating Committee member of IUPESM (2015~2018).

His research interests include handheld medical devices, physiological signal processing, and medical image processing. His current research topics include capillary blood velocity measurement, microcirculation images, and hemodynamic data analysis. In the field of medical devices, he has also focused on integration of industry, academia and medicine oriented towards being homecare, small, simple and low-energy consumption.

Position Statement

Serving as the IFMBE Secretary-General, I have participated in planning IFMBE delegate meetings, regional group meetings, and actively joined committee/ working group/ division meetings. I am familiar with the IFMBE activities and have proposed ideas to promote Medical and Biological Engineering. In order to interact and communicate with affiliated organizations, expand the relationship and recruit more IFMBE members, I have also involved IFMBE sponsored and endorsed BME/CE conferences held by affiliated organizations.

In addition to continue promoting BME/CE development in the world, I have assisted the development in developing countries; for example, to assist holding the 1st International BME conferences in Mongolia, to support APCBME held in Malaysia and the conferences in Romania and Bosna and Herzegovina.

In the future, I will keep work to assist and participate in establishing BME organizations in Indonesia, Vietnam, and Myanmar, to support in establishing BME education and certification system in Colombia, Brazil, Cuba, Peru and Argentina in the Central and South America, and to support in organizing IFMBE African BME Forum in Ethiopia, Nigeria and South Africa, for the BME community in Africa.

I would be grateful if the contributions and ideas could be accepted as my plans under IFMBE President's direction for the position of Secretary-General to implement the IFMBE development in the world.

Treasurer Nominee

Name: **Marc Nyssen**
Affiliated Society: BSMBEC (Belgium)
Current Position *(in Affiliated Society):* Secretary General
Current Profession: Professor Medical Informatics (VUB)

Brief Biography

Studied Electrical Engineering at the Free University Brus sels, graduating in Electronics in 1975. In 1978, he obtained an Engineering degree in "Computer Science." In 1983, he obtained a PhD. degree in Electrical Engineering, after defending a thesis called: "New Architectures for Optoelectronic Signal Processing." From 1976 to 1977 research assistant in the Electronics Dept. at the V.U.B. From 1978 to 1983 he was appointed in the Medical Informatics Dept., responsible for the research network and server computing infrastructure of the new medical campus of the Brussels Free University, in Jette. First as a research assistant, from 1983 then as Associate Professor, currently as Professor. As National Secretary he represents Belgium in the International Federation for Medical and Biological Engineering and Computing (IFMBE), of which he is a board member. Co-founder and Secretary General of the Belgian National Committee on Biomedical Engineering within the Belgian Royal Academy of Sciences and Fine Arts. His interests lie in different aspects of the computerized production lines, mainly for the scientist, with emphasis on network communication aspects. Image processing related hardware and software systems were studied and realized under his guidance, as research projects or as thesis for students in Engineering or Bio-Engineering and Medical Research.

Medical Internet applications are a second field of interest and expertise, this field is now known as E-health. Several projects were accomplished regarding the introduction of electronic medical records and the exchange of medical data via the Internet, currently his main project consists of the introduction of electronic medical prescriptions in Belgium: the Recip-e project, as project leader. Member of several Phd commissions and promoter of Masters and Phd students. In the field of teaching, he is the co-promoter of a series of "wireless laptop" projects to foster ICT in education. Teaching assignments include courses in "computer science" at bachelor level in the medical faculty, e-health at master level in engineering (biomedical engineering VUB-UGent and several courses as guest professor in the master in e-health, KIST/KHI, Kigali, Rwanda. Chairman of the Flemish Interuniversity Council's Bureau for development cooperation: VLIR-UOS (2005-2008), co-chair 2009-2011, member of the Bureau 2011 - August 2016. Member of the Belgian "Telematics Commission" until 2009, appointed as member of the Flemisch "Toezichtcommissie voor het elektronische bestuurlijke gegevensverkeer" the Flemish "Privacy Commission" by the Flemish Parliament, as of January 2010. Co-coordinator of the VLIR-UOS and CUD project UNIVERSITIC in DRC. Fellow of the International Academy for Medical and Bio- logical Engineering (IAMBE). Officer (currently Treasurer) if the International Federation for Biomedical Engineering) IFMBE. Founder of the ICT4D group at the VUB.

Position Statement

IFMBE should effectively realize its main goals: leadership in the field of Biomedical engineering, on all levels: scientific but also technical and professional.

As a Federation, our services to the member societies not only lie with conferences and publications but also in international cooperation.

Liaison with the IUPESM (medical physicists) and WHO and promoting international contacts amongst our members, resulting in cooperation world-wide.

IFMBE has the unique opportunity to invest in international activities and giving chances for young progessionals (be it scientific or in the field) to benefit from the global opportunities that can be offered through international contacts.

Regarding financial policy, prudence is on order, as the inetrest rates are very low, so in the next term, we should have more attention to diversifying sources of income, making us less dependent on the Journal income, but also, be it modest, from all conference that are sponsored.

Administrative Council (AC) Member Nominees

Name: **Martha Lucía Zequera Díaz**

Affiliated Society: ABIOIN (Bioengineering and Medical Electronics Colombian Society)

Current Position *(in Affiliated Society):* Delegate ABIOIN. Past Secretary CORAL

Current Profession: Professor in Bioengineering at Electronics Department. Pontificia Universidad Javeriana. Bogota, Colombia

Brief Biography

Prof. Martha Zequera obtained her MSc at Biomedical Engineering at Dundee University, UK, in 1992, funded by the British Council, and a Ph.D. degree from the Bioengineering Unit at the University of Strathclyde, UK, in 2003, with the support of COLCIENCIAS. Since 2010 she is an Honorary Research Fellow from Strathclyde University at Bioengineering Unit. Prof. Zequera is Full (Titular) Professor at Electronics Department, School of Engineering, at Pontificia Universidad Javeriana, Bogotá, Colombia and she has been working as a researcher for 15 years at the Bioengineering Research Group "BASPI", focus in signal and image processing analysis. Her current research interests in Biomedical Engineering include biosensors, biomedical instrumentation, medical devices, assistive technologies and e-health, especially for diabetes care and physical rehabilitation of balance control and gait disorders in elderly with neurological illness. She is author or co-author of numerous journal and conference papers. She was the Latin American Representative and AdCom member of the IEEE/EMBS society for four years; she was also nominated as a Chair of the IEEE/EMBS Chapter World Development Committee during three years. Dr. Zequera was also the Scientific Secretary of the Latin American Regional Council on Biomedical Engineering (CORAL) for five years, from 2005 to 2010. Dr. Zequera has been active as a member of the IFMBE Education & Accreditation Committee and also she is a member of the IFMBE Industry Working Group. She has organized several scientific conferences, sessions, meetings, minisymposia and courses in Biomedical Engineering Education in collaboration with the international societies IFMBE/CORAL/

IEEE-EMBS. She is involved in several research projects financed by institutional resources and European Commission resources (Program Horizon 2020) for the early diagnostics and management of diabetes and cardiovascular disorders in collaboration with the Stratchclyde (UK), University Ulster (UK), Zagreb University, (Croatia), Orleans University, (France) and Purdue, (USA). She is a co-author of a chapter in WHO publication "Human Resources for Medical Devices", May, 2017.

Position Statement

During the latest 10 years of my academic and research life, I have been involved as a member of the IFMBE/CORAL and IEEE/EMBS international societies, promoting Biomedical Engineering and Bioengineering in Colombia, in Latin America, in USA and Europe. I have organized or have been involved in organization of special sessions in BME, in particular in research of new and innovative technologies for diabetes monitoring, treatment and prevention. I collaborated and contributed to several special sessions organized by the IFMBE Education & Accreditation Committee and by the IFMBE Industry Working Group at the World Congress on Medical Physics and Biomedical Engineering. I was involved in organization of several IFMBE Co-Sponsored Conferences in Latin America, CLAIB.I contributed to several IEEE EMBS annual conferences, also in organization of Special Sessions and in facilitating the collaboration of IFMBE and EMBS. I would like to keep working in maintaining and strengthening the existing national societies in CORAL and networking with other IFMBE societies from other continents to promote Medical and Biological Engineering, Biomedical Engineering and Bioengineering. I would like to enhance collaboration between national and transnational societies, industry and government engaged in BME, in research of emerging technologies, health care or other activities which address special needs of the region by organizing joint sessions or forums with the support of the Industry Working Group during conferences at the national, regional and international level. I find promoting "better health for all humanity" my mission. I would like to promote the collaboration between professionals and students from Medicine, Nursing, Computer Sciences, Medical Physics and Bioengineering areas by promoting the organization of joint summer schools on emerging technologies for healthcare with the support of IFMBE, IEEE/EMBS and CORAL.

Name: **Ernesto Iadanza**

Affiliated Society: AIIMB (Associazione Italiana Di Ingegneria Medica e Biologica)

Current Position *(in Affiliated Society):* IFMBE Delegate

Current Profession: Adjunct Professor In Clinical Engineering, Research Fellow In BME–University Of Florence Clinical Engineering Consultant

Brief Biography

Ernesto Iadanza, BME, CE, M. Sc., Ph.D., Adjunct Professor in Clinical Engineering and Research Fellow at the Department of Information Engineering, University of Florence. I am currently a member of the IFMBE Administrative Council, chairman of the International Federation for Medical and Biological Engineering/Clinical Engineering Division Board (IFMBE/CED) and chairman of the International Union for Physical and Engineering Sciences in Medicine / Education and Training Committee (IUPESM). I am also IEEE and IEEE/EMBS Senior Member, member of the Italian Associations AIIMB, AIIC and SIAIS. I received the IBM Faculty Award in 2013, for the project "CARE", a Decision Support System for Congestive Heart Failure management. Section editor of the International Journal of Clinical Engineering and Healthcare Technology Assessment (CEHTA) and Member of the Editorial Board of "China Medical Devices Journal" and of "Future Internet". Member of the scientific committee, track chair and session chairman of national and international scientific conferences in Biomedical Engineering for more that a decade.

Organiser of postgraduate master courses in Clinical Engineering, Healthcare Engineering and HTA at the University of Florence since 2007. Supervisor in 160+ graduation theses. Author of 120+ publications on international books, scientific journals, volumes and conference proceedings.

Lead author of two books published by Elsevier: "Clinical Engineering – from Devices to Systems 1st Edition" (2016) and "Clinical Engineering Handbook 2nd Edition" (in press).

Position Statement

After my first three years as CED Secretary and Nominating Committee Chair (2012-2015), I had the priviledge of sitting in the Administrative Council during my mandate as CED chair (2015-18). I have therefore participated to AC meetings, proposed motions and obtained their

approval, chaired a working group upon request of the IFMBE President, participated to Officer's meetings (one hosted in my Department in Florence, Italy) and worked with the Officers week after week for three years.

As chairman of such an important Division, I could see first-hand how important it is the link between the AC and the operative branches of IFMBE, from budget proposal/approval to projects' success.

My main committments as AC Member will be:

- Supporting the Officers in re-engineering many of the IFMBE processes that today are still not smooth enough
- Being an operative liaison between all the IFMBE structures (divisions, committees, working groups) and the Officers
- Promoting cross-related initiatives and projects among the operative branches of IFMBE, preventing duplications and exploiting common occasions
- Promoting the use of IT tools to improve dramatically the information and participation of all the IFMBE structures in the decision process.

Name: **Lenka Lhotska**

Affiliated Society: Czech Society for Biomedical Engineering and Medical Informatics

Current Position *(in Affiliated Society):* Scientific Secretary

Current Profession: Professor at the Czech Technical University in Prague

Brief Biography

Lenka Lhotská, PhD, CEng, MIET, MIEEE graduated as Master of Science in Electrical Engineering in 1984 at the Czech Technical University in Prague (CVUT), Czech Republic. In 1989 she got her PhD degree in Cybernetics from CVUT. Currently she is head of the COGSYS Department (Cognitive Systems and Neurosciences) at the Czech Institute of Informatics, Robotics and Cybernetics and head of the dept. of natural sciences at the Faculty of Biomedical Engineering of the CVUT. Her research focuses on following areas: Knowledge-based systems, data and knowledge representation, application of artificial intelligence methods to medicine, digital signal processing, machine learning, feature extraction and feature selection, semantic interoperability, mobile technologies in healthcare, electronic health record.

She was supervisor of 15 PhD students who successfully defended their theses. Currently she supervises 6 PhD students. She is responsible for Master study program in Biomedical Engineering at CVUT.

Since 2005 she is member of the Council of the Czech Society for Biomedical Engineering and Medical Informatics; since 2011 National representative in International Society for Telemedicine and eHealth (IsfTeH); since 2009 National representative in International Federation for Medical and Biological Engineering (IFMBE). In 2014 she was elected member of the Engineering Academy of the Czech Republic.

Position Statement

I have been involved in IFMBE activities since 2005 when the Czech Society for BME&MI organized the EMBEC 2005 conference. I became aware of the IFMBE activities, responsibilities and visions. In 2009 as national representative I started to be involved in various IFMBE meetings. I participated in numerous IFMBE sponsored events including World Congresses, regional and international conferences and meetings. In 2012 I presented the candidacy of the CSBMES&MI for the World Congress 2018 and we won. Currently I am serving as the Scientific Committee Co-chair of the IUPESM World Congress 2018, which will be held in Prague. I am member of the IFMBE Education & Accreditation Committee and Women in BME Committee.

An opportunity to serve the IFMBE as an AC member will be a great honor for me. I will do my best to contribute positively to the decision-making processes of the IFMBE in matters that relate to current and long term objectives of the IFMBE. I have good communication skills and experience in team work. I have the ability to analyze, think creatily, discuss different views and find balanced solutions. I believe I have the experience and the enthusiasm to serve IFMBE members well and to contribute to IFMBE goals.

Name: **Qingming LUO**

Affiliated Society: Chinese Society of Biomedical Engineering (CSBME)

Current Position *(in Affiliated Society):* Chairperson, Biomedical Photonics Committee of CSBME

Current Profession: Vice President, Huazhong University of Science and Technology

Brief Biography

Qingming Luo is among the first group of theCheung Kong Distinguished Professor of Biomedical Photonics appointed by Ministry of Education (MOE) of China in 1999. He currently works inHuazhong University of Science and Technology in Wuhan, China. He is a pioneer of Biomedical Photonics in China, and an expert in multi-scale optical bioimaging and cross-level information integration.He is an elected Fellow of The American Institute for Medical and Biological Engineering (AIMBE), The International Society for Optics and Photonics (SPIE), The Institution of Engineering and Technology (IET), The Optical Society (OSA), and The Chinese Optical Society (COS).

He is the founding Director of MOE Key Lab of Biomedical Photonics, and the founding chair of Biomedical Photonics Committee of Chinese Society of Biomedical Engineering and Biomedical Photonics Committee of Chinese Optics Society.

He holds 60 patents and published 200 peer-reviewed journal papers, including Science, Nature Cell Biology and PNAS. He is Editor-in-Chief of Journal of Innovative Optical Health Sciences. He won the National Science Fund for Distinguished Young Scholars in 2000, the State Natural Sciences Award in 2010, China's Top Ten Major Scientific Progress in 2011, and the State Technological Invention Award in 2014.

Position Statement

IFMBE is to encourage, support, represent and unify the world-wide Medical and Biological Engineering community in order to promote health and quality of life. With 1/5 of the world population, China plays an important role as both the donor and the accepter. Chinese Society of Biomedical Engineering (CSBME), with more than 3500 registered members and long-term affliation to IFMBE since 1986, will keep on dedicating and would like to take more responsibilities to help IFMBE achieve the goals.

I am honored to represent CSBME to join the election of AC member. I've worked in Biomedical Engineering (BME) for over 20 years. Under my leadership, the BME program in my University now ranks third in China. I launched the International Conference on Photonics and Imaging in Biology and Medicine in 1999, attracting 200 participants anually. Currently, I serve as the Vice Director of China Teaching Steering Committee for Biomedical Engineering.

I was appointed as the Director at Large on the Board of Directors for OSA (2014-2016). I've taken the Vice-President position in my university for 10 years. I believe my professional career in BME, international vision, and administrative experience make me a fit candidate for this position.

Name: **Jurandir Nadal**

Affiliated Society: Sociedade Brasileira de Engenharia Biomédica

Current Position *(in Affiliated Society):* Full Member, Past-President

Current Profession: Professor, Biomedical Engineering, Univ. Federal do Rio de Janeiro

Brief Biography

Jurandir Nadal is an Electrical Engineer and Doctor of Sciences in Biomedical Engineering. He is Full Professor in the Biomedical Engineering Program of the Federal University of Rio de Janeiro, where he has been pursuing his academic career since 1985. Head of the Department during two periods (1995-1997, 2010-2014), he served as Treasurer (1985-1987), Vice-President (2000-2002), President (2006-2008) and Council Member of the Brazilian Society of Biomedical Engineering. He acted as Scientific Chairman and Proceedings Editor of the World Congress on Medical Physics and Biomedical Engineering (Rio'1994), and was Editor-in-chief of the Brazilian Journal for Biomedical Engineering along ten years (1994-2004). He also actively participated in the organization of the firsts Latin-American Congresses on Biomedical Engineering. Nadal is recipient of a Research Productivity Fellowship from the Brazilian Research Council. He supervised six post-doctorate studies, 18 doctorate students, 52 master degree students and over 30 undergraduate students. He has about 70 papers published in refereed journals and over 200 conference papers, having received over 600 Web of Sciences citations and 1450 Google Scholar citations. His research field is biomedical signal processing, with main interests in electrocardiographic methods for risk stratification of sudden cardiac arrest, and muscular biomechanics.

Position Statement

Undoubtedly, we are living in the century of Biomedical Engineering, which strengthens IFMBE's role in the world context. As a member of the administrative coun-

cil of this federation that congregates many national societies from each of the continents, I intend to fight for the universalization of Engineering in Medicine and Biology. I'm not just talking about access to benefits, as consumers and patients we are. Our efforts should also focus on the universalization of science, technology and innovation, as well as in the production of novel technologies, as if we lived in a utopian world without frontiers.

Name: **Mikael Persson**
Affiliated Society: Swedish Society for Medical Engineering and Physics
Current Position *(in Affiliated Society):* Scientific Secretary, Board member
Current Profession: Avademia and Industry

Brief Biography

Professor Mikael Persson has been on the board of the Swedish Society for Medical Engineering and Physics since 2009, since 2011 in the capacity of Scientific Secretary. He has extensive leadership experience in academia and industry where he has been active in creating Medtech West; a collaborative platforms for research, education, development and evaluation of new biomedical concepts and technologies located at the Sahlgrenska University hospital. He has been an active partner in creating Medtech4Health, a Swedish Strategic Innovation Programme, that gives financial support to innovation in medical technology for healthcare. He is also an innovator and has founded the company Medfield Diagnostics AB. Professor Persson received the M.Sc. and Ph.D. degrees from the Chalmers University of Technology, Goteborg, Sweden, in 1982 and 1987, respectively. In 2000, he became a Professor in electromagnetics and in 2006 a Professor in biomedical electromagnetics at the Department of Signal and Systems, Chalmers University of Technology. Since 2010, he has been the Head of the Division of Signal Processing and Biomedical engineering, Chalmers University of Technology. Since 20015 he is also professor at the Sahlgrenska Academy, the medical faculty of Gothenburg University.

His main research interests include electromagnetic diagnostics, monitoring and treatment, including microwave hyperthermia, stroke and trauma diagnostics, EEG source localization, and microwave system design. He is the author/coauthor of more than 200 refereed journal and conference papers. He is also active in education ad has been instrumental in the creation of a Materprogram in Biomedical Engineering.

Position Statement

The global health care sector is facing huge challenges due to the ageing population and increasing care needs. At the same time we have benefitted from promising advancements in diagnostic and therapeutic possibilities, but to an increased cost. As a result, health care accounts for a growing share of GNP.

Biomedical engineering plays a key role in meeting these challenges and medical technology is an enabler for many of the required changes. Examples include:

- improved treatment possibilities;
- increased patient empowerment and involvement and better preventive health care (lifting the burden on health care), development of a value-based health care system (providing maximum health outcome per cost);
- sustainable and more efficient health care (increased patient safety, reduced invasiveness, better decision support systems, etc.) and improved health economy.

As the Scientific Secretary of the Swedish Society for Medical Engineering and Physics I bring extensive leadership experience to the board. I also bring experience on collaborative platforms and innovation programmes in partnership between academia, health care and industry. I also have an active interest in education ad has experience in the creation and running of educational programmes in Biomedical Engineering.

Council of Societies Chair Nominees

Name: **Monique Frize**
Affiliated Society: CMBES
Current Position *(in Affiliated Society):* Fellow
Current Profession: Distinguished Research Professor, Carleton University, Canada

Brief Biography

Monique Frize is a biomedical engineering professor and Certified Clinical Engineer. She currently is a Distin-

guished Professor at Carleton University and Professor Emerita at University of Ottawa. Monique was Chair of the Council of Societies (CoS) between 2015 to 2018, and a member of the Administrative Council of IFMBE and of IUPESM for the same period. She is a Fellow and Life Fellow (IEEE), Officer Order of Canada (1993). Dr Frize has been awarded the Gold Medal (2010) from Professional Engineers Ontario and was awarded honorary degrees by five Canadian universities.

Monique Frize published over 250 peer refereed articles in journals and conference proceedings, as well as five books: *The Bold and the Brave: A history of women in science and engineering* (2009); *Laura Bassi and Science in 18th Century Europe* (Springer, 2013); *Ethics for Bio-engineers* (Morgan & Claypool, 2012) and two books on Health Care Engineering (M&C, 2013). Monique supervised 85 thesis at the doctoral, master's and undergraduate levels. Her previous work with the IFMBE included: elected as first Chair of the Clinical Engineering Division (1985-1990); selected as one of five members of the CE committee (1980-1985); and Chair of the Women in Medical and Biological Engineering Committee (2009-2012).

Position Statement

As Chair of the Council of Societies (2015-2018), I held several meetings with the Executive Board consisting of the Regional representatives (RGRs), and the President and the Secretary General of the IFMBE. During the past two years, our team developed processes for a smooth running of the CoS and enhancing the communication with our Affiliated Societies. The annual meetings (2016 and 2017) were very well attended (around 70 representing over 45 societies). We managed to get reports from all key committees and Divisions.

For the next mandate (2018-2020), I propose to collect best practices from our societies, to share widely with all; communicate regularly with the IFMBE committees and divisions to share their main outcomes with our societies. This creates a two-way communication, enable Societies to profile their activities and well as find out what various committees of the IFMBE are doing. The team in place for the past few years is highly enthusiastic and ready to move on to new projects and activities. It is critical to keep the momentum going with the expertise developed during this current mandate. Thank you for your support in electing me as Chair of the CoS for the coming 3-year term.

Name: **Ichiro Sakuma**

Affiliated Society: Japanse Society for Medical and Biological Engineering

Current Position *(in Affiliated Society):* Board Member, Chairman of International Committe

Current Profession: Professor

Brief Biography

Ichiro Sakuma received the B.S., the M.S., and the Ph.D. degrees in precision engineering from the University of Tokyo, Japan, in 1982, 1984, and 1989, respectively. He was a research instructor at Department of Surgery, Baylor College of Medicine, Houston, Texas, U.S.A. from 1990 to 1991. He is currently the director of Medical Device Development and Regulation Research Center and Professor at Department of Bioengineering and Precision Engineering, School of Engineering, the University of Tokyo. He was the Deputy Director for Medical Devices, Center for Product Evaluation in Pharmaceuticals and Medical Devices Agency (PMDA) from 2012 to 2017. He was the president of Japanese Society for Medical and Biological Engineering (JSMBE) from 2014 to 2016. He is editorial board member of IEEE Transaction on Medical and Biological Engineering and International Journal of Computer Assisted Radiology and Surgery.

His research interests are biomedical instrumentation, artificial organs, cardiac arrhythmia analysis, computer aided surgery, and medical robotics. He published about 160 peer-reviewed papers and received several academic awards including Young Investigator Travel Award from International Society for Rotary Blood Pump in 1996, Best paper awards from The Robotic Society of Japan in 2010 and 2015, and Best paper award from JSMBE in 2017.

Position Statement

I have been serving as the chair of Working Group on Asian-Pacific Activities for more than 8 years since 2009. As the Council of Societies (CoS) Chairperson, I will academic collaborations in medical and biological engineering research through further improvement of already existing various activities such as regional academic conferences, As the chair of Asia Pacific Working Group, I have been organizing young investigators networking activities to promote personal network among

emerging young biomedical engineering researchers. These people will be driving forces of future IFMBE activities. I will apply this model to other regional working group activities through CoS. This will contribute recruiting potential new members in developing countries to be full members of IFMBE. I will also promote regional collaboration in improvement of education systems in medical end biological engineering in collaboration with education committee of IFMBE. I also try to collaborate with publicity committee to share information of international academic activities organized by the members societies for better circulation of information among IFMBE members. Through these activities, I will make best effort to improve qualities of academic activities by biomedical researchers in IFMBE.

Regional Group Representative Nominees

Name: **Gilda Barabino**
Affiliated Society: AIMBE
Current Position *(in Affiliated Society):* President
Current Profession: Daniel and Frances Berg Professor and Dean, Grove School of Engineering, The City College of New York, NY, USA

Brief Biography

Gilda Barabino is the Daniel and Frances Berg Professor and Dean of the Grove School of Engineering at The City College of New York. She holds appointments in Biomedical Engineering, Chemical Engineering and the CUNY School of Medicine. Dr. Barabino is an American Institute for Medical and Biological Engineering (AIMBE) Fellow and the recipient of AIMBE's Pierre Galetti Award and its Special Advocacy Award. She is past- president of the Biomedical Engineering Society (BMES) and a BMES Fellow. She is also a Fellow of the American Association for the Advancement of Science (AAAS) and the American Institute of Chemical Engineers (AIChE). Dr. Barabino is an expert in cell and tissue biomechanics with an emphasis on sickle cell disease and orthopedic tissue engineering. She consults nationally and internationally in the areas of diversity in science and engineering and biomedical workforce development. She served on the International Advisory Committee for the 2015 World Congress on Medical Physics and Biomedical Engineering. Through AIMBE, she continues to interact with IFMBE and currently serves on the Women in Medical and Biological Engineering Committee.

Position Statement

Today, the global landscape for medical and biological engineering (MBE) is characterized by increasingly rapid technological advances in the midst of broadened health care challenges, disparities in access to medical technologies, changing workforce demographics, and a knowledge-driven economy. Collaboration across boundaries, disciplinary, geographical, and cultural must occur as we collectively capture the attention of scientists and engineers, clinicians and practitioners, and policy makers in order to improve human health. Working within and across regions through conferences, programming and networks and building long-term and sustainable bridges through partnerships on projects of shared interests are important for the future of IFMBE. As the President of AIMBE, which is itself an umbrella organization for a number of professional societies, I have experience in connecting organizations and communities dedicated to medical and biological engineering in the North American region and welcome the opportunity to broaden these efforts through IFMBE.

Name: **Timo JÄMSÄ**
Affiliated Society: EAMBES
Current Position *(in Affiliated Society):* President Elect
Current Profession: Professor in Medical Technology, University of Oulu, Finland

Brief Biography

Dr Timo Jämsä, born in 1958, holds a Professorship in Medical Technology at the Faculty of Medicine, University of Oulu, since 2002. He received his MSc in Electrical Engineering from the Faculty of Technology, University of Oulu, and PhD from the Faculty of Medicine, University of Oulu, respectively. Dr. Jämsä has over 30 years of experience in research and education in biomedical engineering and medical technology. He is author of 120+ refereed journal articles and 40+ conference papers. His main research interests include bone biomechanics, risk assessment and prevention of falls and fractures, medical imaging, physical activity monitoring, eHealth, health promotion, and technologies for the

elderly. He received the Clinical Biomechanics Award 2004, awarded by the European Society of Biomechanics. Dr. Jämsä has a number of regional, national and international academic activities. He was President of the Finnish Society for Medical Physics and Medical Engineering in 2004-2007, and chair of the board of the Centre for Health & Technology (CHT), Oulu Innovation Alliance, in 2011 – 2014. He has been in EAMBES Council in 2006-2010, and since 2013, being currently the President Elect of EAMBES. He is a current Regional Representative of the Europe-Africa Region in IFMBE.

Position Statement

IFMBE has a significant role in promoting medical and biological engineering world-wide. The final target needs to be the promotion of health and wellbeing of the citizens in all continents. I see Regional Group as a valuable channel to communicate within the region, and globally within IFMBE. Europe is one of the leading regions in medical and health technologies, and we need to foster actively as one voice e.g. in the EU work programmes and policies. This work is most effectively done in close cooperation between IFMBE, EAMBES, and national and transnational BME societies in Europe. We need to strengthen the communication within the European BME community. One tool will be organizing face- to-face regional CoS events in conjunction with different BME conferences and events, such as IFMBE regional meetings and EAMBES annual meetings. Africa has an increasing role in the BME community, due to the economic growth and the possibility of medical technologies to meet the health challenges in the region. I have personal experiences on BME education development in Africa, and I am confirmed on the vast potential on improving health in the region applying novel technologies. IFMBE could support and encourage African local BME communities to network more strongly nationally, regionally, and internationally. The initiation of the African BME Working Group of IFMBE will be one of the tools.

Name: **Tomas Jansson**

Affiliated Society: Svensk Förening för Medicinsk Teknik och Fysik (MTF)

Current Position *(in Affiliated Society):* None

Current Profession: Associate Professor in Biomedical Engineering at Lund University and Skåne University Hospital

Brief Biography

I am an Associate Professor in Biomedical Engineering at Lund University, with a combined position at the Clinical Engineering Department at the Skåne University Hospital, in Lund, Sweden. I earned my PhD at Lund University in 1999 and has covered pre- and postdoc positions at both the University of Rochester NY, USA, and Linköping University in Sweden.

My research career has been devoted to the development of novel diagnostic and therapeutic methods for medical ultrasound. Currently I head a project where we use superparamagnetic iron oxide nanoparticles as a contrast agent for ultrasound, opening avenues for ultrasound as a modality for the developing field of molecular imaging. I have 42 published papers in peer-reviewed journals, and a number of conference contributions. I have until 2016 been assistant program director for the in 2011 established engineering programme in Biomedical Engineering at Lund University.

I am also director of the center Medicon Bridge, a joint center between Lund University and the health care provider in Southern Sweden (Region Skåne). The purpose is to initiate, promote and coach interdisciplinary medtech projects that can increase patient value. The center is also a node in the national strategic innovation programme for Biomedical engineering, Medtech-4health.

Position Statement

All current trends point in the direction that medicine, physics and engineering are more and more integrated. However, engineers are not well integrated into the health care system, lacking possibilities for certification in the same way as other health care professionals. In the interest of patient safety and the more integrated role technology plays in today's health care, I would like to promote the role of the engineer in the health care system. One way is through certification, ultimately internationally harmonized, being one of the key avenues I would like to promote.

Moreover, technological development and innovation requires a close connection between the health care system and academia, especially engineering sciences, and industry. Also, these are bonds I would like to strengthen and where I believe an international society may be a key to establish a sustainable cultural change.

Name: **Eric Laciar Leber**

Affiliated Society: Latin-America Regional Council on Biomedical Engineering (CORAL)

Current Position *(in Affiliated Society):* CORAL President 2017-2019

Current Profession: Full Professor at San Juan University – Senior Researcher CONICET

Brief Biography

Eric Laciar Leber was born in 1970 in San Juan, Argentina. He graduated as Electronic Engineer (with honours) at the National University of San Juan (UNSJ, Argentina) in 1997. He obtained a Ph.D in Biomedical Engineering from Polithecnic University of Catalonia (UPC, Spain) in 2004. He began his academic career in 1992 at the Bioengineering Degree Program at UNSJ. Currently, he is Full Professor of Bioinstrumentation and Biomedical Signal Processing courses at UNSJ and a Senior Researcher of National Council of Scientific and Technological Research (CONICET) of Argentina. During 2012-2014, he was the Director of the Postgraduate Department at Engineering School at UNSJ. Currently, he is the Technical Secretary of this School.

His research areas include biomedical signal processing and analysis. In the last decade, he had leaded 6 research and development projects related to the processing of cardiac and neurological signals for diagnostic purposes. As a result of his research, he has published 6 book chapters, 37 articles in scientific journals, and 93 complete papers in national and international conferences. His articles have received numerous quotations (n = 929) and he has a H-index = 16 (http://scholar.google.es/citations?user=_Vuxc9YAAAAJ&hl=es).

He had successfully supervised 4 PhD theses, 1 master thesis and 12 dissertations related to BME topics. He currently supervised 3 researchers and 3 CONICET scholars. With some of his colleagues, he has submitted a patent application at the national level and another international at WIPO.

Position Statement

Since last decade, Prof. Eric Laciar participates actively in scientific and profesional societies. He was the President of the Bioengineering Committee of the Argentinean Federation of Cardiology (2007-2008) and President of the Argentinean Chapter of the IEEE/EMBS (2009-2010). Since 2010, he collaborates as San Juan Regional Delegate in the Argentinean Society of Bioingeering (SABI). During 2011-2013 and 2013-2016 he has served, respectively, as Secretary and Vice President of the Regional Council of Biomedical Engineering for Latin America (CORAL). Currently, he is the CORAL President (2017-2019).

His objectives are:

- To promote the development of the Biomedical Engineering in Latin – America region.
- To strengthen the relationship of CORAL and different national societies with IFBME. Currently, CORAL is integrated by the national societies of Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Mexico, Peru and Venezuela.
- To encourage the incorporation of new members to CORAL and IFMBE (Recently CORAL approved the inclusion of El Salvador society and it is pretended to incorporate Paraguay society in next future).

Name: **Subrata Saha**

Affiliated Society: American Institute of Medical and Biological Engineering

Current Position *(in Affiliated Society):* Fellow and Co-Chair of International Committee

Current Profession: Director of Biomedical Engineering and Director of Musculoskeletal Research at SUNY Downstate Medical Center, Brooklyn, New York

Brief Biography

Dr Subrata Saha is presently the Chair of the Bioethics Committee of IFMBE. He also Chairs the Ethics Committee of the Biomedical Engineering Society (BMES) and he is a member of the Education Committee of the society. Dr. Saha is a member of the Board of Governors of the IEEE Society on Social Implications of Technology (SSIT). Dr. Saha is the Founder of the Southern Bioengineering Conference and organized the first, fifth, eighteenth, and twenty-second conferences of this series. He also founded the International Conferences on Ethical Issues in Biomedical Engineering and Organized all previous seven conferences in this series. In April 2015, he organized the eighth International Conference on Ethics in Biology, Engineering, and Medicine, that was co-sponsored by IFMBE.

Dr. Saha is a Fellow of AIMBE, ASME, BMES, and NYAM. He has been a faculty member at Yale University, Louisiana

State University Medical Center, Loma Linda University, University of California at Riverside, Clemson University, Alfred University, and SUNY Downstate Medical Center. He has published over 125 papers in Journals, 350 papers in conference proceedings, and 120 abstracts. His research has been supported by the National Institute of Health, National Science Foundation, and many other private foundations and industry.

Position Statement

As a member of the Regional Group Representative (RGR) of IFMBE, I shall advance the goals of the organization. As the Chair of the Bioethics committee of IFMBE, I have organized sessions at previous World Congresses. I also organized sessions at other national and international conferences. IFMBE is an unique organization that can promote biomedical engineering across the globe including developed and developing countries. In a concerted effort with members of IFMBE and other organizations, I plan to promote refinement of a Code of Ethics for Biomedical Engineering that will put the field on par with medicine and law. This will lead to improved patient care as well as professionalism in the field. A Code of Ethics likewise helps educate our future aspiring biomedical engineers and instill in them pride in their chosen profession.

As the Editor in Chief of two Journals (Long Term Effects of Medical Implants and Ethics in Biology, Engineering, and Medicine; An International Journal), I shall contribute to the publication efforts of IFMBE including its Journal.

Name: **Ichiro Sakuma**

Affiliated Society: Japanse Society for Medical and Biological Engineering

Current Position *(in Affiliated Society):* Board Member, Chairman of International Committe

Current Profession: Professor

Brief Biography

Ichiro Sakuma received the B.S., the M.S., and the Ph.D. degrees in precision engineering from the University of Tokyo, Japan, in 1982, 1984, and 1989, respectively. He was a research instructor at Department of Surgery, Baylor College of Medicine, Houston, Texas, U.S.A. from 1990 to 1991. He is currently the director of Medical Device Development and Regulation Research Center and Professor at Department of Bioengineering and Precision Engineering, School of Engineering, the University of Tokyo. He was the Deputy Director for Medical Devices, Center for Product Evaluation in Pharmaceuticals and Medical Devices Agency (PMDA) from 2012 to 2017. He was the president of Japanese Society for Medical and Biological Engineering (JSMBE) from 2014 to 2016. He is editorial board member of IEEE Transaction on Medical and Biological Engineering and International Journal of Computer Assisted Radiology and Surgery.

His research interests are biomedical instrumentation, artificial organs, cardiac arrhythmia analysis, computer aided surgery, and medical robotics. He published about 160 peer-reviewed papers and received several academic awards including Young Investigator Travel Award from International Society for Rotary Blood Pump in 1996, Best paper awards from The Robotic Society of Japan in 2010 and 2015, and Best paper award from JSMBE in 2017.

Position Statement

I have been serving as the chair of Working Group on Asian-Pacific Activities for more than 8 years since 2009. As a regional group representative, I will promote regional academic collaborations in medical and biological engineering research through further improvement of already existing various activities such as regional academic conferences and young investigators networking activities. I will also promote regional collaboration in improvement of education systems in medical end biological engineering. I will make best effort to improve qualities of academic activities by biomedical researchers in this region. I will support participation of emerging groups of medical and biological engineering in various developing countries in this region to be full members of IFMBE. I will also organize systematic supports by the regional societies for the success of WC 2021 in Singapore. Advancement of translational research of medical technologies is important to make social values of medical and biological engineering. I would like to promote regulatory science studies where scientific methodologies for evaluating safety and efficacy of medical devices one of the important elements of academic activities in collaboration with regulatory bodies in medical device regulation as a new emerging field in medical and biological engineering.

Name: **Min WANG**

Affiliated Society: Hong Kong Institution of Engineers – Biomedical Division

Current Position *(in Affiliated Society):* Member of the Council, Hong Kong Institution of Engineers (Past Chairman of the Biomedical Division of HKIE)

Current Profession: Academia

Brief Biography

Min Wang is a tenured professor and currently Programme Director of the Medical Engineering Programme at The University of Hong Kong. He has worked in universities in the U.K. (1991-1997), Singapore (1997-2002) and Hong Kong (2002-Present) and is/was a Guest/Adjunct Professor of universities in mainland China. He was awarded BSc and PhD by Shanghai Jiao Tong University and University of London, respectively. He is a fellow of professional societies (FIMMM, 2001; FIMechE, 2007; FHKIE, 2010; FBSE, 2011; FAIMBE, 2012; WAC Academician, 2013). Since 1991, he has been conducting research in biomaterials and tissue engineering. He and his staff/students won many awards at international conferences. He has authored a large number of research papers and given over 140 invited talks at various international conferences. He is the Series Editor of Springer Series in Biomaterials Science and Engineering and has been Editor, Associate Editor or Editorial Board member of 18 international journals. He is a Council Member of Chinese Society for Biomaterials, Hong Kong Institution of Engineers, Asian Biomaterials Federation, and World Association for Chinese Biomedical Engineers and a member of the Steering Committee of International College of Fellows, IUSBSE. He also serves as Regional Group Representative for Asian-Pacific (2016-2018) in IFMBE.

Position Statement

I am very active in professional societies and have served in committees/Councils of these societies: Honorary Secretary (1998–2001), Institute of Materials (E.Asia); Member of the Biomedical Division Committee (2004–2007, 2008–2009, 2013–Present), Hong Kong Institution of Engineers (HKIE); Member of the Biomaterials Committee (2009–Present), Chinese Society of Biomedical Engineering; Council Member (2012–Present), Chinese Society for Biomaterials; Council Member (2013–Present), Asian Biomaterials Federation; Member of the Nomination Committee (2014–Present), World Academy of Ceramics; Member of the Steering Committee (2016–Present), International College of Fellows of IUSBSE; and so on. I was also Chairman of HKIE's Biomedical Division. I have served very well as IFMBE's RGR for Asian-Pacific (2016-2018).

Serving in different positions in these societies makes me feel fulfilled as my service can/could help many others to gain the benefits from the societies and also help the societies and disciplines to advance in the rapidly changing world. I will be honoured if I am re-elected to be RGR for Asian-Pacific. If re-elected, I shall continue to work with others in IFMBE for the international bioengineering community, for bringing closer members of this community, and for the advancement of the medical and biological engineering discipline.

Clinical Eng. Division (CED) Member Nominees

Name: **Almir Badnjevic**

Affiliated Society: Bosnia And Herzegovina Medical And Biological Engineering Society

Current Position *(in Affiliated Society):* President

Current Profession: Director of Medical Devices Verification Laboratory Verlab and Head of Genetics and Bioengineering Department at the Faculty of Engineering and Natural Sciences, IBU

Brief Biography

PhD of Electrical Engineering with an experience in Business and Academic area. Working as Director of Medical Devices Verification Laboratory Verlab (http://www.verlab.ba), which the main purpose is to do annually verification of medical devices in all healthcare institutions in Bosnia and Herzegovina. The founder of idea of putting Medical Devices in the Legal Metrology framework, what preceded in establishing the Verlab. Previously worked in Medical Devices industry, in the field of respiratory technology and blood gas analysis. In Academic Area, from 2015. working as Head of Genetics and Bioengineering Department at Faculty of Engineering and Natural Sciences at International Burch University (http://www.ibu.edu.ba) in the field of Biomedical Engineering and as Assistant Professor at Technical Faculty Bihac, University of Bihac (http://www.tfb.ba) in the field of Expert Systems. From 2012. Working as Industry Expert at the Faculty of Electrical Engineering Sarajevo, University of Sarajevo (http://www.etf.unsa.ba). In 2014. Founded and became

a President of Bosnia and Herzegovina Medical and Biological Engineering Society (http://www.dmbiubih.org) which is country representative in IFMBE. This Society organized in 2015. And 2017. International Conference on Medical and Biological Engineering (CMBEBIH) (http://www.cmbebih.com) which gathered more than 700 participants from 40 different world countries. Author of more than 60 publications.

Position Statement

IFMBE is currently the only one structured and positioned organization which plays a major role on the international stage at global and regional levels in the fields from life-cycle of healthcare technologies, across innovation to assessment, to application and management. My role as president and delegate of DMBIUBIH has allowed me to develop- in the last years -fruitful relations with different international institutions (WHO, EURAMET, IEEE...) as well as excellent personal relations with many IFMBE members and I would put this at service for CED. My experience in the field of Medical Devices would also help us to link with this important component of the Clinical Engineering profession and could help to develop more synergies with other IFMBE Divisions and all other organizations and stakeholders. I'm also very much keen on sharing our findings on scientific publications, that in my perception is one major goal for Clinical Engineers to be recognized worldwide for their vital role in healthcare. My previous and current work, together with the will and commitment I am putting on Clinical Engineering, give me the belief that I have valuable insights that can serve and support the work of the CED specifically and the IFMBE more generally.

Name: **Stefano Bergamasco**
Affiliated Society: Associazione Italiana Ingegneri Clinici AIIC
Current Position *(in Affiliated Society):* Vice-president
Current Profession: Freelance consultant – Partner of ECRI Institute

Brief Biography

Born in Gorizia, 1972, I live and work in Italy. Graduated in Electronic Engineering, with a specialization in Clinical Engineering, I worked as a contract researcher at the University of Trieste, from 1999 to 2001. Technical director of TSH Consulting, private company supporting healthcare structures in the areas of Clinical Engineering, Safety at Work and Risk Management, from 2002 to 2007. Head of the Safety Department of Sincrotrone Trieste S.C.p.A., a multidisciplinary Synchrotron Light Laboratory in Trieste - Italy, from 2007 to 2009. Clinical Engineer at TBS Group S.p.A. (www.tbsgroup.com), within the "Medical Devices & ICT Systems Business Unit – Foreign Operations", from 2010 to 2016.

My current occupation is Freelance professional engineer, consultant for Public Agencies, Health Facilities and Service Companies in the areas of Clinical Engineering, Information Technology, Risk Management, Training, Quality. I'm a Partner of ECRI Institute (www.ecri.org), a collaborator of EduCare Srl (www.edu-care.eu.com) and a contract professor at different universities in Italy. I'm the Vice-president of the Italian Clinical Engineers Association, an Individual Member of the American College of Clinical Engineering, a member of the Italian Health Technology Assessment Society and a Collaborator of the Clinical Engineering Division of IFMBE.

Position Statement

As a coordinator of the international relationships working group of the Italian Association of Clinical Engineers, and thanks to my work at the foreign operations department at TBS Group, I have developed several relationships with colleagues of different countries (USA, Brasil, Spain, France, UK, Holland, Switzerland, etc.) and I have an international mindset and working experience.

Having participated in several congresses and initiatives of IFMBE (CE Day, II ICEHTMC 2017 in Sao Paulo, MBEC 2014 Dubrovnik, etc.) I have an established network of relationships within the CED and the whole IFMBE and I would put this at disposal of the CED to contribute to its further developments and initiatives. Moreover, in these years I have developed relationships with different international institutions (WHO, ECRI Institute, EAMBES, etc.) and I would put this at service for CED.

Being the Vice-president of AIIC I'm deeply involved with the initiatives of our national Association that is leading an effort to build relationships among the clinical engineering societies of Europe and is organising the III ICEHTMC in 2019, therefore I'll be able to act as a liaison between our very active Association and CED for the further development of international activities.

Name: **Li Bin**

Affiliated Society: Clinical Engineering society of Chinese Medical Association

Current Position *(in Affiliated Society):* Chairman of Designate Clinical Eng. society of Chinese Medical Association

Current Profession: Dir. of Hospital manag. research center of Shanghai 6th people's hospital, Chief of Medical Device med. QC center for Shanghai

Brief Biography

Professional background:

- 1982.9—1987.7 study Physics in East China Normal University.
- 1987.9 - 1990.7 study NMR spectroscopy for Master degree in East China Normal University.
- 1990.8 - 1994.4,work as MRI engineer in radiology dept. Of Shanghai 6th People's Hospital
- 1994.5 - 1996.8 work as MRI technical Engineer in GE medical system Shanghai office, finished three MR technical training program in USA and Japan.
- 1996.8 - 2005.5 chief of in clinical engineering department Shanghai 6th People's hospital, finished CT technical training program in Japan
- 2005.3 - 2016.12 Chief of Clinical department.of Shanghai, 6th people's hospital affiliated to Shanghai Jiaotong University
- 2005.5 - chief of medical equipment quality control center in Shanghai Affiliated to Shanghai Jiaotong University
- 2017.1 - chief of hospital management research center of Shanghai 6th people's hospital Affiliated to Shanghai Jiaotong University

Worked for over 20 years as chief of clinical engineering department of hospital In charge of device management and quality control of medical equipment in Shanghai for 12 years.

Research field:

- Regional medical equipment management and quality control
- Assessment and management of medical equipment suppliers
- Management of service and rating of customer satisfaction
- Cost evaluation and quality control of radioactive and imaging equipment
- Evaluation of medical imaging Equipment performance and service system.

Position Statement

Senior Engineer (Professor level), Master Tutor of Shanghai Jiaotong University

Social academic position:

- Chairman designate of Clinical Engineering Committee of China Medical Association
- Vice Chairman of clinical engineers branch of Chinese medical doctor association
- Council Member of Chinese society of Biomedical engineering
- Chairman of Medical management committee of Shanghai hospital association
- Pre-Chairman of Clinical Engineering Committee of Shanghai Medical Association
- Committee member of medical device classification technology of China SFDA
- Member of the China national medical meteorology technology committee
- Chief expert of Shanghai Research Base for Clinical Engineering Technology of Hospital Management Institute of Ministry of Health
- Standing committee member of Medical Engineering Committee of Chinese Medical Association
- Purchase consultant for Shanghai Municipal Government
- Member of China Clinical Engineering Expert
- Member of China Association of Medical Equipment

Achievement:

- Authorized and co-authorized 7 books, including Chief editor of National health ministry's 13th five-year plan textbook for clinical engineering major
- Published over 40 articles in national statistical source journal
- Obtained two project of the national science and technology department key R&D projects total fund is over USD one million.
- The QC center has been awarded as Shanghai excellent QC center
- Obtained the third prize of National Hospital Innovation Award of Chinese Hospital Association In 2011 for the supervisory project of after-sales service.
- Our clinical Engineering team win the award of National key disciplines of medical engineering.

Name: **Bjorn-Erik Erlandsson**
Affiliated Society: MTF, Swedish Association for Medical Technology and Physics
Current Position *(in Affiliated Society):* Member of the Certification Committee
Current Profession: Ph. D., Professor, Senior Advisor

Brief Biography

Ph. D., Chalmers University of Technology, Gothenburg, Sweden, Applied Electronics. Senior Advisor at Technology and Health, KTHIRoyallnstitute of Technology, Stockholm. Experiences from research and development, quality management and regulatory issues from international medical technology companies; Siemens and Nobel Industries. Director of the Department of Medical Informatics and Technology, Norrlands University Hospital, Umea and Academic Hospital, Uppsala and Professor of Medical Technology at these universities. At the university hospitals chairman and responsible for long term planning of investments and asset management.

Standardization in medical technology and medical informatics, chairman SIS I TK334 and HoD at international standardization organizations; CEN and ISO, Chairman of the Joint Working Group on Software and Medical Devices (SAMD) August 2017, Convenor of ISO I TC215 Health Informatics Standardization, WGl. Board member in HL7 Sweden. Chair of the Swedish Association for Medical Informatics for two years, engaged in the Section for Medical Technology and Physics Certification Committee (MTF, section of the Swedish Medical Association). Member of the Scientific Council of Swedish Agency for Health Technology Assessment and Assessment of Social Services, SBU. Has been Assistant Coordinator at KTH's Medical and Biomedical Technology Platform. Former Vice Dean of KTH I School of Technology and Health.

Position Statement

Digitization offers great opportunities for future social services and health and medical care. Modern information and communication technologies can make it easier for individuals to be involved in their own health and social care, support contact between individuals and service providers, and provide more efficient support systems for staff at service providers.

Clinical engineers works with the increasingly advanced technology of healthcare, where maximum safety and security for patients is the goal, and engineers, at different positions in health care, are of importance for safety and efficacy. Therefore it is of utmost importance that they are well educated, and take part in research and development as well as in the everyday clinical environment.

Creating curriculum for engineers working with medical technology will increase the prerequisite for safety and efficacy, and the engineers will be well suited for work in health care as well as in industry. The knowledge and skills must include basic general engineering, physics as well as medicine and health care in general but also information and communication technologies.

Guidelines for internationally accepted accreditation/ certification of post-graduate medical and biological engineering is of importance, as well as guidelines for practice for engineering involved in health care delivery.

Name: **Fabiola Margarita Martínez Licona**
Affiliated Society: Mexican Society of Biomedical Engineering
Current Position *(in Affiliated Society):* Clinical Engineering National Committee President
Current Profession: Professor of Electrical Engineering, Universidad Autónoma Metropolitana

Brief Biography

Was born in Mexico City, Bachelor and Master on Biomedical Engineering (BME), Ph D. Student on Administrative Science in Universidad Autonoma Metropolitana (UAM), Mexico. Professor at UAM specialized on artificial intelligence, pattern recognition, clinical engineering and medical technology assessment and management. Professor Martinez has directed projects on these fields in both undergraduate and graduate BME academic programs in Mexico City, has published papers on journals as International Journal of Technology Assessment in Health Care, Journal of Digital Imaging, Lecture Notes on Artificial Intelligence, Mexican Journal on BME, national and international conferences as the International Conference of the IEEE Engineering in Medicine and Biology Society, Health Technology Assessment International Annual Meeting, Latin American Congress on BME, Panamerican Health Care Exchange

(PAHCE) and Mexican Congress on BME, among others. Her interest is focused on the development of medical technology assessment methods based on artificial intelligence and machine learning tools as well as health technology policy design and assessment.

Position Statement

Clinical engineering has strived to raise globally awareness about the effective use of the technological resources in healthcare. Considering the work done so far and the impact it has had on the different health environments in the world, I believe that what has to be done should be directed towards two parallel courses of action: on the one hand, work should continue to consolidate the efforts reflected in the ongoing IFMBE CED projects, in order to generate robust foundations from which to build collaboration bridges among the groups of stakeholders around the world, and on the other to start identifying the role that the clinical engineer will have to play in the future scenarios presented as a consequence of the health trends that mark the new paradigms of healthcare.

Teamwork is the key to achieve the objectives of the IFMBE Clinical Engineering Division, and I commit myself to contribute with is required to reach a strategic positioning of the clinical engineer in order to enable him to develop to his full potential within the field of health.

Name: **Eduardo Jorge Valadares Oliveira**

Affiliated Society: Brazilian Society of Biomedical Engineering

Current Position *(in Affiliated Society):* Full Associate

Current Profession: Adjunct Professor at the NUTES/UEPB

Brief Biography

Prof. Eduardo Oliveira has a degree in electrical engineering from the University of Alfenas, a specialization in Clinical Engineering, Master's and a PhD degrees in biomedical engineering from the State University of Campinas. He is a professor at the Nucleus of Strategic Technologies in Health of the State University of Paraíba. He currently holds the position of Coordinator of Physical and Technological Infrastructure at the Brazilian Company of Hospital Services, responsible for Clinical Engineering activities, Physical Infrastructure and Hospitality in 39 federal university hospitals. He held the position of Director of the Department of the Industrial Complex and Innovation in Health, in the Ministry of Health's Secretariat of Science, Technology and Strategic Inputs, promoting and fostering technological-industrial projects in biomedical engineering. He was a specialist in Industrial Cooperation Projects at the Brazilian Industrial Development Agency, developing activities and technical cooperation projects with Germany and Sweden related to medical devices and industrial automation. He has experience in the area of Health Regulation, with emphasis on Health Technology, working mainly on the following topics: innovation and technology transfer, clinical engineering, biomedical engineering, biomedical instrumentation, medical devices regulation, Good Manufacturing Practices for Medical Products, market regulation and maintenance management of medical equipment.

Position Statement

Clinical engineering has been consolidated as an important area of knowledge aimed at improving patient care by transposing management and engineering techniques to the safe and effective use of medical technologies. With the significant increase in health care costs, both public and private systems seek safe and cost-effective technologies. In this new context, in addition to reaffirming its strategic positioning, clinical engineering should work worldwide to promote convergent actions between its primary mission and the new paradigms imposed by Health; Industrial; and Science, Technology and Innovation Policies, especially regarding the activities related to rationalization and optimization of technology acquisition, reduction of acquisition costs and access expansion to safety and cost effective technologies. In this way, I believe that I can contribute to building a positive agenda for clinical engineering working together with CED/IFBME in the improvement and delivery of safe and cost-effective medical technology.

Name: **Leandro Pecchia**

Affiliated Society: Associazione Italiana Ingegneria Medica e Biologica (AIIMB, Italy), Institute of Physics and Engineering in Medicine (IPEM, UK), EAMBES

Current Position *(in Affiliated Society):* Member (AIIMB), Academic Advisory Group member (IPEM) Administrative Council Member (EAMBES)

Current Profession: Assistant Professor, Academia

Brief Biography

Leandro Pecchia graduated in BME (2005) at the University "Federico II" of Naples, were he also received the PhD (2009). He is Assistant Professor of BME at The University of Warwick (UK) and director of the Applied Biomedical Signal Processing and Intelligent eHealth Lab. He authored about 100 peer-reviewed articles on medical devices, Health Technology Management (HTM), machine learning, biomedical signal processing and Health Technology Assessment (HTA). Dr Pecchia has been Chair (2015-2018) and Treasurer (2012-2015) of the IFMBE Healthcare Technology Assessment Division (http://htad.ifmbe.org/), AC Member (2015-17) of the European Alliance of Medical and Biological Engineering and Science (EAMBES) and member (2015-18) of the IUPESM Committee on Education and Training.

As HTAD Chair, he contributed to the diffusion of HTA in BME education and research, coordinating several projects as the launch of the IFMBE eLearning platform and the IFMBE HTA Summer Schools series (http://htad.ifmbe.org/training/), and providing HTA support to the organizers of several IFMBE events/conferences in Africa (AfricaHeath 2016 and 1027), America (WC2015, ICEHTAM2017), Asia (ICBME2016) and Europe (MEDICON 2016, EMBC2017, WC2018). Dr Pecchia presented IFMBE and BME contributions to HTA and HTM in several scientific and political events, including WHO Global Fora on Medical Devices, European Parliament and HTAi Congresses.

Position Statement

Healthcare decisions and medical devices policies are not sufficiently and systematically informed by Clinical Engineering (CE). This affects negatively healthcare costs, patient safety and quality of life. This gap is due, among other factors, to:

1. difficulties in publishing/disseminating CE results because lack-of-time and shortage of receptive journals;
2. Heterogeneity, sometimes lack, of CE professional recognition worldwide.

My contribution will focus on filling this gap through three projects:

1. *CE professional recognition:* leveraging on the IFMBE HTAD experience, support and reinforce IFMBE cooperation with international (e.g., UN, WHO), regional (e.g., European Parliament, Africa Union) and national (e.g., NICE UK, CADHT in Canada) institutions, agencies and scientific societies involved in designing regulations and policies on medical devices, HTM, HTA;
2. *Education:* foster IFMBE eLearning platforms, facilitating CE education and dissemination worldwide, launching the first IFMBE Summer School Series on CE, with particular attention to low- income countries. In fact, in lower income settings, there is a huge convergence among HTA, HTM and CE, which has been only partially appreciated by traditional HTA stakeholders (e.g., health economists) and political decision-makers;
3. *Publications:* facilitate CE scientific publications, demonstrating how CE contains healthcare costs, increase patient safety and quality of life, fostering the creation of a new journal, if needed.

Name: **Kazimierz Peczalski**

Affiliated Society: Polish Scientific and Technical Committe for Biomedical Engineering of Association of Polish Electrical Engineers

Current Position *(in Affiliated Society):* Member of the Board

Current Profession: academic lecturer, Director of the Postgraduate School of Medical (clinical) Engineering of Warsaw University of Technology certified by Polish Ministry of Health, consultatnt medical engineer in Department of Cardiology of Bielanski Hospital Warsaw.

Brief Biography

Born: 24 June 1951 Warsaw, Poland. Current position: lecturer at Warsaw University of Technology (WUT), Director of Postgraduate School Of Medical (clinical) Engineering of WUT accredited by Ministry of Health.

Education: M.Sc. in biomedical engineering WUT, Ph.D.in Biocybernetics and Biomedical Engineering in Institute of Biocybernetics and Biomedical Engineering IBBE) Polish Academy of Sciences (PAS), Warsaw.

Professional activity: clinical engineer and head of technical division of Wolski Hospital Warsaw 1978-1982,

2011-2016; clinical engineer National Institute of Cardiology 1982-1993; visiting assistant professor Medical School of University of Minnesota 1992-1993; deputy director and specialist clinical engineer of Deapartment of Clinical & Experimental Engineering IBBE PAS 1982-2011; lecturer at WUT from 2011.

Activity in Polish and international scientific organizations: board member of Polish Scientific and Technical Committe for Biomedical Engineering of APEE, member of the Audit Committe of the Board of Polish Society of Biomedical Engineering, member of POlish Society of Cardiology form 1980 and European Society of Cardiology. Nominated by the Minister of Health of Poland for the position of acting medical (clinical) engineer from 2009.

Position Statement

I'd like to be a part of the international working group at the Clinical Engineering Division based on my experience as a Director of the Postgraduate School of Medical Engineering of WUT and a leading author of the novel cirriculum for training of clinical engineers for the postgraduate specialization at WUT. THe program is supervised by the Polish Ministry of Health and culminates in the final specialization exam at the National Centre of Medical Examination. I propose to pursuetwo thrusts in the area of clinical engineerin: a role of clinical engineers in clinical and administrive units of health care system in Poland, and other countriesof IFMBE, modified by the specific of the particular national health care systems, b. the development of specialization programs dedicated to different groups of potential students such as with or witout biomedical engineering background.

According to Polish experience introducing of the distance learning elements to at least theoretical classes for students without biomedical engineering background is necessary. I am looking forward to share my clinical and academic wxperience with colleaques from different countries with variety of health care systems and regulations.

Name: **Raymond Kai-yu TONG**

Affiliated Society: Hong Kong Institute of Engineers

Current Position *(in Affiliated Society):* Committee Member of Biomedical Division

Current Profession: Chairman, Department of Biomedical Engineering, CUHK

Brief Biography

Professor Raymond Kai-yu Tong is Chairman of Department of Biomedical Engineering at the Chinese University of Hong Kong (CUHK). Raymond completed his PhD in Bioengineering from the University of Strathclyde, Glasgow, in 1998. Over the years, he has made great strides in developing a wide range of rehabilitation devices. His innovative work on rehabilitation robot system "Hand of Hope" was the first Hong Kong invention to have received the grand prize in the 40-year history of the International Exhibition of Inventions of Geneva (2012). He is also the Editor of "Handbook of Medical Device Regulatory Affairs in Asia". Prof. Tong contributes significantly to professional bodies. He is presently the Chairman, Asia Regulatory Professional Association (ARPA)-Hong Kong Academy. He is a senior Member of the Engineering in Medicine and Biology Society, IEEE and Member of the Hong Kong Institute of Engineers (HKIE). He has developed new regulatory courses in the University on "Intellectual Property, Medical Devices Regulatory and Risk Management" since 2004. Prof. Tong has been collaborated with Regulatory Professionals and Companies in strengthening and fostering Medical & Healthcare Devices Industry. In recognition of his distinguish achievement, Prof. Tong was awarded the "Ten Outstanding Young Persons" in 2013 in Hong Kong.

Position Statement

Prof. Raymond Tong is the course leader for the Medical Device regulatory and Intellectual Property for both undergraduate and postgraduate courses in Biomedical Engineering for ten years in Hong Kong, and Prof. Tong also the BEng Biomedical Engineering Program directors for 7 years, and has built a strong link with the hospitals, medical device industry and Hong Kong medical device control office for the medical device regulatory. In 2017 July, Prof. Tong became the Founding Chairman and established the First Biomedical Engineering Department

in Hong Kong, with the strong support from both Faculty of Engineering and Faculty of Medicine. CUHK will have a new university hospital in 2019. Translational research, Biomedical Technology and professional education will be the key areas to be developed.

The Hong Kong government also emphasis the development in Biomedical, and the hospital authority has appointed Prof. Tong as the Advisor for the Community Rehab Service Support Centre in 2017. Prof. Tong would like to strengthen the connection with all the experts in IFMBE and further develop the Clinical Engineering in Biomedical Engineering in Asia. Prof. Tong would like to seek this opportunity to have a strong collaboration and further development in biomedical with IFMBE members.

HTAD Member Nominees

Name: **Almir Badnjevic**

Affiliated Society: Bosnia And Herzegovina Medical And Biological Engineering Society

Current Position *(in Affiliated Society):* President

Current Profession: Director of Medical Devices Verification Laboratory Verlab and Head of Genetics and Bioengineering Depart. at the Faculty of Engineering and Natural Sciences, IBU

Brief Biography

PhD of Electrical Engineering with an experience in Business and Academic area. Working as Director of Medical Devices Verification Laboratory Verlab (http://www.verlab.ba), which the main purpose is to do annually verification of medical devices in all healthcare institutions in Bosnia and Herzegovina. The founder of idea of putting Medical Devices in the Legal Metrology framework, what preceded in establishing the Verlab. Previously worked in Medical Devices industry, in the field of respiratory technology and blood gas analysis. In Academic Area, from 2015. working as Head of Genetics and Bioengineering Department at Faculty of Engineering and Natural Sciences at International Burch University (http://www.ibu.edu.ba) in the field of Biomedical Engineering and as Assistant Professor at Technical Faculty Bihac, University of Bihac (http://www.tfb.ba) in the field of Expert Systems. From 2012. Working as Industry Expert at the Faculty of Electrical Engineering Sarajevo, University of Sarajevo (http://www.etf.unsa.ba). In 2014. Founded and became a President of Bosnia and Herzegovina Medical and Biological Engineering Society (http://www.dmbiubih.org) which is country representative in IFMBE. This Society organized in 2015. And 2017. International Conference on Medical and Biological Engineering (CMBEBIH) (http://www.cmbebih.com) which gathered more than 700 participants from 40 different world countries. Author of more than 60 publications.

Position Statement

If I become a Member of HTAD Board I'll make every effort to introduce, promote, organize, develop, establish and investigate all activities of Biomedical/Biological Engineers within professional and academical communities at the local, national, regional and international levels. My focus will be especially in the field of identifying safety and performance criteria and data for medical devices, assessing the safety and performance of medical devices and generating new ideas (through studies, directives, standards, legislatives,...) for improving safety and performance tests of medical devices. It will help to all BME Engineers to be essential for all stages of HTA. This will be especially important to low-middle income countries (LMI). My expertise in medical devices, through work in NMI's, Laboratories, EURAMET, healthcare institutions and through my experience in teaching methods will help HTAD in achieving its objectives. I'm also very much keen on sharing our findings on scientific publications, that in my perception is one major goal for BME Engineers to be recognized worldwide for their vital role in healthcare. My previous and current work,t ogether with the will and commitment I am putting on Biomedical Engineering, give me the belief that I have valuable insights that can serve and support the work of the HTAD specifically and the IFMBE more generally.

Name: **Daniel Clark**

Affiliated Society: Institute of Physics & Engineering in Medicine, IPEM (UK)

Current Position *(in Affiliated Society):* Member

Current Profession: Head of Clinical Engineering, Nottingham University Hospitals NHS Trust, Professor of Clinical Engineering, University of Nottingham, Director CHEATA – Centre for Healthcare Equipment And Technology Adoption

Brief Biography

Dan leads the Clinical Engineering service in Nottingham, one of the largest in Europe and provides the full scope of equipment services including: device evalu-

ation, commissioning, service and maintenance, decommissioning and disposal. This service has specialist teams in renal technical support, non-ionising radiation, anaesthetics and ventilators and general medical and also provides a comprehensive equipment library service and a medical devices training unit. Dan also leads an innovation and research unit that designs and produces novel medical devices plus a device evaluation and adoption service (CHEATA – the Centre for Healthcare Equipment And Technology Adoption). He has considerable experience of evaluating new technologies and introducing them into the healthcare setting.

Dan has an honorary chair in the Faculty of Engineering at the University of Nottingham where he supports a range of healthcare-related engineering research groups. He chairs the Trust's Medical Devices Group and sits on a number of trust-wide risk committees. He is the Co-director of the Centre for Healthcare Technologies, a collaborative venture between Nottingham University and Nottingham University Hospitals NHS Trust specialising in the acceleration of curiosity driven science into adopted medical technology. He is also a member of NICE's Medical Technology Advisory Committee.

Position Statement

Modern healthcare is dominated by technology: technology has a role in hospitals and community settings; in acute episodes and chronic care and indeed technology can prevent people becoming unwell in the first place helping us all live longer, healthier lives. New technologies can revolutionize the way we manage health and wellbeing. But often seen as expensive and difficult to implement, the challenge is to identify the best use of technology to ensure it can deliver real patient benefit and address the funding difficulties faced by healthcare systems.

HTA is the discipline through which we can demonstrate this and effectively adopt innovative technologies into healthcare but few Clinical Engineers are familiar with HTA or possess the skills to implement it. The aim of the HTAD division is to promote HTA within the biomedical and clinical engineering community. As a Clinical Engineer of over 30 years' experience and with skills and experience in HTA having set up and managed a specialist medical technology HTA group, I believe I can make a useful contribution to this team. Moreover, having working with HTAD over the last 2 years as a collaborating member, I hope my track record and experience with the group will enable me to efficiently and effectively support their work.

Name: **Murilo Contó**

Affiliated Society: SBEB - Sociedade Brasileira de Engenharia Biomedica

Current Position *(in Affiliated Society):* Associate Member

Current Profession: National Consutant in HTA and HTM at PAHOIWHO

Brief Biography

Specialist in Health Technology Assessment (HTA) and Health Technology Management (HTM) with more than 20 years working with medical devices, including activities in the industry, hospitals, federal government and international organization. Current National Consultant in Management and Evaluation of Health Technologies at PAHOIWHO and Specialist Consultant at National Metrology Institute (INMETRO) for evaluations of certification processes of efficacy and safety in electro medical equipment. Consultant between 2012 and 2015 of CONITEC National Commission for Incorporation of Technologies into SUS, preparing technical-scientific reports for incorporation, exclusion and replacement of medical devices and procedures. Manager between 2009 and 2012 of the Projects Division of Investments in Medical-Hospital equipment of the Ministry of Health, being responsible for the creation of the National List of MedicalEquipment and Permanent Materials for the SUS (RENEM); of the Program for Capture of Technical and Economic Information (PROCOT); and the Management and Information System on Financeable Equipment for the SUS (SIGEM). Graduated in Health Technology (FATEC, 1995), post-graduated in Hospital Administration (Sao Camilo University, 1997), Clinical Engineering (UNICAMP, 2000) and MBA in Health Management (FGV, 2012). Nowadays, attending of the Master's Program (stricto sensu) in HTA at National Cardiology Institute in Rio de Janeiro, Brazil.

Position Statement

Nowadays, the main roles at PAHOIWHO are:

- Responsible for cooperation actions related to the evaluation, regulation, incorporation and

management of health technologies, between Ministry of Health, ANVISA and other national and international reference institutions;

- Supervision and support to professionals and contracted institutions for the development of studies and research that technically subsidize the demands of ANVISA, CMED, CONITEC and DECIT of the Ministry of Health;
- Networking with Ministries, Regulatory Agencies and HTA Institutes in different countries;
- Organization and participation as representative of PAHO-WHO on meetings such as IMDRF -International Medical Devices Regulators Forum; RedETSA - Health Technology Assessment Network of the Americas, and the Group of Regulatory Agencies of MedicalDevices of the Americas;
- Mediator of demands from WHO-Geneva and PAHO-Washington headquarters with health institutions and professionals in Brazil.

As a new member of HTAD, will be possible integrate actions between international and national/ professionals and institutions, searching a good efforts synergy to get mutual objectives.

Name: **Ernesto Iadanza**

Affiliated Society: AIIMB (Associazione Italiana Di Ingegneria Medica e Biologica)

Current Position *(in Affiliated Society):* IFMBE Delegate

Current Profession: Adjunct Professor In Clinical Engineering, Research Fellow In BME–University Of Florence Clinical Engineering Consultant

Brief Biography

Ernesto Iadanza, BME, CE, M. Sc., Ph.D., Adjunct Professor in Clinical Engineering and Research Fellow at the Department of Information Engineering, University of Florence. I am currently a member of the IFMBE Administrative Council, chairman of the International Federation for Medical and Biological Engineering/Clinical Engineering Division Board (IFMBE/CED) and chairman of the International Union for Physical and Engineering Sciences in Medicine / Education and Training Committee (IUPESM). I am also IEEE and IEEE/EMBS Senior Member, member of the Italian Associations AIIMB, AIIC and SIAIS. I received the IBM Faculty Award in 2013, for the project "CARE", a Decision Support System for Congestive Heart Failure management. Section editor of the International Journal of Clinical Engineering and Healthcare Technology Assessment (CEHTA) and Member of the Editorial Board of "China Medical Devices Journal" and of "Future Internet". Member of the scientific committee, track chair and session chairman of national and international scientific conferences in Biomedical Engineering for more that a decade.

Organiser of postgraduate master courses in Clinical Engineering, Healthcare Engineering and HTA at the University of Florence since 2007. Supervisor in 160+ graduation theses. Author of 120+ publications on international books, scientific journals, volumes and conference proceedings. Lead author of two books published by Elsevier: "Clinical Engineering – from Devices to Systems 1st Edition" (2016) and "Clinical Engineering Handbook 2nd Edition" (in press).

Position Statement

I had the priviledge of leading the IFMBE Clinical Engineering Division as CED chair for three years (2015-18) after my first three years as CED Secretary and Nominating Committee Chair (2012-2015). I think that my experience could be profitably made available to the Health Technology Assessment Division (HTAD).

Many of the projects that I lead and coordinated have already been done in conjunction with HTAD and I think this could be done also more intensely in the future.

My main committments as HTAD Member will be:

- Supporting the relationships between HTAD and all the other structures, outside IFMBE, that are involved with HTA all over the world
- Strengthening the worldwide presence of HTAD to reinforce the role of Biomedical Engineers in such a delicate field of knowledge
- Increase the relationship with WHO, leveraging the excellent relationships put toghether in these years
- Promoting the use of IT tools for education and training in HTA
- Increasing the number and quality of projects conducted in cohoperation with other IFMBE structures.

Name: **Lorenzo Leogrande**
Affiliated Society: Associazione Italiana Ingegneri Clinici AIIC
Current Position *(in Affiliated Society):* President
Current Profession: Health Technology Evaluation Unit at the University Hospital A. Gemelli in Rome

Brief Biography

Born in Taranto, 1971, I live and work in Italy. Graduated in Information Technology Engineering, with a specialization in Biomedical Engineering, I worked in a clinical engineer department in Policlinico San Metteo in Pavia, from 1999 to 2001, where I worked for the project "Establishment of an experimental center for Health Technology Assessment HTA" (development, testing and evaluation of biomedical technology and health care) financed by the Ministry of Health (ex art. 12), with the collaboration of Bolzano Hospital. My current occupation (from 2001) is in Technology Assessment Unit and Clinical Engineering at the A. Gemelli Teaching Hospital in Rome.

Assistant Professor at the Catholic University. Professor of Clinical Engineering and HTA, with particular reference to the Schedule of Investments, in the main postgraduate courses in the health sector (Catholic University, LUISS University, University of Pisa, University of Siena, Milan Polytechnic, Liuc University, Sole24ore's Master Program).

I'm the President of the Italian Clinical Engineers Association, an Individual Member of the Health Technology Assessment International Society, a member of the Italian Health Technology Assessment Society and a Collaborator of the Clinical Engineering Division of IFMBE.

Position Statement

My professional activity is specifically in the field of Health Technology Assessment, as I work at the Technology Evaluation Unit of my Hospital. I'm a founding member of the Italian Health Technology Assessment Society and I attended the international master in HTA (the Ulysses Program) organized by ALTEMS (Graduate School of Health Economics and Management). Therefore I have specific knowledge and operative experience in the field of HTA. Having participated in several congresses and initiatives of IFMBE (CE Day, ICEHTMC 2015 in Hangzhou, ICEHTMC 2017 in Sao Paulo, etc.) I have an established network of relationships within the HTAD, the CED and the whole IFMBE and I would put this at disposal of the HTAD to contribute to its further developments and initiatives. Moreover, in these years I have developed relationships between our national Society AIIC and different international institutions (WHO, ECRI Institute, EAMBES, etc.) and I would put this at service for HTAD. Being the President of AIIC I'm deeply involved with the initiatives of our national Association that is leading an effort to build relationships among the clinical engineering societies of Europe and is organising the III ICEHTMC in 2019, therefore I'll be able to act as a liaison between our very active Association and HTAD for the further development of international activities.

Name: **Albert Poon Ka Fat**
Affiliated Society: HKIE Biomedical Division
Current Position *(in Affiliated Society):* Immediate Past Chairman, Discipline Advisory
Current Profession: Professor of practice (Biomedical Engineering) of the Hong Kong Polytechnic University

Brief Biography

Mr. Albert Poon commenced his career in healthcare and biomedical engineering in 1981 when first joined Electrical and Mechanical Services Department of the HK Government. Since then, he devoted concentration in biomedical engineering, promoting and contributing to the field of health technology, biomedical engineering services and medical device regulation. Mr. Poon became Certified Clinical Engineer (CCE) of USA in 2004 and after completion of government service, he worked as Consultant in Healthcare Engineering and in 2015 was appointed as Professor of Practice (Biomedical Engineering) of the Hong Kong Polytechnic University. Mr. Poon's major contribution was technology management in clinical engineering and education of the younger generation of biomedical discipline in Hong Kong. He started up Biomedical Engineering Division in HKIE in 86/87 and set up the Medical Device Administration Unit for Hong Kong in 2001 and was HK Gove rnment representative to the Asian Harmonization Working Party (AHWP). He was elected Chairman of the Technical Commitee (TC) for 2005-2008, which operate successfully leading the 20 plus AHWP member economies. His other international contributions include MD technical advisor to WHO,

consultant to London School (LSHTM) and to Pan African Harmonization Working Party (PAHWP).

Position Statement

Mr. Albert Poon, in his many years of clinical engineering experience has seen much mismatching examples in medical technology applications in the field of clinical engineering and biomedical engineering. He would like to join efforts with HTA pioneers to assist in and facilitate the government and national participation in medical technology management activities to benefit mankind and in particular for countries of scarce resource.

Name: **Jiwu Zhang**

Affiliated Society: Chinese Society of Biomedical Engineering (CSBME)

Current Position *(in Affiliated Society):* Vice Secretary-General, Division Chairperson Digital Medical Device and Healthcare IT

Current Profession: Adjunct Professor of Beijing University and Shanghai Jiaotong University, Chairman and CEO of Shanghai Meehealth Healthcare IT Co. Ltd

Brief Biography

- 1998: Ph.D of Biomedical Engineering from Xi'an Jiaotong University in China.
- 2009: AMP from Harvard Business School in US.
- 1998-2002: Associate professor of Computer Application Technology of NorthEastern Univerty in Shenyang China. Meanwhile, Chief Engineer and CTO of NEUSoft Digital Medical System Co. Ltd (China Stock Listed Company 600718).
- 2002-2003, Professor and Director of Computer Applicaiton Technology in Biomedical.
- 2003-2013: Adjunct professor of Biomedical Engineering for Beijing University and Shanghai Jiaotong University. Meanwhile, R&D Director of Asia-Pacific and General Manager of Global R&D Center for Kodak Health Group (Re- named as Carestream after acquisition by ONEX). He was aslo
- 2013-present: Adjunct professor of Biomedical Engineering for Beijing University and Shanghai Jiaotong University. Meanwhile, founded Shanghai Meehealth Healthcare IT Co. Ltd., as Chairman and CEO.

Dr. Jiwu Zhang is Vice Secretary-General of Chinese Society of Biomedical Engienering (CSBME), Division Director of Digital Medical Device and Healthcare IT for CSBME. He is the founder of IHE China, he took the position of IHE International Committee, Director of Technical Committee for IHE China. He is the Senior member of IEEE EMBS, Vice Chairman of IEEE EMBS Shanghai Chapter. He is the Chinese Representative of ISO TC215. Chief Science Popularization Expert for the China Association for Science and Technology (CAST). Science and Technology Consultant for Shanghai Mayor. Editor of Chinese Journal of Biomedical Engineering (CJBME).

Position Statement

Intiating and participating in the preparation of international documents such as guidelines, specifications, procedures and standards. Especially to develop and promote standard in digital medical device and healthcare IT industry.

Improving the knowledge, maturtity, understanding, deployment, implement of healthcare technology (especially in medical device and healthcare IT area) by education, training, publication, conferences, most effectively, by practice model.

Identifying, research, and develop HTA on state of the art technology, such as big data, artificial intelligence.

To build up the link and cooperation among and cross research groups, related professionals, research area, industries, regions, countries, societies.

IFMBE Africa BME Forum

Addis Ababa, Ethiopia, March 02-03/2018

Ashenafi Hussein

First Day Meeting - March 02 / 2018 at Ministry of Science and Technology (MoST) meeting Hall

The first day meeting started with registration of invited guests and participants from all over the world. Parallel to registration process, the IFMBE officers, 12 Africa professional society delegates and invited guests visited Ethiopian Ministry of Science and Technology (MoST) Mini studio to view some of the activities of the MoST. A short briefing and description was made by the staffs of MoST.

Participants to the IFMBE African BME Forum held in MoST, Addis Ababa, Ethiopia

The official meeting started in the meeting hall of MoST with opening speeches made by HE Professor Afework Kassu (State Minister of MoST) and Professor James Goh (IFMBE President).

In this remark, the State Minister welcomes IFMBE officers, Africa BME Societies Delegates, invited guests and has stressed that the "Ministry of Science and Technology is closely working with Professional societies to build capacity and work as public wing in our sector. Biomedical Engineering is one of the emerging technology in our country with greater demand. It was our pleasure to work with the Ethiopian Society of Biomedical Engineers and Technologist to organize IFMBE Africa Working forum, which creates the opportunity in collaborative works. Creating working forum will enhance collaboration, Technology transfer, harmonization and togetherness in the technology world".

The State Minister also said, "IFMBE and African delegates should work closely with us to enhance such activity at international level. This would be the beginning of many collaboration many countries will work with the International Federation of Medical and Biological Engineering (IFMBE) and wished the participants a fruitful meeting".

Professor James Goh, IFMBE president also welcomed all participants for IFMBE Africa BME forum and stated that the importance of having professional societies in their respective countries and it is also one of the objectives of IFMBE to work in collaboration with professional societies to strengthen the profession. He also indicated that IFMBE has prioritized regional activities and encouraged African professional societies to work closely with IFMBE to enhance the coordination and collaboration works. After his remark, the IFMBE president officially open the meeting.

Adriana Velazquez Berumen, Senior Advisor on Medical Devices, Innovation Access and Use, Medicines and Health products Department, Health Systems and Innovation, World Health Organization, Geneva, Switzerland sent a short video message to address the meeting. In her message, Adriana indicated how important it is to have such a collaborative meeting for all participants and wish all the participants a successful meeting.

Before the regular program began, The Ethiopian society of Biomedical Engineers and Technologist gave out Certificate of Acknowledgement and Recognition to the sponsors and helpers who contributed to the success of this event. The organizations and participants received their certificates from IFMBE Past-Presi-

Presenting a commemorative plaque to HE Prof. Afework Kassu (State Minister of MoST) by Professor James Goh, IFMBE President.

dent, Prof. Ratko Magjarevic, and HE Prof. Afework Kassu (State Minister of MoST) was presented a certificate by Eng. Ashenafi Hussein (President, Ethiopian Society of Biomedical Engineers and Technologists) and a commemorative plaque by Professor James Goh, IFMBE President.

After the Official Opening, the regular programs began as per scheduled, the first plenary session was led by IFMBE President Prof. James Goh. In his presentation, the President briefly described about historical background and structure of IFMBE, an overview of how IFMBE functions, and what IFMBE is working on currently.

During the health break, it gave the participants an opportunity to get to know each other, to see the poster presentation and to have peer-to-peer discussion.

Professor KP Lin, IFMBE Secretary-General gave a presentation about Asia Pacific Activities Working Group (APWG), during which Prof KP Lin also indicated the goals of APWG, its background, members and the activities of the working group.

Professor Timo Jämsä, RGR for Europe and Africa presented about Europe - Africa regional activities, activities in EU , Africa activities and recent as well as upcoming conferences.

Dr. Mario Forjaz Secca, Chair of the Working Group on Developing Country gave a presentation on the working group's goals, members and main areas of the activities.

Dr. Leandro Pecchia, Chair of IFMBE Health Technology Assessment Division (HTAD) presented IFMBE global initiatives in clinical engineering and HTA. He also shared about IFMBE HTAD guidelines and also briefly indicated about IFMBE CED division activities.

Professor Ratko Magjarevic, IFMBE Past-President presented about liaison and membership of IFMBE. In his presentation, Professor Magjarevc has briefly described about the structure of IFMBE, the members, how to become member of IFMBE and the benefits of IFMBE members. Professor Magjarevic also presented remarks made by Professor SM Krishnan, the IFMBE President-elect in which he welcomed and sent his heartfelt thanks to all participants.

During lunch time, HE Dr. Eng. Getahun Mekuria, Minister of Ethiopian Ministry of Science and Technology (MoST) had a short meeting with IFMBE Officers and African delegates. In the meeting HE the Minister welcomed all the guests and made a briefing about the vision to revolutionize the BME field to the highest level expected and also requested to have a Memorandum of Understanding (MoU) to be signed between IFMBE and MoST. IFMBE President and Officers has also thank the Minister and Ethiopia for hosting this big event and also expressed strengthening partnership is a key for collaborative works and will work on the MoU. African delegates also remarked on how import-

Delegates meeting with HE Dr. Eng. Getahun Mekuria, Minister of Ethiopian Ministry of Science and Technology (MoST)

ant is to have such a forum in the field of BME.

After lunchtime, Professor Marc Nyssen, IFMBE Treasurer chaired the sharing session of representatives of the African BME societies. All the African Delegates presented and shared their professional society activities in their respective countries.

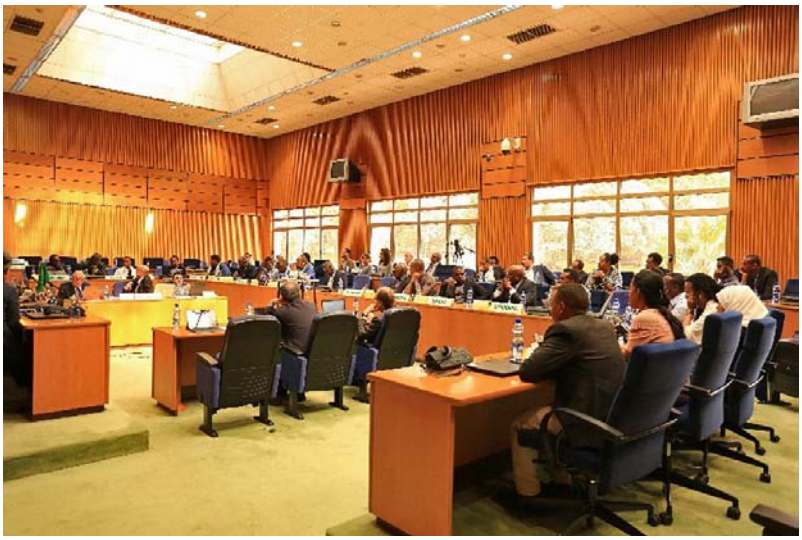
The African BME professional society delegates were from Ethiopia (Eng Ashenafi Hussein); Nzeyimana Dieudonne from Burundi; Prince Verhoustraeten and Arnaud from DRC; Aldjouma Kelly from Mali; Dr. Sudesh Sivarasu from S. Africa; George Boadu from Ghana; Prince M.O. Mbah from Nigeria; Salome Mwaura from Kenya; Byamukama from Uganda; Bertha. F. Cosmas Kavishe from Tanzania; Mario Forjaz Secca from Mozambique; Roland Laleye from Benin. Currently, Mali and Mozqambique do not have a professional BME society, however they intend to form one when they return to their respective country.

The first day meeting at the meeting hall of Ministry of Science and technology of Ethiopia adjourned at 5:30pm with the final remark made by Professor Marc Nyssen.

Second Day - March 03 /2018 at Africa Union Meeting Hall , Addis Ababa, Ethiopia

The second day meeting begun at 9:30am chaired by IFMBE President, Professor James Goh and Eng. Ashenafi from Ethiopia. During the plenary session, the following remarks were made:

- Sam from Uganda indicated that we should come up with concrete issues;

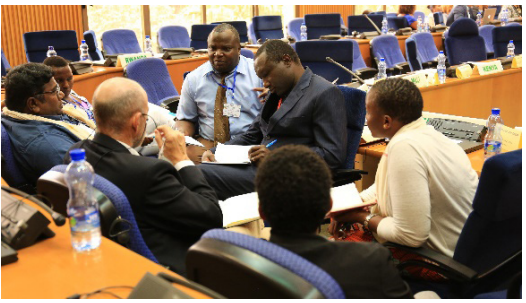


Delegates meeting in the Committee Room of the African Union

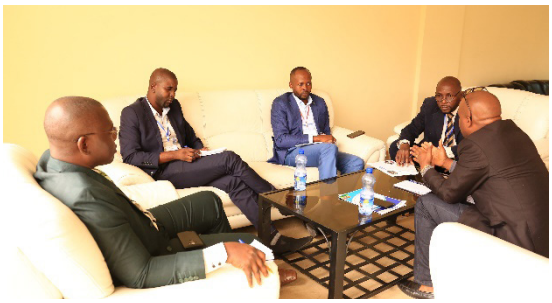
- Prince and Arnaud from DRC also stressed that the meeting should not be just talk and leave without any action plan; we should bring together the disorganized societies and come together with good resolution.
- Prince M.O. Mbah from Nigeria also raised concerns about the effect of the meeting, "how many countries had the ministries to have support for the professional societies" and stressed that IFMBE should help us to work together.
- Ronald Laleye from Benin indicated, "since 20 years ago medical doctors are the chief, they don't recognize us, they don't give us value, there are local skills in Benin but we need motivation".
- Aldjauma Kelly from Mali said "we need to have positive attitude, we need to believe in ourselves, even though there are no results we need to inspire; It will not come from the sky we need to work hard". He proposed IFMBE work with society at the national level. His view is that "Medical doctors and we have the same objective, we need to be optimist and have positive attitude". He also urged professionals to prove themselves with all the challenges.
- George Boadu from Ghana also raised, "how can we come together? Is it to create a working group and proceed, we need actions".
- Mario Forjaz Secca from Mozambique shared that societies have job to do, create a working group and he shared his view about the developing countries working actives.
- Salome Mwaura from Kenya also raised concerns about lack of information when there is transition of people, communication should be formal.
- Kidist from Ethiopia raised questions about what are the challenges in the professional society;

Subsequently, Professor Esayas from Ethiopia gave a presentation on the experience from the Ethiopian professional perspective.

After the health break, Professor James Goh stressed on the relevance of networking and the huge



Group 1: Participants from Uganda, Kenya, Tanzania, South Africa and Mozambique



Group 2: Participants from Mali, DRC, Benin, Burundi

Group 3: Participants from Ethiopia, Ghana and Nigeria

task expected from the professional societies. IFMBE President gave 3 discussion points, i.e. Quality of BME education (and accreditation); Best practice in Biomedical Engineering, and the Expectation from Research and Technology. This was to be discussed in small group setting, 3 groups were formed.

The discussion begun after lunchtime. All the groups discussed based on the discussion points given and the following matters were considered:

- Capacity building; training and education
- Quality control of devices, good practice of technology to be implemented
- Linkage of hospitals with universities
- Organizational structures
- Collaborative works
- Prototyping
- IFMBE to provide technical training
- WHO to be involved
- Harmonization of curriculum
- Regional and coordinated national conferences
- Finally to come up with concrete action plans

After the health break in the afternoon, each group shared the summary of their discussions. These culminated into 6 action points of the IFMBE Africa BME forum. The IFMBE President, Professor James Goh chaired this meeting; the President urged Africa professional societies to join IFMBE by filling and sending the membership application the soonest possible and he stressed it's importance in relation to action points below:

First Action Point: Formation of IFMBE Interim WGAA
To form the IFMBE Interim Working Group on African Activities (IWGAA) and Eng Ashenafi Hussein Ababu from Ethiopia designated to chair this working group. Once the Africa professional societies joined IFMBE (before June 2018), a fully functional working group will be activated.

Second Action Point: NETWORKING
Proponents: George Boadu (Ghana); Bertha (Tanzania); Dieudonne (Burundi); Salome Mwaura (Kenya)

- E-meeting before 31 March to define responsibilities, details and deadlines
- Platform of exchange of information (15 April)
- Open working space in IFMBE webpages
- Contents from African societies
- Continuous networking to facilitate sharing by electronic media (31 March)
- Start with skype or whatsapp, select tools
- Topic-specific workshops for real problems
- Brainstorming / think-tank about education, best practices and research
- Regional conferences (Arnaud Mwamba, Sam Byamukama)
- Networking with relevant stakeholders (government, hospitals etc.)

Third Action Point: EDUCATION
Proponents: Mario F. Secca (Mozambique); Prince Verhoustraeten (DR Congo)

- Survey of BME programmes
- Curricula development and harmonization (Sudesh Sivarasu)
- Training of trainers (Prince Mbah)

Fourth Action Point: RESEARCH AND INNOVATION
Proponents: Sudesh Sivarasu (South Africa); Ashenafi Hussien (Ethiopia)

- Prototyping & design for local needs
- Create center of excellence recognized by World Bank (Edward, Kenya; Prince Verhoustraeten)

Fifth Action Point: LOBBYING (All members)

- National lobbying using BME Africa Forum report in first step when contacting ministries

- WHO/IFMBE lobbying with ministries of health and other ministries (Prof. Marc Nyssen is IFMBE Focal Point in WHO)

Six Action Point: PRACTICALS
Proponents: Ashenafi Hussien (Ethiopia); Sam Byamukama (Uganda); Roland Laleye (Benin)

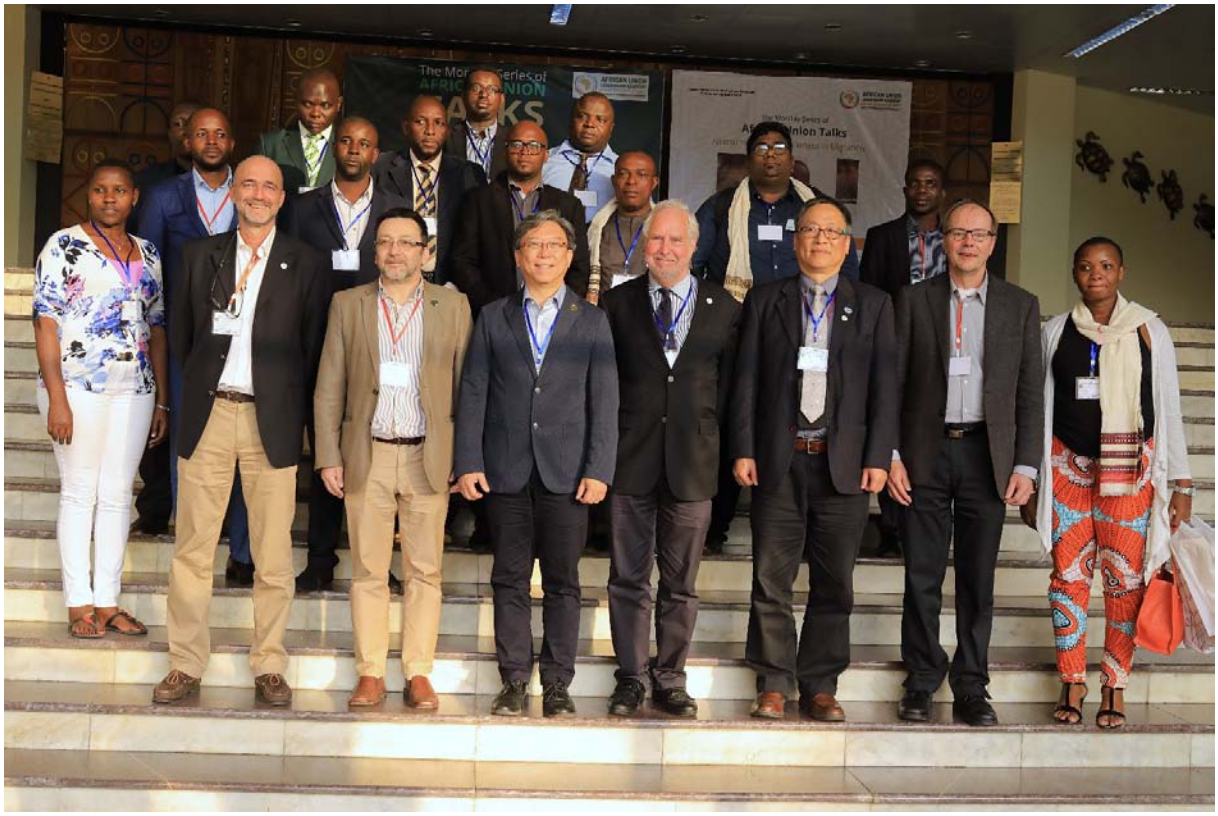
- Collection of country profiles of BME societies in Africa
- Update and publish society information with contact info and focal point (template by Ashenafi or Sam, IFMBE form can also be used), including other related societies such as Health Informatics

IFMBE President presenting a token of appreciation to Eng. Ashenafi

- WHO/IFMBE survey database update (WHO web form)
- Create national societies in countries with no society (Kelly, Mali; Mario Secca, Mozambique)

IFMBE president Professor James gave final remark, he urged the IWGAA to work on the action points and come up with a concrete plan. A lot is expected from the working group members, he also urged other Africa BME societies to join the working group and IFMBE. Finally, he thanked all the participants for all their effort and close the meeting. He presented a token of appreciation to Eng. Ashenafi for hosting and organizing the African BME Forum.

A group photograph was taken and the meeting adjourned at 6:00pm.



Front row: Salome Mwaura, Mario Secca, Ratko Magjarevic, James Goh, Marc Nyysen, KP Lin, Timo Jamsa, Bertha Kavishe
Second row: Arnaud Mekendi Mwamba, Prince Verhoustraeten, Aldjauma Kelly, Laleye Roland, Prince MO Mbah, Sudesh Sivarasu, George Boadu
Third row: Sam Byamukama, Nzeyimana Dieudonne, Ashenafi Hussein, Edward Matekwa

Obituaries

Herbert Frederick Voigt
27 October 1952 – 25 January 2018

Professor Herbert Frederick Voigt III, Past President of the International Union for Physical and Engineering Sciences in Medicine (IUPESM), and Past President of the International Federation of Medical and Biological Engineering (IFMBE) – of Milton, MA, passed away suddenly on 25 January 2018. He is survived by his loving wife Ronit, and children Justin and his wife Jennifer, granddaughters Madeline and Charlotte of Milton, MA, and daughter Emily of Milton, MA. He leaves behind his mother Simona and eight siblings.

Professor Voigt was elected in 2006 to be the President of IFMBE during the term 2009 to 2012, and subsequently to be the President of IUPESM from 2012 to 2015. As President of IUPESM, which is the parent organization of IFMBE and International Organization for Medical Physics (IOMP), he played an important role in promoting the collaboration and development amongst these constituent organizations. Professor Voigt was a visionary leader, a great team builder and a highly respected colleague. During his presidency of IFMBE and IUPESM, Professor Voigt made significant and valuable contributions to the global community of Biomedical Engineers and Medical Physicists.

Professor Voigt was indeed a bright biomedical engineer. He earned his doctorate in Biomedical Engineering in 1980 from the top ranked Johns Hopkins University and spent his professional career devoted to education and research at another top ranked Boston University. He was a Professor of Biomedical Engineering and an Associate Research Professor of Otolaryngology at Boston University. Professor Voigt was an illustrious researcher and innovator. Professor Voigt's research interests included auditory neurophysiology, specifically cochlear nucleus neural circuitry, heavy metal detection and global health. He was a dedicated professor and mentor to students providing consistent guidance and mentorship.

Professor Voigt served as the President of the Biomedical Engineering Society (BMES) in 1999 and the President of Alpha Eta Mu Beta from 2002 to 2008. He also served as the President of the American Institute for Medical and Biological Engineering (AIMBE) from 2006 to 2007. He received the BMES's President's Award in 2002 and its Distinguished Service Award in 2004, and was elected to the Johns Hopkins Society of Scholars in 2003. Professor Voigt was an AIMBE Founding Fellow in 1998 and a BMES Fellow in 2004. He was selected by the Institute of Electrical and Electronic Engineers (IEEE) as a Distinguished Lecturer from 2012-2013 and was also an honorary member of the Swedish Society of Medical Engineering & Physics in 2012. He received the honor of serving as a Fulbright Scholar in Peru in 2015.

Professor Voigt was a tireless worker. He spent enormous time with IFMBE colleagues at numerous events across the globe, with active involvement. He listened to different points of view on various matters and played a key role in reaching consensus among international colleagues. He was energetic and he showed interest in the BME activities of the constituent societies of IFMBE. He was very good-natured and he worked very well with diverse BME representatives from different countries.

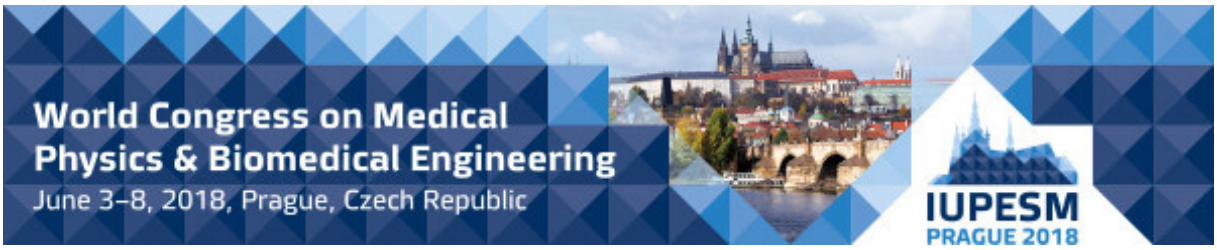
Over the years, Professor Voigt's illustrious efforts positively impacted a huge number of Biomedical Engineers and medical physicists worldwide. To cite just a few, he played key roles in IUPESM World Congresses in Munich in 2009, in Beijing in 2012 and in Toronto in 2015, which are major tri-annual events of Biomedical Engineers and Medical Physicists worldwide, in dozens of IFMBE conferences in Europe, North America, Latin America, and Asian Pacific regions, and in the Global Medical Devices Forum 1, 2 and 3 of the World Health Organization (WHO). He was active in the International Council of Scientific Unions (ICSU), where he initiated several cluster activities of interest to multiple international professional organizations. Professor Voigt took center stage in most events making important statements on the current and emerging trends and challenges, thus encouraging educators, students and researchers across the world.

Professor Voigt was warm, friendly and courteous. Undoubtedly, he was a devoted husband and affectionate father. He cared a lot for his family, talked about them and brought them to several international events. He appreciated their support. He was always kind and generous. He treated everybody fairly and with respect.

Professor Voigt was a dear friend to all of us. Our loss is irrecoverable. Our friendship as well as the delightful times that we, the IFMBE, IOMP and IUPESM volunteers, spent collectively with Professor Voigt to be involved in fantastic things to benefit the global biomedical engineering and medical physics community, will always be cherished. We will sorely miss our friend, Professor Voigt.

With Affection and Fond Memories,
International Friends from IFMBE, IOMP and IUPESM

Announcements



http://www.iupesm2018.org/

Calendar

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
EMedIC Summit 2018 EmedIC Global CUM Summit 2018 http://emedisummit.org/	16 – 20 Aug 2018 Hong Kong Science & Technology Park, Hong Kong
EMF-Med 2018 1st EMF-Med World Conference on Biomedical Applications of Electromagnetic Fields https://emf-med2018.org/	10 – 13 Sep 2018 University of Split, Split, Croatia
CBEB 2018 XXVI Congresso Brasileiro de Engenharia Biomédica http://www.sbeb.org.br/site/en/event/congresso-brasileiro-de-engenharia-biomedica-cbeb/	21– 25 Oct 2018 Rio de Janeiro, Brazil

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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. 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.