

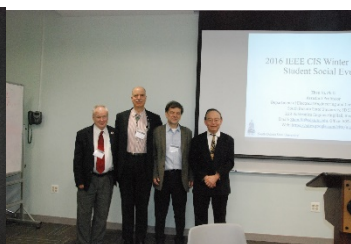
Date:

## IFMBE Committee/Working Group/Division work progress

Reported by Dr. Luis Kun (Chair of Global Citizen Safety & Security WG )

Activities in 2016: (Jan. 2016 ~ Oct. 2016)

- **Invited Plenary Talk: *Healthcare Transformation through Science and Technology Convergence: An Interoperable Holistic Vision...* 2016 IEEE CIS Winter School on Big Data in Computational Intelligence: From Fundamental Principles to Complex Systems, February 19, 2016 - Ballroom, University DC Student Center, Washington DC Sponsor IFMBE Global Citizen Safety and Security WG**

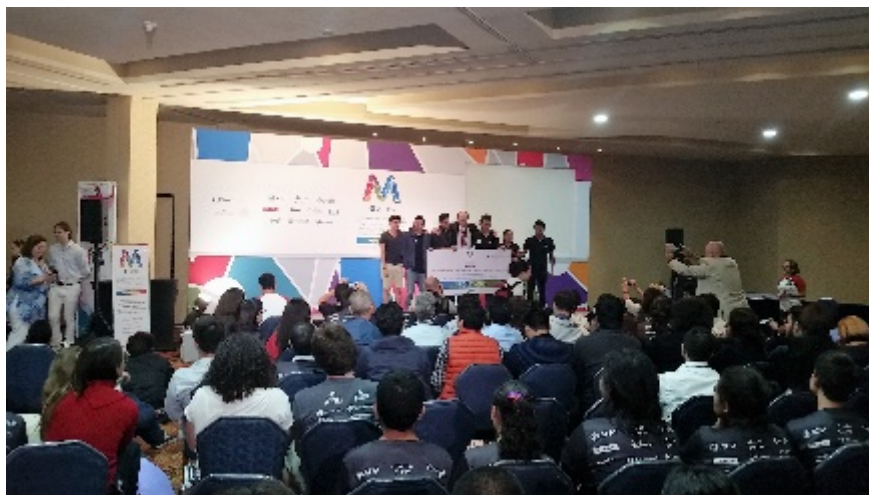


- **MEDICOM 2016 – Special Session of the Working Group: Theme discussed Zika Virus.** Phapos, Cyprus, March 31, 2016

OECD Ministerial Meeting (Economic Ministers of 40 countries) in Cancun Mexico June 2016 Participated in a panel, made a presentation, and was the Judge for the IEEE \$1000 Award of Excellence, during the student Hackathon.



Hackathon: Competition where students can be seen developing applications on the top left and later students getting the award, bottom middle.



- **Invited Panelist Minisymposia – IEEE Life Science Technical Council** "Cyber-Security, IoT, Wearables and the Quantified Self (QS)" @LSTC- Title: Cyberspace, Privacy and Information Security in the Healthcare Sector: Social Implications of Technology **and Invited Lecture** Title: Cyberspace, Privacy and Information Security in the Healthcare Sector: Social Implications of Technology. EMBC Annual International Conference, Orlando Florida, August 16, 2016. Video was made from still pictures during the panel presentation / discussion with members of the audience:  
<https://www.dropbox.com/s/grr7span5ttgrdd/LSTCatEMBC2016.mov?dl=0>
- **Invited Keynote Speaker** to the Technology on Business Congress. Topic: *“Transforming Healthcare through Interoperability”*, Sponsors IEEE - CS

Distinguished Visitor Program and IFMBE Global Citizen Safety and Security WG. San Jose, Costa Rica, August 10, 2016.



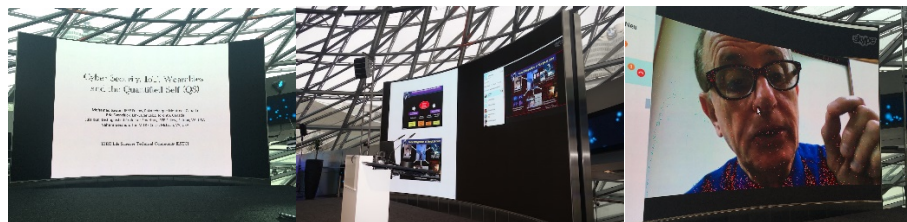
- **Invited Panelist at** <http://www.camtic.org/actualidad-tic/tec-realizo-el-tob-technology-on-business/>



- (Done Via SKYPE) **Invited Panelist Mini-symposia – IEEE Life Science Technical Council** "Cyber-Security, IoT, Wearables and the Quantified Self (QS)" @LSTC- Title: *Cyberspace, Privacy and Information Security in the Healthcare Sector: Social Implications of Technology*, and Invited Lecture Title: *Cyberspace, Privacy and Information Security in the Healthcare Sector:*

Social Implications of Technology. HEALTHCOM Annual International Conference, IEEE Communications Society, Munich Germany, September 16, 2016. Video was made from still pictures during the panel presentation / discussion with members of the audience:

<https://www.dropbox.com/s/s1i8ry7z1ii75mz/LSTCatHealthCom2016.mov?dl=0>



- **Invited keynote:** “*Future Directions of Technology for Humanitarian Actions*” during the IEEE Regional Student Chapters (RRR 2016) meeting in Guayaquil Ecuador, October 7, 2016 <http://sites.ieee.org/sb-pupr/2016/10/10/rrr-reunion-regional-de-ramas-estudiantiles-2016/>



- **Panelist:** “*Social Implications of Technology*” IEEE Regional Student Chapters (RRR 2016) meeting in Guayaquil Ecuador, October 7, 2016



- **Invited opening keynote:** “Transforming Healthcare: A Wellness-Centric Healthcare System Interoperable with Public Health”, **International Forum on Sustainable Development and Climate Change** in Cancun Mexico, October 20, 2016. Technical Sponsor IFMBE Global Citizen Safety and Security WG



- Invited 2<sup>nd</sup> talk: “Critical Infrastructures and Geomedicine”. International Forum on Sustainable Development and Climate Change in Cancun Mexico, Oct. 21/16. Technical Sponsor IFMBE Global Citizen Safety and Security WG.



- **Invited Judge-** to the 1<sup>st</sup> Student Rally on Sustainable Development and Climate Change award. Event that took place during the International Forum on Sustainable Development and Climate Change in Cancun Mexico, Oct. 19-21, 2016 – Technical Sponsor IFMBE Global Citizen Safety and Security WG



- **Received the Medal of Merit from the National Unit of Engineering Associations (Unidad Nacional de Asociaciones de Ingenieria, UNAI) -**  
<http://www.unai.org.mx/noticias/otorga-unai-medalla-al-merito-al-dr-luis-kun/>



- **Invited Sponsored Minicourse on Biological Engineering, Ecology, the Environment and Healthcare.** CLAIB 2016 Conference, Bucaramanga Colombia October 25, 2016. Technical Sponsor IFMBE Global Citizen Safety and Security WG



- **Invited keynote:** “A Wellness-Centric Healthcare System Interoperable with Public Health: The Multidimensional Global Threats, Interdependences of the

Critical Infrastructures, and Geomedicine”. CLAIB 2016, Bucaramanga Colombia October 26, 2016.

- **Invited Keynote Speaker** to the 2016 IEEE International Autumn Meeting on Power, Electronics and Computing (ROPEC 2016). Lecture: “*Transforming Healthcare through Interoperability*” Ixtapa, Zihuatanejo, Mexico November 9, 2016. Technical Sponsor IFMBE Global Citizen Safety and Security WG
- **Invited Lecturer:** “*Health and Technology*”, School of Engineering, Instituto Tecnológico de la Costa Grande, Zihuatanejo, Mexico, November 11, 2016. Technical Sponsor IFMBE Global Citizen Safety and Security WG.

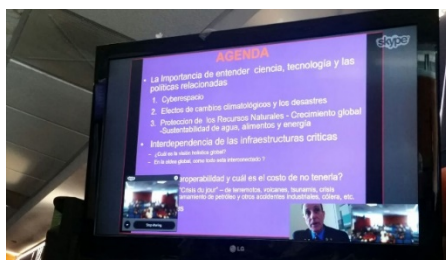
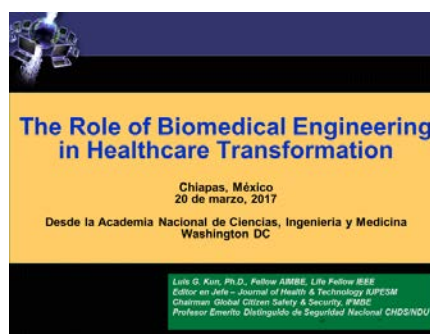


- (Done Via Skype) Saturday December 17, 2016: **Invited Conference Keynote** to the 10th IEEE International Conference on Open Source Systems & Technologies (ICOSST-2016) Presentation: “*Transforming Healthcare through Interoperability*”. IEEE Computer Society & Computational Intelligence Society, Section Lahore, Pakistan. Technical Sponsor IFMBE Global Citizen Safety and Security WG. [http://icosst.kics.edu.pk/2016/main/Invited\\_Speakers](http://icosst.kics.edu.pk/2016/main/Invited_Speakers) and the program description for details at <http://icosst.kics.edu.pk/2016/downloads/ProgramICOSST-2016.pdf> ]



# 2017

- Invited Featured speaker:** *“The Role of Biomedical Engineering in Healthcare Transformation”* (Done via SKYPE from the US National Academies (Science, Engineering and Medicine) in Washington DC) to the Global Medical Engineering Physics Exchanges & Pan American Health Exchanges GMEPE/PAHCE 2017 held in Chiapas Mexico - <http://www.pahce.org/P7ProgramDETEN.htm> Location: Building UD1, 1<sup>st</sup> Floor, Auditorium 10:00-11:00, March 20, 2017. Technical Sponsor IFMBE Global Citizen Safety and Security WG.



- **Invited Plenary Keynote** to the TECNOTROPICA 2017 Conference held in Morelia, Mexico March 22, 2017. ” **SOCIAL IMPLICATIONS OF TECHNOLOGY- THE IMPORTANCE OF EDUCATION IN SCIENCE AND TECHNOLOGY FOR THE DEVELOPMENT OF A NATION.** Technical Sponsor IFMBE Global Citizen Safety and Security WG.



- Invited Keynote Speaker to the EMBS 2<sup>nd</sup> Turkey Conference – Presentation: *“GEOMEDICINE ... the missing link for Wellness through Disease Prevention”*, May 6, 2017. Yeditepe University, Istanbul Turkey. Technical Sponsor IFMBE Global Citizen Safety and Security WG.
- Special session of the IFMBE Global Citizen Safety and Security WG. Topic: *“Privacy and Security of Medical Information”*. June 11-15 EMBEC Conference in Tampere, Finland.
- Invited Keynote speaker to the 30<sup>th</sup> IEEE International Symposium on Computer-Based Medical Systems (IEEE CBMS 2017) Topic: *“Geomedicine: the key to Personalized Health, Wellness and disease prevention”*.  
<http://cbms2017.org/content/keynotes> June 22-24, Thessaloniki, Greece
- Invited Keynote speaker – Week of the Panamerican Engineer -July 19-21, 2017. El Salvador
- Invited Keynote Speaker to the International Congress of Ele.ctrical Engineering, Electronics and Computing (XXIV Congreso Internacional de

Ingeniería Eléctrica, Electrónica y Computación) – INTERCON 2017

<http://intercon.org.pe/ponentes-intercon-2017-unsaac/> – Student Branch IEEE.

August 15-18, 2017 - Universidad Nacional de San Antonio Abad del Cusco  
(RE IEEE UNSAAC) - CUSCO - PERU.

- Invited Kenote Speaker – Conference on Technologies for Development  
(Congreso de Tecnologías Apropriadas para el Desarrollo) – San Rafael,  
Mendoza, Argentina. September 13-16, 2017.  
<http://www.frsr.utn.edu.ar/energias/> Technical Sponsor IFMBE Global Safety  
and Security WG.
- Invited Keynote: “*Future of medical technology and its impact on society*” 21<sup>st</sup>  
Argentinian Congress of the Bioengineering Society (SABI) October 25-27,  
2017; Cordoba Argentina [www.SABI.ORG.AR/SABI2017](http://www.SABI.ORG.AR/SABI2017). Technical sponsor  
IFMBE Global Citizen Safety and Security WG.
- Invited Keynote – November 8-10, 2017, International Congress on  
Rehabilitation in Bioengineering. Universidad del Bosque, Bogota, Colombia.  
Technical Sponsor IFMBE Global Citizen Safety and Security WG.

Require for S.G. Office assistance:

Others: (photos/posters/.....)



1 page CURSO -  
CAMBIOS CLIMATICC

**See attached the Course poster in Spanish made by the Organizers of CLAIB 2016  
in Bucaramanga Colombia.**

## PUBLICATIONS MADE BY MEMBERS OF THE WG IN THE JOURNAL OF HEALTH & TECHNOLOGY

Many articles that appear in the IUPESM/IFMBE Journal of Health and Technology were written by members of the IFMBE Global Citizens Safety and Security WG. In fact Volume 4, Issue 2 of **August 2014** was called **Global Citizen Safety and Security**. (At the time Lodewijk Bos my co-Editor in Chief considered that issue as our best effort to date...). These were the title of the papers and the authors of that special issue:

1. Editorial - Welcome & Introduction Lodewijk Bos, Luis Kun Pages 75-77
2. Original Paper Envisioning patient safety in Telehealth: a research perspective, José Luis Monteagudo, Carlos H. Salvador, Luis Kun Pages 79-93
3. Original Paper Multidisciplinary, holistic and patient specific approach to follow up elderly adults Ricardo Armentano, Luis Kun Pages 95-100
4. Review Paper Wearable systems and mobile applications for diabetes disease management Eleni I. Georga, Vasilios C. Protopappas, Christos V. Bellos... Pages 101-112
5. Original Paper Duplicity at the U.S. EPA Robert Mathews Pages 113-133
6. Original Paper Global food safety product management: a holistic, integrated, strategic approach (*proposed*) William S. Boddie, Luis Kun Pages 135-143
7. Original Paper "The arsenic threat: interdependencies of water, agriculture, food supply, public health and energy critical infrastructure" Luis Kun, B. Linkous, C. Gibson, N. Roldos Pages 145-157
8. Original Paper Securing the food supply chain: understanding complex interdependence through agent-based simulation Alok Chaturvedi, Brian Armstrong, Rashmi Chaturvedi Pages 159-169
9. Original Paper Traceability: an electronic information system for the meat industry Daniel Abraham, Gregorio Dassatti, Aldo Cal Pages 171-176
10. Original Paper The impact of Fukushima on global health: lessons learned from man-made and natural disasters Luis Kun, K. Hirose, B. Katsumi, M. Albin, K. Prendergast... Pages 177-203

11. Original Paper Uninteroperability at the United Nations: the case of a runaway world body Robert Mathews

Similarly, Volume 6, Issue 1, published of **June 2016** was a Special Issue (SI) on **Social Implications of Technologies**, which was a session of the Global Citizen Safety and Security WG organized to occur during [IUPESM's World Congress in Toronto \(June 2015\)](#). This SI included the following papers:

1. Editorial -Introductory remarks to the Special Issue on *Social Implications of Technology*, in Honor of the Late Dr. Lodewijk Bos.- Luis Kun
2. Editorial -Social implications of technology: Introductory words, Herbert F. Voigt
3. Original Paper- Design implications of e-Health systems for a sustainable growth -Laura M. Roa, Javier Reina-Tosina
4. Original Paper - Empowering consumers with improved immunization intelligence through technology and social frameworks - Michael L. Popovich, Erich M. Daub, Michelle Bonjour
5. Original Paper- Information quality in healthcare social media – an architectural approach -D. M. Lopez, B. Blobel, C. Gonzalez.
6. Original Paper- Upgrading translational engineering in medicine and biology through conscious-technology with humanistic motivation and global vision -Ricardo Armentano, Luis Kun
7. Original Paper - Cybercare 2.0: meeting the challenge of the global burden of disease in 2030 -Joseph M. Rosen, Luis Kun, Robyn E. Mosher, Elliott Grigg
8. Original Paper-On protecting & preserving personal privacy in interoperable global healthcare venues - Robert Mathews
9. Original Paper- Patient privacy and security concerns on big data for personalized medicine -B. Blobel, D. M. Lopez, C. Gonzalez

Also in Volume 6 Issue 3 of November 2016 the SI: Health and Technology in Latin America had as Issue Editors Ricardo Armentano Vice Chair of the IFMBE Safety and Security WG and Guillermo Avendaño, President of CORAL. This number was announced at the CLAIB 2016 meeting in Bucaramanga, Colombia and all the articles were available electronically in the Online First section of the Journal website.

1. Review Paper - Clustering of cardiovascular risk factors highlighted the coronary artery calcium as a strong clinical discriminator -C. M. Bucci, W. E. Legnani, R. L. Armentano
2. Review Paper- An IoT approach for integration of computational intelligence and wearable sensors for Parkinson's disease diagnosis and monitoring -Luis Eduardo Romero, Parag Chatterjee, Ricardo Luis Armentano
3. Original Paper- Predicting the effect on pulse wave reflection of different endovascular repair techniques in abdominal aortic aneurysm using 1D patient-specific models - M. E. Casciaro, M. A. Alfonso, D. Craiem, J. M. Alsac, S. El-Batti
4. Original Paper- Elastic mismatch between ePTFE and PLLA vascular grafts in relation to femoral and carotid arteries in humans: in vivo, in vitro and in silico assessment -Manuel Alfonso, Leandro J. Cymberknop, Diego Suárez...
5. Original Paper- Vascular reactivity in healthy subjects: simultaneous characterization of arterial pressure and diameter time profiles - Claudia R. Arbeitman, Leandro J. Cymberknop, Ignacio Farro...
6. Original Paper- Central blood pressure monitoring method oriented to wearable devices -Germán Fierro, Fernando Silveira, Ricardo Armentano
7. Original Paper- Global view and future challenges of biomedical engineering in Latin-America: experts' opinion -Leandro J. Cymberknop, Ricardo L. Armentano
8. Original Paper- Critical importance of multilateral studies related with adverse events in medical devices -Guillermo Avendaño
9. Original Paper- Impact of arterial cross-clamping during vascular surgery on arterial stiffness measured by the augmentation index and fractal dimension of arterial pressure -M. T. Politi, S. A. Wray, J. M. Fernández, J. Gaudric, A. Ghigo...

10. Original Paper-Learning stochastic finite-state transducer to predict individual patient outcomes -Patricia Ordoñez, Nelson Schwarz, Adnel Figueroa-Jiménez...

Volume 7, Issue 1, dated March 2017 Special issue on Systems Medicine - Issue Editors: Constantinos S. Pattichis, Christos N. Schizas, Athos Antoniadis, Panagiotis D. Bamidis This Special issue resulted from the MEDICOM 2016 meeting in Phaphos, Cyprus a year earlier.

Volume 7, Issue 2 will be dated either May or June 2017 and the Topic is Privacy and Security of Medical Information – the Guest Editor is Dr. Robert Mathews Member of the IFMBE Safety and Security WG.

The authors represent academia, industry and government organizations and it represents multidisciplines and interdisciplines from all 5 continents. (Includes authors from: Australia, Estonia, Hungary, Iceland, Israel, Italy, Rwanda, Spain, United Kingdom, United States, etc.) This SI promises to be one of a kind on the topic. No other peer review Journal has had so many different areas covered, and because of its diversity of dedicated expert contributors, it may become a basic manual on Privacy and Security of Medical Information for organizations such as the WHO.

ADDITIONAL PUBLICATION PLANS FOR 2017-2018 by the GCS&S WG include:

1. Special Issue on “*Standards for Interoperability of Medical Devices*” – Guest Editor: Elliott Sloane
2. Special Issue on “*Global Issues of Clinical Engineering*” – Guest Editors: Yadin David and Antonio Fernandez (PAHO)
3. Special Issue on “*Public Policy*” – Guest Editors representing AIMBE’s Board

Notes: