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III ICEHTMC

ROME
OCT 21st - 22nd
2019

INTERNATIONAL
CLINICAL ENGINEERING AND HEALTH TECHNOLOGY MANAGEMENT CONGRESS

GLOBAL CE DAY 10.21

www.icehtmc.com

INVITATION TO ICEHTMC 2019

Dear colleagues and friends,
this is the third event of the International Clinical Engineering and Health Technology Management Congress, a great opportunity to bring together global experts, biomedical and clinical engineers, academics, politicians and decision makers, representatives of the medtech industry and all those involved with the wide variety of health technologies that are shaping the way healthcare is being delivered today and in the future.

The congress, organized by the Clinical Engineering Division of IFMBE, will cover a wide spectrum of topics, from clinical risk management to health technology assessment, from ICT and medical informatics to international standards and regulations, from maintenance and health operations to the development of innovative devices, and many others. The overall goal of the event is to drive an open discussion to share experiences and best practices on the global impact that health technologies have on healthcare quality and effectiveness in different settings; we're building an exciting program with worldwide experts and key opinion leaders, and we're looking forward to great contributions from everyone as posted in the call for abstracts and student competition.

Italy is proud to have been selected to host this event; after the great success of Hangzhou, China and Sao Paulo, Brazil, Rome is now ready to welcome all participants and invited guests. Social events and initiatives will add to the congress experience and we encourage everyone to spend a few more days with us in the Eternal City.

The organizing committee

Stefano Bergamasco, Chair of III ICEHTMC
Tom Judd, Chairman of IFMBE Clinical Engineering Division

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FACULTY

Congress Chair
Stefano Bergamasco

Local Organizing Committee
Lorenzo Leogrande, President of the Local Organizing Committee and Co-Chair
Ernesto Iadanza, Co-Chair
Paolo Lago, Co-Chair
Leandro Pecchia, Co-Chair
Veronica Bacocco
Emilio Chiarolla
Pietro Derrico

Scientific Committee
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Philip Anyango - Kenya
Almir Badnjevic - Bosnia & Herzegovina
Li Bin - China
Cathy Blanc-Gonnet - France
George Boadu - Ghana
Sam ByamUKama - Uganda
Saide Jorge Calil - Brazil
Javier Enrique Camacho Cogollo - Colombia
Mario Castaneda - USA
Emilio Chiarolla - Italy
Dan Clark - UK
Murillo Contó - Brazil
Yadin David - USA
Anthony Easty - Canada
Giuseppe Fico - Spain
Monique Frize - Canada
Keiko Fukuta - Japan
Bill Gentles - Canada
Peter Grainger - Ireland
Ashenafi Hussein - Ethiopia
Ernesto Iadanza - Italy
Tom Judd - USA
Abdelbaset Khalaf - South Africa
Zheng Kun - China
Paolo Lago - Italy
Lorenzo Leogrande - Italy
KP Lin - Taiwan
Ratko Magjarevic - Croatia
Elena Mar - Spain
Fabiola Martinez - Mexico
Melvin Mazid - Australia
Daton Medenou - Benin
Mario Medvedec - Croatia
Claudio Meirovich - Spain
Umberto Nocco - Italy
Busola Oronti - Nigeria
Martha Ortiz Posadas - Mexico
Nicolas Pallikarakis - Greece
Christophe Parret - France
Leandro Pecchia - UK
Ledina Picari - Albania
Mladen Poluta - South Africa
Adrian Richards - Australia
Rossana Rivas - Perù
John Robson - Australia
Mario Secca - Mozambique
Jitendar Sharma - India
Elliot Sloane - USA
Barbara Vermeulen - Holland
Binseng Wang - USA
James Wear - USA

Student Paper Competition Committee
Patrizio Accardo - Italy
Angelo Buizza - Italy
Saide Jorge Calil - Brazil
Sergio Cerutti - Italy
Dan Clark - UK
Tobey Clark - USA
Monique Frize - Canada
Eugenio Guglielmelli - Italy
Frank Painter - USA
Ricardo Silva - Venezuela
Kalliroi Stavrianou - UK

SUPPORTING ORGANIZATIONS

ICEHTMC would like to thank the following organizations for their support and contribution to the Congress.

Special thanks to **China Medical Devices**:
Founded in 1986, China Medical Devices is the core journal under China Ministry of Science and Technology, that covers all fields in clinical engineering and ranked as the best medical device journal (by academic influence factor) in China. It is also serve as the association's journal for 6 organizations including Clinical Engineering Division of Chinese Medical Association, Chinese Medical Doctor Association, Chinese Society of Biomedical Engineering, Chinese Research Hospital Association, Chinese Non-Government Medical Institutions, etc. By 2018, the journal established branches in 34 provinces (including Taiwan), 16 clinical engineering training centers, and data analysis team with 12,000 medical device section's chiefs and engineers from over 4,200 hospitals.

PROGRAM AT A GLANCE

MONDAY, 21ST OCTOBER 2019

	Auditorium	Room Inghilterra	Room San Luca	Room Italia	Room Germania
09:00 10:30	**Opening ceremony**				
10:30 10:45	Networking and Refreshment Break • Exhibition				
10:45 12:30	**Parallel session** Medical equipment management in hospitals	**Parallel session** Artificial Intelligence, Big Data	**Parallel session** Technologies for home care	**Poster session & Exhibition**	**Workshop IUPESM A**
12:30 14:00	Networking and Lunch Exhibition				
14:00 15:50	**Plenary session - HTM** Medical equipment management in hospitals			**Poster session & Exhibition**	**Workshop IUPESM B**
15:50 16:00	Networking and Refreshment Break • Exhibition				
16:00 17:45	**Parallel session** Health Technology Assessment	**Parallel session** ICT and medical informatics	**Parallel session** Health Operations - Project Management	**Poster session & Exhibition**	**Workshop Enproject Medicali** High disinfection devices
17:45 19:15	**Plenary session - Education** IFMBE Global BME & CE Education status				
20:30 23:00	**Social dinner** CED HT Challenge awards				

TUESDAY, 22ND OCTOBER 2019

	Auditorium	Room Inghilterra	Room San Luca	Room Italia	Room Germania
08:00 09:00		**Breakfast session** AAMI 2020 Global Track discussion			**Breakfast session** Significant Developments in CE-HTM in the last 10 years
09:00 10:30	**Plenary session and round table - Policy**				**Workshop ERBE** High frequency electrosurgery
10:30 10:45	Networking and Refreshment Break • Exhibition				
10:45 12:30	**Parallel session** Development of innovative devices	**Parallel session** Global challenges, sustainable development	**Parallel session** Education, certification, training	**Poster session & Exhibition**	**Workshop CISA** Smart Hospital for a sustainable economy
12:30 14:00	Networking and Lunch Exhibition				
					Luncheon Workshop ASP MD reprocessing
14:00 15:30	**Plenary session and round table - HTA** Health Technology Assessment			**Poster session & Exhibition**	**Workshop Althea** Managed Equipment Services/PPP
15:30 15:45	Networking and Refreshment Break • Exhibition				
15:45 17:30	**Parallel session** Design of health facilities and systems - Health Technology Management in hospitals	**Parallel session** Clinical risk management, safety, emergency preparedness	**Parallel session** International standards and regulations	**Poster session & Exhibition**	**Workshop HIMSS/IHE**
17:30 18:30	**Closing ceremony**				

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PROGRAM

// Morning

09:00 • 10:30 // Auditorium

Opening ceremony

Introduction: **Stefano Bergamasco**, *Congress Chair* // **Tom Judd**, *IFMBE CED Board Chair*
Welcome address: **Lorenzo Leogrande**, *AIIC President*
Welcome address: **Prof. Rocco Bellantone**, *Dean of Faculty of Medicine and Surgery, Università Cattolica del Sacro Cuore, Rome*
Welcome address: **Paola Pisano**, *Minister for Technological Innovation and Digitization* (invited)
Keynote speech: **Adriana Velazquez**, *WHO*
Global CE Day video - Connection with China

10:30 • 10:45

Networking and Refreshment Break • Exhibition

10:45 • 12:30 // Auditorium

Parallel session // MEDICAL EQUIPMENT MANAGEMENT IN HOSPITALS

Session Chairs: Tobey Clark, *USA* // Zheng Kun, *China*
Keynote speaker: Legal Metrology Framework for Medical Devices - Post-market surveillance experiences // Almir Badnjevic, *Bosnia and Herzegovina*

Forecasting failures with sparse data: decision support for x-ray tube replacement deals
// Emmanuel Akinluyi, *United Kingdom*

Automatic detection and evaluation research of CT image performance based on remote quality control
// Yutong Zhong, *China*

Proactive maintenance of medical devices and equipment on cruise ships
// Ennio Amori, *Italy*

Research on maintenance management of equipment of Magnetic Resonance Imaging based on RAM
// Chu Chengchen, *China*

Performance evaluation of CES: identification and measurement of KPIs with Pareto diagrams
// Alessia Cecchini, *Italy*

National inventory of high tech medical equipment
// Elsa Arellanes, *Mexico* (remote presentation)

10:45 • 12:30 // Room Inghilterra

Parallel session // ARTIFICIAL INTELLIGENCE, BIG DATA

Session Chairs: Javier Camacho, *Colombia* // Ernesto Iadanza, *Italy*
Keynote speaker: Giovanni Arcuri, *Italy*

Improving TB/lymphoma differentiation using natural language processing and ensemble methods
// Moanda Diana Pholo, *South Africa*

A system for hypoglycaemia detection using non-invasive wearable sensors
// Mihaela Porumb, *United Kingdom*

Big data analytics in practice - A strategic approach to manage the regional healthcare system
// Andrea Soranzio, *Italy*

PHCHAT: a chatbot mobile application to assist professionals in primary health care // Silvia Martini, *Brazil*

ML & AI, image classification and recognition for the remote take charge of patients and the improving of melanoma early diagnosis
// Demetrio Naccari Carlizzi, *Italy*

PPADS: physician-parent decision support for the neonatal intensive care unit (NICU)
// Monique Frize, *Canada*

10:45 • 12:30 // Room San Luca

Parallel session // TECHNOLOGIES FOR HOME CARE

Session Chairs: Michelangelo Bartolo, *Italy* // Bill Gentles, *Canada*
Keynote speaker: International Biomedical Services Foundation (IBSF)
// Jitendar Sharma, *India*

Development of a biomechatronic device for motion analysis through a stereoscopic vision module development of an augmented reality interface for adaptive and customized motor rehabilitation in a clinical and domestic environment
// Francesca Pristerà, *Italy*

Biomedical engineers role supporting community based medical equipment in Ireland
// Liam Hackett, *Ireland*

ARC-intellicare, a home-based platform for an integrated rehabilitation care: the Italian case study
// Alice Mantoan, *Italy*

Videodialysis: a virtual caregiver for a new type of assisted peritoneal dialisys
// Marco Cerrato, *Italy*

Diagnostic Imaging at home in urgent, low acuity situations: a possible role for paramedics?
// Victoria Young, *Canada* (remote presentation)

Development of IOT-based patient health monitoring and management system
// Busola Oronti, *Nigeria*

10:45 • 12:30 // Room Italia

Poster session // DEVELOPMENT OF INNOVATIVE DEVICES

10:45 • 12:30 // Room Germania

Workshop IUPESM A see page 26

12:30 • 14:00

Networking and Lunch Exhibition

// Afternoon

14:00 • 15:50 // Auditorium

Plenary session // HTM

MEDICAL EQUIPMENT MANAGEMENT IN HOSPITALS
Session Chairs: Almir Badnjevic, *Bosnia and Herzegovina* // Lorenzo Leogrande, *Italy*

Which American clinical engineering practices should you adopt?
// Binseng Wang, *USA*

Role of regional QC center in medical equipment management quality
// Zheng Kun, *China*

Feasability study of a collaborative medical device non-critical spare-parts database
// Thomas Gauliard, *France*

Advantages of a regional clinical engineering service model
// Kim Greenwood, *Canada*

Digital Transformation of Healthcare Technology Management - a Medtech's Perspective
// Simon Hemsworth, *GE Healthcare*

Technology, the core of Medtronic DNA
// Yannick Loosli, *Medtronic Europe*

PANEL: SUCCESS FACTORS FOR EMERGING NATIONAL CE PROGRAMS
Eastern Europe (Balkans) // Ledina Picari
Africa (Ethiopia, Mozambique) // Ashenafi Hussein
Asia (Bangladesh) // Md. Ashrafuzzaman
WPRO (Philippines) // Benito Macalinao
EMRO (Saudi Arabia) // Salem Batel Salem Alqahtani

14:00 • 15:50 // Room Italia

Poster session
// INTERNATIONAL STANDARDS AND REGULATIONS
// EDUCATION, CERTIFICATION, TRAINING
// DESIGN OF HEALTH FACILITIES AND SYSTEMS

14:00 • 15:50 // Room Germania

Workshop IUPESM B see page 27

15:50 • 16:00

Networking and Refreshment Break • Exhibition

16:00 • 17:45 // Auditorium

Parallel session // HEALTH TECHNOLOGY ASSESSMENT
Session Chairs: Paolo Lago, *Italy* // Raquel Canovas Paradell, *Spain*
Keynote speaker: Dan Clark, *United Kingdom*

A decision-making support algorithm for active implantable medical device evaluation
// Martina Andellini, *Italy*

Real world data, real world evidence and sentiment analysis in HTA
// Piergiorgio Salerno, *Italy*

Single-use endoscopy: evaluation by HB-HTA approach and comparison with reprocessable devices
// Carla Meloni, *Italy*

Tools for integrated management of childhood illness
// Kanishk Gupta, *India*

Sepsis and mortality predictive models using deep learning: a progressive learning analysis
// Javier Camacho, *Colombia*

Evaluation of in-service performance of different brands of MRI devices in 1.5T
// Longchen Wang, *China*

16:00 • 17:45 // Room Inghilterra

Parallel session // ICT AND MEDICAL INFORMATICS

Session Chairs: Steve Grimes, *USA* // Andrea Gelmetti, *Italy*
Keynote speaker: Mario Lugli, *Italy*

ORÁO: ophthalmologic medical record for chromatic pupillometry
// Rachele Fabbri, *Italy*

GDPR, cybersecurity and medical devices (MD): how the data protection impact assessment (DPIA) affects the calculation of a risk evaluation index for the risk management of MD connected to a hospital medical-IT network
// Michele Bava, *Italy*

Simwalk: an approach for similarity search in medical image databases
// Joaquim Cezar Felipe, *Brazil*

Improving patient flow logistics in a cardiac surgery environment: a single centre pivotal trial
// Francesca Pellegrino, *Italy*

Digitizing malaria case management protocol in Ghana: a pilot study
// George Boadu, *Ghana*

Quality integrated health network
// Ricardo Silva, *Venezuela* (remote presentation)

16:00 • 17:45 // Room San Luca

Parallel session // HEALTH OPERATIONS/PROJECT MANAGEMENT

Session Chairs: Giovanni Poggialini, *Italy* // Renato Garcia, *Brazil*
Keynote speaker: Murillo Contò, *Brazil*

HTPMP–Health Tech Project Mng Platform. Simplify project mng implementation in health tech context
// Giulio Iachetti, *Italy*

Operating room management: the re-engineering of processes on a quality path
// Anna Cantone, *Italy*

Entrepreneurial model for CE start-ups based on lean start-ups and saint start-ups tool application
// Luis Eduardo Fernandez Aviles, *Mexico*

Managerial methods for medical devices and development for innovation in the clinical organization
// Manuela Stroili, *Italy*

The unique role of a clinical engineer in hospital and healthcare management
// Brian Kearney, *Ireland*

Principles and practice of medical equipment planning in hospitals of traditional Chinese medicine
// Lou Xiao Min, *China*

16:00 • 17:45 // Room Italia

Poster session
// GLOBAL CHALLENGES, SUSTAINABLE DEVELOPMENT
// CLINICAL RISK MANAGEMENT, SAFETY, EMERGENCY PREPAREDNESS

16:00 • 17:45 // Room Germania

Workshop Enproject Medicali // HIGH DISINFECTION DEVICES see page 31

17:45 • 19:15 // Auditorium

Plenary session // EDUCATION
IFMBE GLOBAL BME & CE EDUCATION STATUS

Session Chair: Tom Judd, *USA*

Biomedical Engineering Global Education Models
// Shankar Krishnan, *President IFMBE*

European CE Education Status
// Paolo Lago, Nicolas Pallikarakis, Leandro Pecchia

Global CE Events: the Global CE Summit & CE Day
// Yadin David, *CED*

IFMBE/CED awards and Student paper awards

20:30 • 23:00

Social dinner

CED HT Challenge awards

// Morning

08:00 • 09:00 // Room Inghilterra

Breakfast session // AAMI 2020 GLOBAL TRACK DISCUSSION

Session leader: Brad Schoener, *USA*

08:00 • 09:00 // Room Germania

Breakfast session
// SIGNIFICANT DEVELOPMENTS IN CE-HTM IN THE LAST 10 YEARS

Session leaders: Abdelbaset Khalaf, *South Africa* // Andrei Issakov, *Russia*

09:00 • 10:30 // Auditorium

Plenary session and round table // POLICY

Session Chair: Yadin David, *USA*

Brief recap of Day 1 // Yadin David

Keynote speaker: CE Global Grand Challenge: Effective CE Health Policy, Innovation, Leadership, Strategy, and Action Plan to Overcome Global Healthcare Disparities: Case Study of Telehealth
// Elliot Sloane, *USA*

Expert panel - How can countries develop Policy and help implement Solutions
// Adriana Velazquez, Jitendar Sharma, Tobey Clark, Paolo Lago, Nicolas Pallikarakis, Renato Garcia, Roberto Ayala (remote presentation)

09:00 • 10:30 // Room Germania

Workshop ERBE // HIGH FREQUENCY ELECTROSURGERY see page 32

10:30 • 10:45

Networking and Refreshment Break • Exhibition

10:45 • 12:30 // Auditorium

Parallel session // DEVELOPMENT OF INNOVATIVE DEVICES

Session Chairs: Keiko Fukuta, *Japan* // Fred Hosea, *Ecuador*
Keynote speaker: Curing clinical data disorder - Leveraging big data & interoperability to make a difference in global healthcare // Eric Rosow, *USA*

Early identification of the dysgraphia through kinematic analysis of handwriting
// Giulia Silveri, *Italy*

Social robots in healthcare, a five year on-the-field experience at the Casa Sollievo della Sofferenza research hospital
// Francesco Giuliani, *Italy*

Preparation and characterization of bioactive functionalized silk-based films for wound healing
// Sushma Adhikari, *Nepal*

Research on a flexible nanosensor with visual detection for radial artery puncture guidance // Zhang Qian, *China* (remote presentation)

Development of an ultrasound phantom for investigating brain tissue pulsations
// Georgina de Vries, *United Kingdom*

D-shoe: a smart shoe to detect walking dysfunction
// Ali Mir Farooq, *Pakistan*

10:45 • 12:30 // Room Inghilterra

Parallel session // GLOBAL CHALLENGES, SUSTAINABLE DEVELOPMENT

Session Chairs: Mladen Poluta, *South Africa* // Ashenafi Hussein, *Ethiopia*
Keynote speaker: Ways to support HTM development in LMICs from the perspective of an NGO // Cathy Blanc-Gonnet, *France*

A device for tracking the photo-pupillary reflex via smartphone in LMICs
// Davide Piaggio, *United Kingdom*

Global clinical engineering Center for Excellence (CFE)
// Dan Clark, *United Kingdom*

IFMBE CED study addressing WHO 2019 challenge #1 in global CE-HTM
// Thomas Judd, *USA*

Implementing safer births bundle to improve intrapartum care
// Sakina Girnary, *Norway*

UBORA: Euro-African open biomedical engineering E-infrastructure
// Licia Di Pietro, *Italy*

Clinical Engineering – Health Technology (HT) Management in the Middle East and North Africa (MENA) Region
// Riad Farah, *Lebanon* (remote presentation)

10:45 • 12:30 // Room San Luca

Parallel session // EDUCATION, CERTIFICATION, TRAINING

Session Chairs: Fabiola Martinez, *Mexico* // Christophe Parret, *France*
Keynote speaker: Implications of CED Global Body of Knowledge & Practice Survey // Saide Calil, *Brazil*

IFMBE/CED recognition of certification/registration programs for clinical engineering practitioners
// James Wear, *USA* (remote presentation)

Introduction of a re-engineered certification programme for clinical engineers in Ireland
// Aaron O'Reilly, *Ireland*

How to write clinical engineering manuscript
// Yadin David, *USA*

Clinical engineering skill & curriculum for 21st century workforce
// Elliot Sloane, *USA*

A study on the evolution of biomedical engineering education in Europe
// Christos Alexandropoulos, *Greece*

Global development in health care technology management education
// Abdelbaset Khalaf, *South Africa*

10:45 • 12:30 // Room Italia

Poster session
// MEDICAL EQUIPMENT MANAGEMENT IN HOSPITALS - PART 1

10:45 • 12:30 // Room Germania

Workshop CISA // SMART HOSPITAL - HINTS FOR A SUSTAINABLE ECONOMY see page 33

12:30 • 14:00

Networking and Lunch Exhibition

12:30 • 14:00 // Room Germania

Luncheon Workshop ASP // MD REPROCESSING see page 33

// Afternoon

14:00 • 15:30 // Auditorium

Plenary session and round table // HTA

Health technology assessment meeting with international HTA societies
Session Chairs: Americo Cicchetti, *Italy* // Ernesto Iadanza, *Italy*
Introduction: Pietro Derrico, *Italy* // Marcella Marletta, *Italy*
Invited Associations:
HTAi - Health Technology Assessment International
ISPOR - The Professional Society for Health Economics and Outcomes Research
// Ramiro Gilardino
MEDTECH-Europe // Andrea Rappagliosi
IUPESM / IFMBE // Leandro Pecchia
INAHTA - International Network of Agencies for Health Technology Assessment
// Sophie Werkö
WHO - World Health Organization // Adriana Velazquez

14:00 • 15:30 // Room Italia

Poster session
// MEDICAL EQUIPMENT MANAGEMENT IN HOSPITALS - PART 2
// HEALTH TECHNOLOGY ASSESSMENT

14:00 • 15:30 // Room Germania

Workshop Althea // MANAGED EQUIPMENT SERVICES/PPP see page 34

15:30 • 15:45

Networking and Refreshment Break • Exhibition

15:45 • 17:30 // Auditorium

Parallel session // DESIGN OF HEALTH FACILITIES AND SYSTEMS - HEALTH TECHNOLOGY MANAGEMENT IN HOSPITALS

Session Chairs: Umberto Nocco, *Italy* // Ewa Zalewska, *Poland*
Keynote speaker: Integration of CE-HTM and IT In Healthcare Systems
// Brad Schoener, *USA*

RFID for clinical engineering: equipment management of A.O.U. Federico II
// Mariangela Matano, *Italy*

Design of a management model for the prioritization of biomedical technological investments and for the transfer of clinical activities inside a new hospital
// Giorgia Grando, *Italy*

A novel computer-aided facility management system
// Alessio Luschi, *Italy*

The role of the clinical engineer in hospital electrical infrastructure
// Colm McGrath, *Ireland*

Emergency relocation of a cardio-surgical health facility due to war
// Tchoutat Lionel Djankou, *Cameroon*

New hospital construction equipment preinstallations planning
// Claudio Meirovich, *Spain*

15:45 • 17:30 // Room Inghilterra

Parallel session // CLINICAL RISK MANAGEMENT, SAFETY, EMERGENCY PREPAREDNESS

Session Chairs: Jingyi Feng, *China* // Mario Castañeda, *USA*
Keynote speaker: Yadin David, *USA*

Bedside communication and management of vital parameters and alarms in care-intensive environments: simulation model development for the clinical effectiveness analysis of an innovative technology
// Immacolata De Rosa, *Italy*

Beyond big data: leveraging CMMS data to improve patient outcomes and access for international health
// Jennifer DeFrancesco, *USA*

Using UV room disinfectors in a hospital setting
// Jonathan Gaev, *USA*

Visualization tool of the medication process to help increase medication safety
// Anne ten Wolde, *The Netherlands*

Reliability study of PET-CT based on FMECA
// Chen Ying, *China*

Measurement and evaluation of acoustic noise exposure during clinical MRI exam for patient and staff
// Liu Long, *China*

15:45 • 17:30 // Room San Luca

Parallel session // INTERNATIONAL STANDARDS AND REGULATIONS

Session Chairs: Ledina Picari, *Albania* // Nicolas Pallikarakis, *Greece*
Keynote speaker: Salvatore Scalzo, *EU Commission*

Global health technology regulation project, 2019-2021, IFMBE CED
// Peter Grainger, *Ireland*

Development of a peer review process for clinical engineering services
// Bill Gentles, *Canada*

Medical devices in Africa: ethical aspects and universality of norms
// Alessia Maccaro, *Italy*

Guideline for addictive manufacturing centers in clinical institutions
// Stefania Marconi, *Italy*

High-level regulation of clinical engineering activities in Turkey
// Tuncay Bayrak, *Turkey*

Service models of clinical engineering
// Ana Tereza Cardoso de Freitas Gama, *Brazil*

15:45 • 17:30 // Room Italia

Poster session
// ICT AND MEDICAL INFORMATICS
// TECHNOLOGIES FOR HOME CARE
// HEALTH OPERATIONS/PROJECT MANAGEMENT
// ARTIFICIAL INTELLIGENCE, BIG DATA

15:45 • 17:30 // Room Germania

Workshop HIMSS/IHE see page 28

17:30 • 18:30 // Auditorium

III ICEHTMC closing remarks and key messages
Pass the torch to IV ICEHTMC 2021

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SPECIAL WORKSHOPS

// 21ST OCTOBER //

WORKSHOP IUPESM A // Room Germania

Part 1

Chairs: James Goh // Stefano Bergamasco

10:45 • 11:00

Welcome Message to the IUPESM MEP Workshop Participants by IUPESM
// James Goh, *IUPESM President*

11:00 • 11:15

MSc Medical Physics Curriculum including Clinical Engineering Elements
// Slavik Tabakov, *IUPESM* // Renato Padovani, *ICTP*

11:15 • 11:30

Medical devices in LMICs: global gaps, trend and opportunities
// Leandro Pecchia, *IUPESM*

Part 2 - Endorsed by IUPESM WiMPBE

Chairs: Leandro Pecchia // Adriana Velazquez Berumen

11:30 • 11:45

The need for integration among BME and MPs, the WHO prospective
// Adriana Velazquez Berumen, *WHO*

11:45 • 12:15

South East European International Institute for Sustainable Technologies (SEEIIST)
// Sanja Damjanovic, *Ministry of Science of Montenegro*

12:15 • 12:30

IUPESM (IFMBE & IOMP) activities and opportunities in the field of early career development
// Magdalena Stoeva, *IUPESM* // Kang Ping Lin, *IUPESM*

WORKSHOP IUPESM B // Room Germania

Part 3

Chairs: SM Krishnan // Ratko Magjarevic

14:00 • 14:15

Legal Metrology Framework for Medical Devices - Post-market surveillance experiences
// Almir Badnjevic, *IFMBE*

14:15 • 14:30

Health care equipment management with ICT tools in Burundi and in Rwanda
// Marc Nyssen, *IUPESM*

14:30 • 14:45

EAMBES activities to promote Biomedical Engineering and Medical Physics in Europe
// Timo Jamsa, *IUPESM*

Part 4

Chairs: Slavik Tabakov // Sergio Silvestri

14:45 • 15:00

Digital PET: A Synergy among Medical Engineering and Physics in China
// Qingguo Xie, *HUST*

15:00 • 15:15

Career Path as Young Medical Physicist and Experience in Leadership
// Francis Hasford, *FAMPO*

Part 5

Chairs: Magdalena Stoeva // Kang Ping Lin

15:15 • 15:40

Discussion and Position statement

15:40 • 15:50

Closing

// 22ND OCTOBER //

WORKSHOP HIMSS/IHE // Room Germania

15:45 • 17:30

Keynote speakers
Charles Alessi, *Chief Clinical Officer HIMSS international*
Elliot Sloane, *CED Collaborator, Co-Chair Emeritus IHE International board*

Round table coordinated by Lapo Bertini, *IHE Europe Vendor Co-Chair*
Maurizio Rizzetto, *CE & AIIC representative in IHE Italy - HIMSS Italian Community board*
Elena Sini, *Chair HIMSS Europe*
Manish Kohli, *Past Chair Global Board of Directors, HIMSS international*
Brad Schoener, *AAMI & Steve Grimes, ACCE - Health Technology Alliance*

Medtronic

COMPANY WORKSHOPS

// 21ST OCTOBER //

16:00 • 17:45 // Room Germania

WORKSHOP ENPROJECT MEDICALI

A disruptive technology for infection control in critical area and reduction of hospital liquid waste

Taking care of our community throughout its entire life is the scope of our research.
Recent studies highlight how growing hospital infections and sepsis diseases cause 7000 death per year in Italy (source National Forum promoted by Centro Studi Mediterranea Europa 2018).
Modern healthcare systems need to face this issue and apply innovative technologies to improve patients and medical staff safety.
Enproject Medicali Srl, being specialized in biomedical devices, has understood these needs and has developed a concrete and high-performing technology focused on risk management and human resources care, named ABT (Axivirium Biomedical Technology).
Exclusive and unique devices that assure in real time complete degradation of liquid biological waste and neutralization of chemical ones produced by diagnostic and therapeutic treatment.
A valid support to nosocomial infections prevention and to reduce microbial resistance to antibiotics, with also a remarkable advantage to secure waste disposal.
Technical and Scientific validation will be provided by experts from:

Introduction: Dott. Umbro Sciamannini, *Founder & Chief Scientist Enproject Medicali Srl,* **Company Policy - Reason**

Moderator: Prof. Sergio Silvestri, *Biomedical Engineering Campus Biomedico Roma*
Biomedical structure and clinical validation

Speaker: Dott. Angelo Rellini, *Esperto Mondo IT R&D Enproject Medicali Srl*
Functioning and technology

Speaker: Ing. Giorgio Calenda, *Medical Engineering IDI Roma*
Biocircular economy - Competitors

Speaker: Rag. Andrea Maggi, *Senior Expert Environmental Analysis*
ABT Technological Sustainability

Speaker: Ing. Federica Baccaille, *Management Engineering - Enproject Medicali Srl*
Marketing and Company Vision

// 22ND OCTOBER //

09:00 • 10:30 // Room Germania

WORKSHOP ERBE

The physics of electrosurgery - perhaps one of the most misunderstood surgical technologies

Mr. Jens Bettin, *Erbe Elektromedizin GmbH*

Up to 5000 volts, current peaks of 500 mA, ranging up to 5 amperes in special applications - for many users electrosurgery is a plain mystery.
The physical principles are rarely questioned or often misunderstood. Nevertheless electrosurgery (or HF-surgery) is one of the most used surgical technologies in probably almost every operating theater in the world. Still – if it is applied incorrectly, this energy can cause harm to the patient and also to the surgeon.
Therefore it is essential to inform and train the users on the functional principles correctly, how to use electrosurgery safely and how to achieve the optimal tissue effect by selecting different wave forms (modes). To understand electrosurgery technically, it is helpful to understand the role of spark formation and the modulation of the wave forms. This lecture will cover typical examples of wave forms, modern hybrid technologies and discuss the most frequent misconceptions.

Jens Bettin is responsible for the Erbe Academy. He has been in the international medical device industry since 2001 in various functions: At ResMed Germany for technical communication and user interface design, and at Gambro for quality communications and e-learning. Since 2010 he is in charge of the global product training and e-learning at Erbe. The Erbe Academy team gives about 200 lectures and courses per year for surgeons, nurses and biomedical engineers on electrosurgery, plasmasurgery, thermofusion, hydrosurgery and cryosurgery.
Jens Bettin is the author of various e-learning courses on electrosurgery.

10:45 • 12:30 // Room Germania

WORKSHOP CISA

Smart Hospital - Hints for a sustainable economy

CISA is an international company dedicated to infection control and at the forefront of the smart hospital of the future. The CISA brand has been recognized for its top class research and development, design, engineering, production and sale of complete sterilization systems for more than 60 years. As part of its core business, CISA offers complete supply chain managed systems for the decontamination of surgical instruments for small, medium and large central sterile service departments. Cisa Campus, Cisa Production's training center, thanks to its workshop "Smart Hospital - Hints for a sustainable economy" will give the possibility to reflect and debate one of the main challenges that should be taken without any hesitation, in order to develop a Smart Hospital that really protects our health: sustainability.
What is the state of art of the research? What are the solutions to accompany a transition towards a circular economy in the medical field, focusing on the rising sustainability?
Important research studies and witnesses will try to demonstrate how today's products, as well as waste, can become tomorrow's resources, hindering the increase of the medical field cost and a negative impact on the community and the environment.

12:30 • 14:00 // Room Germania

LUNCHEON WORKSHOP ASP

MD reprocessing

The sterilization process is a special process, i.e. a process whose final result cannot be verified except through destructive tests. For this reason, both the Medical Device Directive in its safety requirements and the ISO 13485 standard require that these processes be validated. During the demonstration session it will be possible to attend the validation process of a STERRAD® System as defined by the Manufacturer of the equipment in accordance with ISO 14937. While the validation will be performed, you can interact with the various components of the equipment and know their influence on the sterilization process, you can observe the instrumentation specifically designed to perform the tests required, all described and presented by a technician qualified by the Manufacturer for the execution of this fundamental process.

14:00 • 15:30 // Room Germania

WORKSHOP ALTHEA

PPP & MES: Improving Access To Medical Tecnology

ALTHEA
INTEGRATED HEALTHCARE TECHNOLOGY MANAGEMENT

Speakers:
Rafael Provencio, *Group Commercial & Marketing Director (Althea Group)*
Umberto Rostello, *Technical Director (Althea Group)*
Stephen Tuddenham, *Director of Strategy and Performance (Althea Group)*
Velia Leone, *Founding Partner (Studio Legale Leone & Associati)*

Already established in many parts of the world, Public-Private Partnership (PPP) and Managed Equipment Services (MES) are rapidly growing in popularity and are increasingly providing a leading approach for medical technology management and investment.
For the ever-growing requirements of technology in healthcare, providers both private and public are looking for new ways to invest, manage and optimise their medical technology assets; creating clear competitive and clinical advantages for providers and with better access to the latest technology, improving outcomes for patients.

Althea's workshop aims to help delegates understand the differences in the two models, the benefits they drive and how they could be adapted and implemented to best serve particular requirements. The workshop will present and explore two case studies; one from the UK's NHS and another from a Public provider in Italy.
The workshop will also look more deeply into how organisations can structure and procure these models of service, gaining the optimal benefit for both providers and patients.

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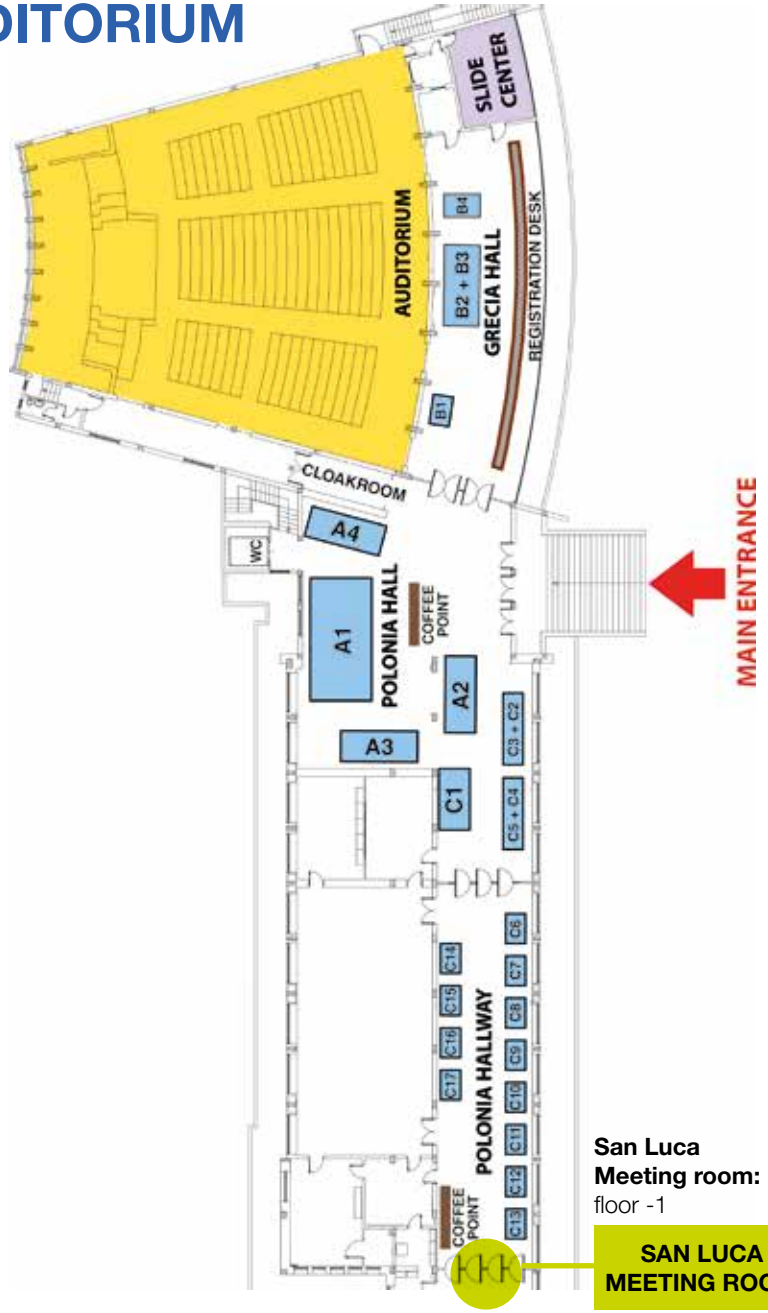
AUDITORIUM

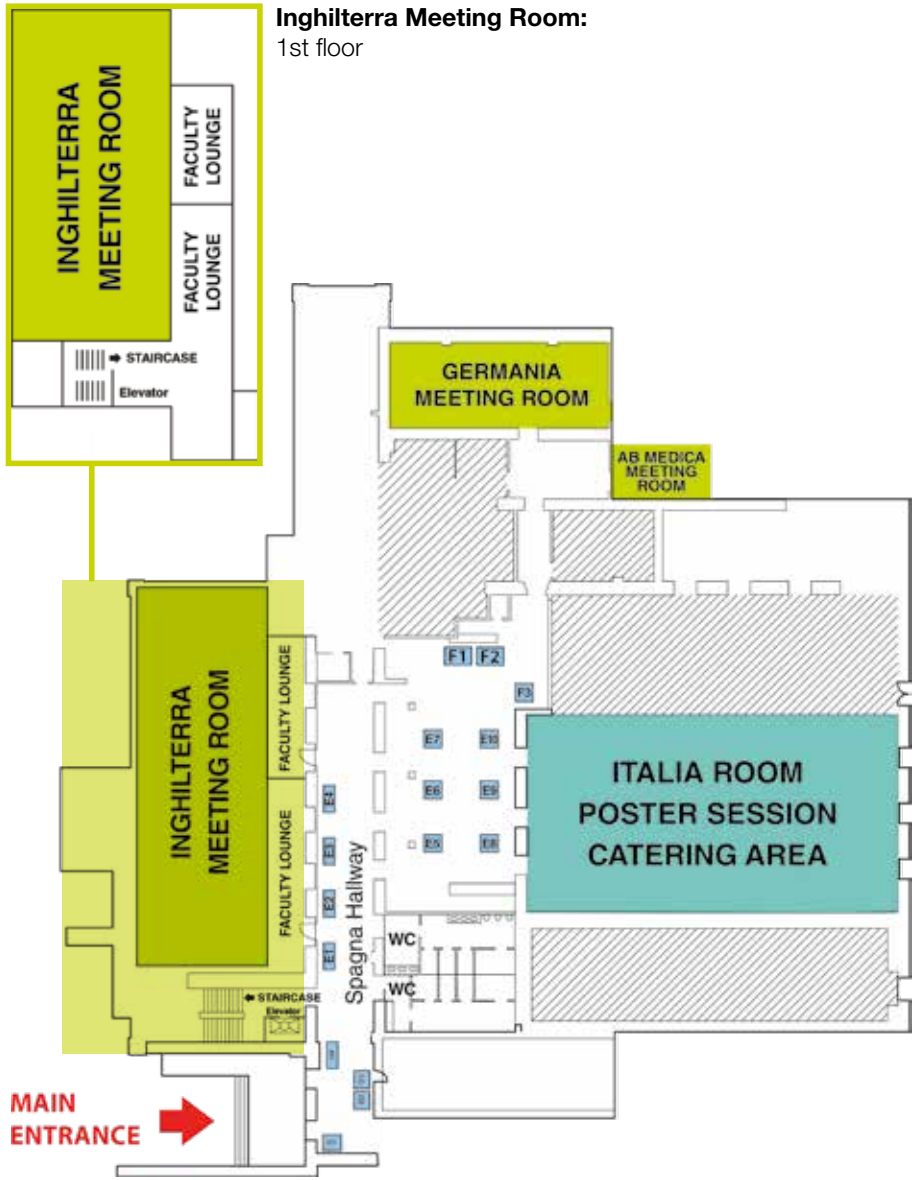


San Luca Meeting room:
floor -1

SAN LUCA MEETING ROOM

CONGRESS CENTRE

Inghilterra Meeting Room:
1st floor



EXHIBITING SPONSORS	SPACE NO.	BUILDING
Advanced Sterilization Products Italia Srl	C9 + C10	Auditorium
Althea	A1	Auditorium
Becton Dickinson Italia	A3	Auditorium
BK Medical Italia S.r.l.	C7	Auditorium
Cisa	A2	Auditorium
ECRI Institute	C1	Auditorium
Erbe Elektromedizin GmbH	C16	Auditorium
Esaote S.p.A.	C11	Auditorium
Extreme Networks	C15	Auditorium
Fresenius Kabi Italia Srl	C13	Auditorium
Fujifilm	B1	Auditorium
ICU Medical	C4 + C5	Auditorium
KLS Martin Group	C2 + C3	Auditorium
Medtech Projects	C1	Auditorium
Mides Ultrasound	C8	Auditorium
MOVI S.p.A.	C6	Auditorium
Nihon Kohden Europe	C12	Auditorium
Olympus	A4	Auditorium
OPT SurgiSystems Srl	C14	Auditorium
Philips	B4	Auditorium
Samsung Electronics Italia Spa	C17	Auditorium
Steelco SpA	B2+B3	Auditorium
AB Medica	Meeting Room	Congress Centre
B. Braun Milano S.p.A.	E9	Congress Centre
GE Healthcare	E3+E4	Congress Centre
General Medical Merate Spa	F1+F2	Congress Centre
Getac	F3	Congress Centre
LEFA S.r.l	E10	Congress Centre
Me-Sys Srl	E6	Congress Centre
MEDITECK SRL	E7	Congress Centre
MEDTRONIC ITALIA SPA	E5	Congress Centre
Schiller	D1	Congress Centre
SOL Group	D3	Congress Centre
Tm Technology Management Services Srl - Bleindoor	E8	Congress Centre
Vero Medical Srl	D2	Congress Centre
Videomed - Operamed	E1	Congress Centre

GENERAL INFORMATION

CONFERENCE VENUE

Faculty of Medicine and Surgery “A. Gemelli”
Centro Congressi Europa (Conference Center)
Largo Francesco Vito no. 1
00168 Rome - Italy

OPENING CEREMONY

The opening ceremony will be held on **Monday, 21st October 2019, at 09.00**
Auditorium, Centro Congressi Europa.

ORGANIZING SECRETARIAT

During the congress the Organizing Secretariat desk, located in front of the Auditorium, will be open at the following times:

Sunday, October 20th from 14:00 to 18:00
Monday, October 21st from 08:30 to 19:00
Tuesday, October 22nd from 07:30 to 18:30

BADGE

All congress attendees are requested to retrieve their badge and congress kit at the registration desk. The badge will have to be worn at all times in order to access all congress areas.

CERTIFICATES OF ATTENDANCE

Certificates will be sent via mail at the end of the congress.

POSTER SESSIONS

The poster sessions will take place in Room ITALIA

Topics

- **Health Technology Assessment**
- **Medical equipment management in hospitals**
- **ICT and medical informatics**
- **Health Operations/Project Management**
- **Clinical risk management, safety, emergency preparedness**
- **Development of innovative devices**
- **Design of health facilities**
- **Technologies for home care**
- **International standards and regulations**
- **Education, certification, training**
- **Artificial Intelligence, Big Data**
- **Global challenges, sustainable development**

REGISTRATIONS

Registrations include:

Access to all Scientific and Education Sessions
Access to Exhibit Area
Congress Proceedings
Coffee Breaks and lunches
Congress Kit
Certificate of attendance

SLIDE CENTRE

The slide centre is located next to the Auditorium.
Speakers are requested to deliver their presentation to the slide center at least one hour prior to the scheduled presentation time.

SOCIAL DINNER

Monday, October 21st 2019
Villa Miani
Via Trionfale, 151
00136 Rome

Dinner is not included in the registration fee.
The cost is € 80.00 per person, VAT included.

TRANSFER

A transfer service will be provided from the congress centre to the dinner venue, directly at the end of the scientific programming.

NOTES

NOTES

ORGANIZING SECRETARIAT

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