29th International Congress of the Society for Medical Innovation and Technology

SMIT 2017
TORINO ITALY
9-10 NOVEMBER 2017
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WELCOME TO TORINO

It is a great honour and pleasure to organize in Torino the 29th International Congress of the Society for Medical Innovation and Technology.

We would like to express deep gratitude to the SMIT Society and to all the members of the Executive Board and Steering Committee for the privilege of hosting SMIT Congress in our hometown.

The Congress will be jointly organized by the Department of Surgical Sciences of the University of Torino and by the 2 leading Italian Institutions in Biotechnology: Politecnico di Torino and Scuola Superiore Sant’ Anna - Pisa. Such a collaboration perfectly resumes past, present and future of SMIT, the most prominent European medical society devoted to technology & innovation.

The meeting being held at the Lingotto Congress Center, located in the modern building of Lingotto, a jewel of industrial architecture of the early twentieth century and seat of the car manufacturer FIAT, converted to a design Architect Renzo Piano in multipurpose center.

Main topics of the meeting are minimally invasive surgery, “flexible” surgery, robotics, interventional radiology, computer-assisted medicine, nanotechnology & nanomedicine, smart technologies, future OR & logistics, vision for the future, next generation technologies.

Furthermore, this Congress will represent a new format trying to establish and strengthen important relationships between SMIT and other surgical and medical fields.

Thank you for being here and hope you can enjoy our city.

MARIO MORINO  
Dept. of Surgical Sciences, University of Torino

GIANLUCA CIARDELLI  
Dept. of Mechanical and Aerospace Engineering, Politecnico of Torino

ARIANNA MENCHIASSI  
The BioRobotics Institute  
Scuola Superiore Sant’Anna, Pisa

ALBERTO AREZZO  
Dept. of Surgical Sciences  
University of Torino
CONFERENCE CHAIRS

Mario Morino
Professor of Surgery
Dept. of Surgical Sciences
University of Torino, Italy

Gianluca Ciardelli
Professor of Biomedical Engineering
Dept. of Mechanical and Aerospace Engineering
Politecnico of Torino, Italy

Arianna Menciassi
Professor of Biomedical Engineering
The BioRobotics Institute
Scuola Superiore Sant’Anna, Pisa - Italy

Alberto Arezzo
Associate Professor of Surgery
Dept. of Surgical Sciences
University of Torino, Italy
# PROGRAM AT THE GLANCE

**Wednesday, 8th November 2017**

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**POST GRADUATE COURSE**
Rapid prototyping of clinical applications on open source software platforms - a hands-on tutorial

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**Thursday, 9th November 2017**

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<td>S6 - Novel design of medical devices: from IP to Market Analysis</td>
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<td>S25 - Image Guided Surgery 2</td>
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<td>S7 - I have an idea! From the concept to the clinical validation</td>
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<td>S16 - CARDIO@SMIT2017: New technologies in heart valve surgery</td>
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<td>S27 - What's cool in navigation</td>
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<td>S20 - Gerhard Buess Lecture: Flexible surgery: the new frontier of minimally invasive therapy</td>
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<td>S9 - Robotics for</td>
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<td>S28 - New tools for laparoscopy 2</td>
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<td>S10 - Present and</td>
<td>S20 - Nanomedicine tools supporting / replacing surgery</td>
<td>S29 - Diagnostic systems</td>
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<td>S11 - Advances in</td>
<td>S21 - Organ repair &amp; tissue engineering</td>
<td>S30 - NEURO@SMIT2017: New techniques and devices in neurosurgery I</td>
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5 mm performance from a 2.9 mm tool?
The secret is percutaneous.

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Less trauma for your patients. All the strength and versatility of a traditional laparoscopic device. How can a tool so small do so much? The 2.9 mm device inserts directly through the skin. Then using an existing trocar, it attaches extracorporeally to 5 mm tool tips.

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THURSDAY, 9TH NOVEMBER 2017

8.45 LONDRA HALL
Opening ceremony: Introduction
Authorities, Gianmaria Ajani, Marco Gilli,
Pierdomenico Perata, Ezio Ghigo,
Roberto Albera, Mario Morino (Italy)

9.15 LONDRA HALL
S1 - 1st John Wickham Memorial Lecture: Biorobotics
and Bionics - science, technology
and social challenges
Paolo Dario (Italy)
Chair: Mario Morino (Italy)

9.45-11.00 LONDRA HALL
S2 - Artificial Intelligence technology & Surgery
Chairs:
Andreas Melzer (Germany)
Brynjulf Ystgaard (Norway)

09.45 AI technology for improved safety in the OR
Joris Jaspers (The Netherlands)

10.00 AI to improve the workflow in the OR
- fully integrated OR - the German OR network
Thomas Neumuth (Germany)

10.15 Advanced concepts for medical robot systems: information into action
Gernot Kronreif (Austria)

10.30 Emerging Technologies in Surgery
Richard Satava (USA)

10.45 The death of surgery as we know it
Amir Szold (Israel)

9.45-11.00 MADRID HALL
S12 - DENTAL@SMIT2017:
Technological and biotechnological innovations in dentistry
Chairs:
Stefano Carossa (Italy)
Nicola Scotti (Italy)

09.45 Keynote: Virtual surgical planning and navigation assisted by piezosurgery in oro-maxillofacial field
Massimo Robiony (Italy)

10.15 Keynote: Novel technologies and relevant know-how for customizing grafts and biomaterials in bone tissue engineering
Federico Mussano (Italy)

9.45-11.00 LISBONA HALL
S22 - Bioinspired medical devices for innovative medicine
Chairs:
Harald Fischer (Germany)
Kaspar Althoefer (UK)
09.45 Keynote: Building on Bioinspiration: a basis for novel medical devices
Donald Martin (France)
10.10 Keynote: Biodegradable Zn Stent
Ernst Nenning (Germany)
10.35 Keynote: Nanostructured diagnostic devices that integrate with body systems
Donald Martin (France)
11.00 COFFEE BREAK
11.30-12.30 LONDRA HALL
S3 - Actuators and Mechanisms for novel medical tools
Chairs:
Jenny Danklemann (The Netherlands)
Pietro Valdastri (UK)
11.30 Keynote: Needles and image Guidance for percutaneous interventions
John van den Dobbelsteen (The Netherlands)
11.50 O48: A lockable steerable needle for the TIPS procedure
Tonke L de Jong (The Netherlands)
12.00 O117: Ultra-thin steerable needle: an experimental prototype
Marta Scali, Paulien Veldhoven,
Paul Henselmann, Dimitra Dodou,
Paul Breedveld (The Netherlands)
12.10 O46: Minimally invasive prenatal closure of spina bifida
Lisette Tas, John Van Den Dobbelsteen,
Dick Oepkes, Alex Edgink (The Netherlands)
O150: Low Melting Point Alloy Based Stiffening of a Soft Robot
Haider Abidi, Alice Tonazzini,
Matteo Cianchetti, Dario Floreano,
Arianna Menciassi (Italy)

11.30-12.30 MADRID HALL
S13 - DENTAL@SMT2017: Technological and biotechnological innovations in dentistry
Chairs:
Elio Berutti (Italy)
Massimo Robiony (Italy)
11.30 Keynote: Design and virtual validation of the most updated technologies in endodontics
Giorgio Chiandussi (Italy)
12.00 Keynote: Adhesive materials and digital technologies
Nicola Scotti (Italy)

11.30-12.30 LISBONA HALL
S23 - New tools for operative endoscopy
Chairs:
Marc O Schurr (Germany)
Harald Fischer (Germany)
12.10 O46: Minimally invasive prenatal closure of spina bifida
Raffaele Manta (Italy)
11.50 Over-the-scope-clip for proctology indications
Riccardo Naspetti (Italy)

12.10 Full-Thickness-Resection-Device for lesions in the colon-rectum: data from 500 registry cases
Marc O. Schurr (Germany)

12.30 LUNCH & POSTER PRESENTATION

13.30-14.00 LONDRA HALL
S4 - John Abele Lecture: Design and testing of innovative MR Molecular Imaging reporters
Silvio Aime (Italy)
Chair: Gianluca Ciardelli (Italy)

14.00-15.15 LONDRA HALL
S5 - Image Guided Surgery
Chairs:
Joachim Kettenbach (Austria)
Andreas Melzer (Germany)
14.00 Keynote: Ultrasound methods and guidance systems for surgery
Thomas Lango (Norway)
14.15 Keynote: High Performance soft-tissue Navigation, an Introduction to the EU-project HiPerNav
Ole Jakob Elle (Norway)
14.25 Integrate multimodality hybrid operating rooms to advance outcomes in image guided surgery
Amilcar Alzaga (Germany)

14.35 O7: 3D tongue model construction and the motion regeneration
Mukai Nobuhiko (Japan)

14.45 O35: Additive manufacturing for gynaecological brachytherapy: custom-fit applicators based on MRI data
Nick J. van de Berg, Rianne C. Laan, Remi A. Nout (The Netherlands)

14.55 O103: Mechanical catheter navigation with electromagnetic tracking to peripheral airway targets
Fabian Trauzettel, Hermann Alexander Jaeger, Marcus Kennedy, Padraig Cantillon-Murphy (Ireland), Erlend Fagertun Ofstad, Hakon Olav Leira, Thomas Lango, (Norway)

15.05 O125: Rectal Cancer Segmentation with Fully Convolutional Neural Network
Joohyung Lee, Ji Eun Oh, Min Ju Kim, Bo Yun Hur, Dae Kyung Sohn (Korea)

14.00-15.15 MADRID HALL
S14 - Capsule endoscopy
Chairs:
Pietro Valdastri (UK)
Marco Pennazio (Italy)
14.00 O116: Wireless Endoscopic Capsule for Early Screening of Colorectal Cancer
Contributions by the WiBEC Project
Salman Mahmood (Germany)
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<tr>
<td>14.10</td>
<td>O106</td>
<td>Detection of acute upper gastrointestinal bleeding with the HemoPill acute - a prospective study</td>
<td>Melanie Zimmermann, Sebastian Schostek, Mario Fode, Jan Keller, Michael Melbert, Romi Hartmann, Artur Schmidt, Karel Caca, Marc O. Schurr, Thomas Gottwald (Germany)</td>
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<td>14.20</td>
<td>O118</td>
<td>Wireless HD Imaging for Minimal Invasive Surgery</td>
<td>Yoav Mintz, Nikolai Kunicher, Noam Livneh, Ronit Brodie, Vered B. Bracha (Israel)</td>
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<td>14.30</td>
<td>O61</td>
<td>Post-lymphangiographic multidetector CT for preclinical lymphatic interventions in rabbits</td>
<td>Tomohiro Matsumoto, Kosuke Tomita, Shunto Maegawa, Takako Nakamura, Tetsuya Suzuki, Terumitsu Hasebe (Japan)</td>
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<td>14.40</td>
<td>O27</td>
<td>An intuitive disposable endoscope with intrinsic pneumatic actuation</td>
<td>Nicolo Garbin, Long Wang, Dennis Sohn, Keith L. Obstein, Nabil Simaan (USA), Pietro Valdastri (UK)</td>
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<td>14.50</td>
<td>O131</td>
<td>Sensorized capsule endoscope for closed-loop magnetic navigation and safe tissue interaction</td>
<td>Renato Caliò, Domenico Camboni, Joan Ortega Alcaide, Calogero Maria Oddo, Mariachiara Carrozza, Arianna Menciassi, Gastone Ciuti, Paolo Dario (Italy)</td>
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**LISBONA HALL**

**S24 - New tech for advanced therapies**

**Chairs:**
- Michele Diana (Italy)
- Joris Jaspers (The Netherlands)

**Keynote:** New Technologies in Surgery and Technology Enhanced Learning
- Calin Tiu (Romania)

**O97:** Pre-clinical validation of open-source airway navigation using Anser EMT and CUSTUSx
- Herman Alexander Jaeger, Fabian Trauzettel, Marcus Kennedy, Padraig Cantillon-Murphy (Ireland), Erlend Fagertun Ofstad, Hakon Olav Leira, Thomas Lango (Norway)

**O87:** Experimental Chitosan membranes applied on the peri-prostatic neurovascular bundles after nerve-sparing robot-assisted radical prostatectomy: preliminary results of a phase II study
- Riccardo Bertolo, Francesco Porpiglia, Cristian Fiore, L. Muratori, Federica Fregnan, Stefano Geuna (Italy)

**O65:** Video-assisted arteriovenous fistula in dialysis patients: our preliminary experience with ViTOM® HD System
- Salvatore Fazzotta, Vincenzo Davide Palumbo (Italy)

**O84:** Design of an Innovative Implant for Rib Fracture Stabilisation
- Keith Mallia, Philip Farrugia, Aaron Casha (Malta)
14.55  O5: L-PFR Leukocyte and Platelets rich Fibrin in the Treatment of Skin Lesions
Giorgio Rosa, Enrico Rescigno,
Giulia San Romè (Italy)

15.15-16.15 LONDRA HALL
S6 - Novel design of medical devices: from IP to Market Analysis
Chairs:
Marc O Schurr (Germany)
Enrico Ghia (Italy)

15.15 Keynote: Innovative hernia reconstruction through better new materials
Mirosława El Fray (Poland)

15.35 Keynote: Polypropylene: a unique material with different morphologies and behaviours in hernia repair
Cristina Buemi, Giuliana Muzio,
Alessandro Ganora (Italy)

15.50 Keynote: Clinical validation of medical devices in Europe: new regulatory challenges
Alice Ravizza (Italy)

16.05 O100: Tissuegraft: from the idea up to the market
Francesca Boccafoschi, Marta Calvo Catoira, Luca Fusaro, Martina Ramella (Italy)

16.15 O63: An active device for high fidelity simulation in newborn intubation
Arianna Menciassi, Selene Tognarelli, Alessia Longo, Rosa Teresa Scaramuzzo,
Massimiliano Ciantelli, Armando Cuttano (Italy)

15.15-16.15 MADRID HALL
S15 - CARDIO@SMIT2017: What’s new in cardiac surgery
Chairs:
Davide Ricci (Italy)
Daniel Wendt (Germany)

15.15 O6: The Development of the Hydraulic Pressure Wave Catheter
Aimée Sakes, Paul Breedveld, Joe Spronck (The Netherlands)

15.25 O16: Polylysine-enriched decellularized matrices: a promising approach for vascular substitutions
Francesca Boccafoschi, Luca Fusaro, Marta Calvo Catoira, Martina Ramella (Italy)

15.35 O51: Development of a modular suturing catheter for minimally invasive surgery: the potential for in vivo - assembly
Helge Wurdemann, Shervanthi Homer-Vanniasinkam, Jian S. Dai (UK), Estevan Hideki Murai, P. G. Silveira, Daniel Martins (Brasil)

15.45 O67: Development of a robotic platform for minimally invasive aortic heart valve surgery
Izadyvar Tamadon, Selene Toniarelli, Claudio Quaglia, Giorgio Soldani, Vincenzo Ferrari, Paolo Dario, Arianna Menciassi (Italy)

15.55 O104: Evaluation of a Multi-Steerable Catheter for Cardiac Interventions in a 3D-Printed Heart Model
Awaz Ali, Joost De Winter, Dimitra Dodou, Paul Breedveld (The Netherlands)  
16.05 O114: A Beating Heart Simulator for Open and Thoracoscopic Surgery  
Chengli Song, Shichao Liang, Xuesong Zhou, Chang Ma, Dick Lee, Sha Liu (China)

15.15-16.15 LISBONA HALL  
S25 - Image Guided Surgery 2  
Chairs:  
Padraig Cantillon-Murphy (Ireland)  
Filippo Molinari (Italy)

15.15 O8: Electromagnetic tracking can be used to accurately measure left ventricular diameter in real time: a validation study  
Magnus Reinsfelt, Øyvind Senstad Andersen, John Aalen, Ole Jacob Elle, Hans Henrik Odland, Espen Wattenberg Remme (Norway)

15.25 O18: Prediction of guidewire trajectory inside the vascular system: 3D computer based model  
Hoda Sharei, John J van den Dobbelsteen, Jenny Dankelman (The Netherlands)

15.35 O47: The Simulation of Catheter Interventional Surgery Based on Virtual Reality  
Junlei Hu, Xiaojun Chen, Pengjie Sun, Jan Egger (China)

15.45 O19: Generatively manufactured flexible instrument guidance device and holding arm for MRI-guided interventions  
Robert Odenbach, Juan Sebastián Sánchez López, Michael Friebe (Germany)

15.55 O62: A robotic approach for FUS in moving organs  
Arianna Menciassi, Andrea Cafarelli, Alessandro Diodato, Andrea Schiappacasse, Selene Tognarelli, Gastone Ciuti (Italy), Andreas Melzer (Germany)

16.05 O99: Cybersecurity: IT risk perception in the healthcare. Marche Region Case Study  
Barbara Kulaga, Verardino Cristino (Italy)

16.15 COFFEE BREAK

16.45-19.00 LONDRA HALL  
S7- I have an idea! From the concept to the clinical validation  
Chairs:  
Yoav Mintz (Israel)  
Amir Szold (Israel)

16.45 From the concept to the clinical validation in a start up company  
Enrico Ghia (Italy)

17.00 O145: Novel design of medical devices: from IP to market analysis. How patents can foster innovation in the medical device field  
Marco Camolese (Italy)

17.15 O140: Asymmetric - a novel vessel sealing technology, using low energy and a flexible Laser fiber  
Amir Szold (Israel)
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<td>17.25</td>
<td>O36:</td>
<td>Design requirements for surgical equipment for low-and-middle income countries</td>
<td>Roos Marieke Oosting, Linda Wauben, Jenny Dankelmann (The Netherlands), Reinou Groen (USA)</td>
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<td>17.35</td>
<td>O142:</td>
<td>Extending Human Xtensions from device to system: remote controlled articulating tool for MIS surgery</td>
<td>Amir Szold, Mordechai Sholeb (Israel)</td>
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<td>17.45</td>
<td>O53:</td>
<td>Design of a fully implantable closed loop artificial pancreas</td>
<td>Veronica Iacovacci, Leonardo Ricotti, Izadyar Tamaddon, Giuseppe Tortora, Carmine Perri, Paolo Dario, Arianna Menciassi (Italy)</td>
<td>18.45</td>
</tr>
<tr>
<td>17.55</td>
<td>O56:</td>
<td>A novel microwaves tool for robotic resection of the liver</td>
<td>Francesco Frosini, Fabio Staderini, Margherita Brancadoro, Mattia Dimitri, Jacopo Regolini, Roberto Minnati, Mohamed Nassim Boushaki, Linda Paternò, Francesco Guerra, Andrea Coratti, Fabio Cianchi, Andrea Corvi, Arianna Menciassi, Guido Biffi Gentili (Italy)</td>
<td>16.45-19.00</td>
</tr>
<tr>
<td>18.05</td>
<td>O74:</td>
<td>From concept to design: A new flexible robotic uterine elevator</td>
<td>Chakravarthini Saaj, Seri Mustaza, Kavitha Madhuri (UK)</td>
<td>16.45</td>
</tr>
<tr>
<td>18.15</td>
<td>O98:</td>
<td>Autonomous Balloon Management for Endovascular Occlusion</td>
<td>Padraig Cantillon-Murphy, Herman Alexander Jaeger, Cormac McCarthy, Fabian Trauzzettel (Ireland), Ian Kanterman, Alice-Anne Goetz (France), Benjamin Colvard (USA)</td>
<td>17.05</td>
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**MADRID HALL**

**S16 - CARDIO@SMIT2017: New technologies in heart valve surgery**

**Chairs:**

- Massimo Boffini (Italy)
- Gino Gerosa (Italy)

Keynote: Technological advances in TAVI

Daniel Wendt (Germany)

Transapical mitral valve repair: further technical developments

Giovanni Speziali (Italy)
<table>
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<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.20</td>
<td>Percutaneous approaches to the mitral valve: what’s next?</td>
<td>Francesco Maisano (Italy)</td>
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</tr>
<tr>
<td>S17</td>
<td>CARDIO@SMIT2017:</td>
<td>Organ engineering: from repair to regeneration</td>
<td>Chairs: Mauro Rinaldi (Italy), Francesco Maisano (Italy)</td>
</tr>
<tr>
<td>17.45</td>
<td>Keynote: Ex Vivo Lung Perfusion (EVLP) from evaluation to organ repair</td>
<td>Frank D’Ovidio (USA)</td>
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<td></td>
<td>Purification strategies in organ transplantation</td>
<td>Mauro Atti (Italy)</td>
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<tr>
<td>17.20</td>
<td>New technologies in heart valve surgery</td>
<td>Gino Gerosa (Italy)</td>
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<tr>
<td>16.45</td>
<td>LISBONA HALL</td>
<td>S26 - New tools for laparoscopy &amp; interventional radiology</td>
<td>Chairs: Andreas Melzer (Germany), Chengli Song (China)</td>
</tr>
<tr>
<td></td>
<td>O139: A Randomized Controlled Trial of the Fundamentals of Robotic Surgery: Validation of a proficiency-based progression robotic skills course in a multi-specialty, multi-institutional trial</td>
<td>Richard Satava (USA)</td>
<td></td>
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<tr>
<td>16.55</td>
<td>O136: Safety of single incision robotic cholecystectomy for benign gallbladder disease: a systematic review</td>
<td>Simone Arolfo, Marco Migliore, Alberto Arezzo, Roberto Passera, Mario Morino (Italy)</td>
<td></td>
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<tr>
<td>17.05</td>
<td>O94: Improving fundamental laparoscopic skills by pre-course tactile exploration</td>
<td>Sem F Hardon, Roelf R. Postema, Tim Horeman, Jeroem B. J. Smeets, H. Jaap Bonjer (The Netherlands)</td>
<td></td>
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<tr>
<td>17.15</td>
<td>O81: Sentinel node navigation surgery and ICG fluorescence-guided surgery for gastric cancer</td>
<td>Noriyuki Inaki, Teruya Minami, Toshikatsu Tsuji (Japan)</td>
<td></td>
</tr>
<tr>
<td>17.25</td>
<td>O85: Indocyanine green guided sentinel lymph node identification - a prospective study evaluating the distribution of lymph nodes respectively lymph node metastasis in rectal cancer patients</td>
<td>S. Shah, J. Salber, I. Stricker, A. Tannapfel, R. Viebahen (Germany)</td>
<td></td>
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<tr>
<td>17.45</td>
<td>O147: Morphological and hemodynamic characterization of post endovascular AAA repair: comparison between two different commercial devices</td>
<td>Paola Tasso, Maurizio Lodi Rizzini,</td>
<td></td>
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</tbody>
</table>
Diego Gallo, Umberto Morbiducci (Italy), Anastasios Raptis, Michalis Xenos, Miltiadis Matsagkas (Greece) 17.55 O105: Assessing non-technical skills in the delivery room through multisensory-based simulation Marcello Passarelli, Fabrizio Bracco, Michele Masini, Filippo Domaneschi, Carlo Chiorri (Italy), Donald Glowinski (Switzerland) 18.15 O128: Instrumentation of an external fixator for bone healing process monitoring: preliminary results Stefano Mazzoleni, Elena Battini, Gastone Ciuti, Cesare Stefanini, Paolo Dario (Italy), Fatima Omar Ahmed Ba Fakih (UAE)

19.00 GET TOGETHER PARTY

FRIDAY, 10TH NOVEMBER 2017

08.30-10.00 LONDRA HALL
S8 - New Technologies for Surgery & Endoscopy 8.30 Current developments in Endoscopy and Minimal Access Platforms Silvana Perretta (France) 8.45 The role of multitasking platforms Andreas Melzer (Germany) 9.00 Magnetic fields for enabling surgical applications at different scales Arianna Menciassi (Italy) 9.15 Reduced port laparoscopic surgery Yoav Mintz (Israel) 9.30 5th Generation of Surgery Richard Satava (USA) 9.45 Health Technology Assessment: 3D Technology for laparoscopy. Is it worth? Nereo Vettoretto (Italy)

08.30-10.00 MADRID HALL
S18 - Innovation in colorectal endoscopy & surgery
Chairs:
Andrea Pietrabissa (Italy) Marco Maria Lirici (Italy)

8.30 O111: Less is more: nuovo approccio all’addome aperto Lora Federico, Petruzzelli Luca, Benedetto Mariachiara, Franchi Eloisa, Rapetti Lisa (Italy) 8.40 O14: RED – Robot for Endoscopic Dissection: preliminary study Margherita Brancadoro, Claudio Quaglia, Haider Abidi, Marco Augusto Bonino, Arianna Menciassi, Alberto Arezzo (Italy) 8.50 O112: Endoscopic Full thickness resection: preliminary indications and results Franco Coppola (Italy) 9.00 O90: Quality of mesorectal excision after open, laparoscopic, robotic and transanal TME

18
9.10  O123: Pre-clinical in vivo validation of the CYCLOPS surgical system for ESD - TJC
Oude Vrielink, A. Darzi, G. Mylonas (UK) 08.30

9.20  O119: Efficacy of the Over-The-Scope Clip (OTSC) for treatment of colorectal postsurgical leaks and fistulas
Mauro Verra, Giacomo Lo Secco, Giulio Di Benedetto, Lorenzo Bono, Mario Morino, Alberto Arezzo (Italy) 08.40

9.30  O10: A novel method for intraoperative tactile examination in colorectal surgery
Rozaliia Solodova, Vladimir Galatenko, Eldari Nakashidze, Vladimir Staroverov, Mikhail Sokolov (Russia) 08.50

9.40  O95: Hands-on colorectal laparoscopic skills courses: lessons learned after 10 editions
Francisco Miguel Sanchez-Margallo, Miguel Angel Sanchez Hurtado, José Antonio Fatas, Idola Diaz-Guemes, Francisco Alba Mesa; José Fernando Trebolle, Rocho Ferrer Sotelo (Spain) 09.00

9.50  O92 Trans-anal Total Mesorectal Excision: Pneumodissection of Retroperitoneal Structures Eases Laparoscopic Rectal Resection
Simone Maria Tierno, Gabriele Campana, Gianfrancesco Intini, Carlo Eugenio Vitelli, Marco Maria Lirici (Italy) 09.10

LISBONA HALL
S27 - What’s cool in navigation
Chairs:
Ole Jacob Elle (Norway)
Pietro Valdastri (UK)

08.30  O93: Implementation of natural user interface for medical image navigation and remote control during surgery: Efficiency and face validity
Francisco Miguel Sánchez-Margallo, Juan Alberto Sánchez-Margallo, José Luis Moyrano Cuevas (Spain) 08.30

08.40  O4: In vivo identification of liver tumors during liver surgery using electromagnetic navigation: a pilot study
Oleksandra Ivashchenko, Bas Pouw, Jasper Nijkamp, Koert F. D. Kuhlmann, Niels F. M. Kok, Elisabeth G. Klompenhouwer, Theo J. M. Ruers (The Netherlands) 08.40

08.50  O79: Mixed Reality 3D Visualization and Interaction for Surgery using HoloLens
Rahul Prasanna Kumar, Henrik Brun, Bjørn Edwin, Ole Jacob Elle (Norway) 08.50

09.00  O86: Intra-operative estimation of surgical progress by tracking instrument use
Frédérique Meeuwsen, Fabian Van Luyn, John van Den Dobbelsteen (The Netherlands) 09.00

09.10  O78: Magnetic resonance imaging compatible liver phantom with 3D printed vessels for pre-clinical assessment
Egidijus Pelanis, Louise Oram, Rahul P. Kumar, Ole Jacob Elle, Bjørn Edwin (Norway) 09.10
09.20  O66: Evaluation of a 3D planning tool for irreversible electroporation treatment in pancreatic cancer
Benjamin Eigl, Mathias Peterhans, Stefan Weber, Beat Gloor, Mathias Worni (Switzerland)

09.30  O28: Assessment of target registration error for hybrid instrument tracking for image guided surgery applications
Andrea Teatini, Ole Jacob Elle, Bjørn Edwin (Norway)

09.40  O96: An interactive approach for the semi-automatic segmentation of liver and lesions
Pravda Jith Ray, Sergio Salvatore Caccamo, Louise Oram, Ole Jacob Elle, Rahul Prasanna Kumar (Norway)

09.50  O144: Using video-tracking algorithms of the MST robotic camera manipulator for teaching and testing surgical skills
Amir Szold (Israel)

10.00 COFFEE BREAK

10.30-11.00 LONDRA HALL
S20 - Gerhard Buess Lecture:
Flexible surgery: the new frontier of minimally invasive therapy
Lee Swanstrom (USA / France)
Chair: Alberto Arezzo (Italy)

11.00-12.30 LONDRA HALL
S9 - Robotics for Surgery & Endoscopy
Chairs:
Arianna Menciassi (Italy)
Bruno Siciliano (Italy)

11.00 State of the art of robotics and surgery
Young-Woo Kim (Korea)

11.15 Is there a future in robot assisted minimally invasive surgery?
Paolo Fiorini (Italy)

11.30 Surgical robots of the future: more dexterity through variable-stiffness instruments
Kaspar Althoefer (UK)

11.45 Current developments in Operative Flexible Endoscopy: The ISI-scope
Silvana Perretta (France)

12.00 Computer vision and robotics for augmenting the surgeon's capabilities during the intervention
Elena De Momi (Italy)

12.15 Advances in Surgical Robotics
Bruno Siciliano (Italy)

Vincent Obias (USA)

11.00-12.30 MADRID HALL
S19 - Materials for medical devices: biocompatibility, functional surfaces
Chairs:
Ipsita Roy (UK)
Stefano Geuna (Italy)
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<tr>
<th>Time</th>
<th>Session Title</th>
<th>Presenter(s)</th>
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<tbody>
<tr>
<td>11.00</td>
<td>Keynote: Innovative Medical Devices Based on Natural Materials</td>
<td>Ipsita Roy (UK)</td>
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<td>11.20</td>
<td>Keynote: Science for Industry – Advanced Materials for Biomedical Applications</td>
<td>Xiang Zhang (UK)</td>
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<td>11.40</td>
<td>O41: Low Melting Point Materials as controllable stiffness mechanism for endoscopic and catheter applications</td>
<td>Loïc Blanc (Belgium)</td>
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<tr>
<td>11.50</td>
<td>O45: Towards a new patient-specific, modular aortic vascular phantom with clinically relevant mechanical properties</td>
<td>Helge Wurdemann, Shervanthi Homer-Vanniasinkam, Gaetano Buriesci, Andrea Palombi (UK), Antonio Gallarello, Elena De Momi (Italy)</td>
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<tr>
<td>12.00</td>
<td>O32: Improving functional recovery after radical prostatectomy: in vitro evidences on a chitosan-based medical device</td>
<td>Stefano Geuna, Luisa Muratori, Federica Fregnan, Riccardo Bertolo, Francesco Porpiglia (Italy)</td>
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<td>12.10</td>
<td>O70: A novel bactericidal surface to reduce nosocomial infections improving an Italian Patent</td>
<td>Alessandra Piccitto, Ivan Parkin (UK), Mario Morino (Italy)</td>
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<td>11.00</td>
<td>11.00-12.30 LISBONA HALL</td>
<td>S28 - New tools for laparoscopy 2</td>
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<td>Chairs:</td>
<td>Calin Tiu (Romania)</td>
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<td>Yoav Mintz (Israel)</td>
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<td>11.00</td>
<td>O141: Artack: A mesh fixation tacking device with potential robotic interface</td>
<td>Amir Szold (Israel)</td>
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<tr>
<td>11.10</td>
<td>O143: Performance assessment and training using MST core software: Instrument-tracking using video analysis software</td>
<td>Amir Szold (Israel)</td>
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<tr>
<td>11.20</td>
<td>O2: Is Reduced port laparoscopic cholecystectomy any better than the gold standard? To assess surgeon stress and workload: a randomized controlled trial</td>
<td>Yasuhiro Ishiyama, Yoshiaki Hara, Yuta Enami, Syouji Shimada, Kenta Nakahara, Chiyo Maeda, Naruhiko Sawada, Fumio Ishida, Shin-ei Kudo (Japan)</td>
</tr>
<tr>
<td>11.30</td>
<td>O52: Changes in Abdominal wall thickness during laparoscopy: Implications for the Use of magnetic assisted surgery</td>
<td>Yoav Mintz, Noam Shussman, Gad Marom, Lisandro Luques, Ram Elazary, Mahmoud Abu-Gazala, Alon Pikarsky, Liat Appelbaum, Ronit Brodie (Israel)</td>
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<tr>
<td>11.40</td>
<td>O83-91: Analysis of localized muscle fatigue in single incision endoscopic surgery</td>
<td>Francisco Miguel Sánchez Margallo, Juan Alberto Sánchez Margallo, Kostantinos Gianikellis (Spain), Andreas Skiadopoulos (USA)</td>
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</table>
11.50 O135: Single-Incision laparoscopic cholecystectomy is responsible for increased adverse events: results of a meta-analysis of randomized controlled trials
Edoardo Forcignagnò, Alberto Arezzo, Roberto Passera, Lisa Rapetti, Mario Morino (Italy)

12.00 O121: Calore Secure Port Closure
Yoav Mintz, Jonathan Yuvald, Giora Kornblau, David Neustadter, Ronit Brodie (Israel)

12.10 O89: Laparoscopic cutting using Radius r2 DRIVE instruments: Surgeon’s performance and muscular intervention
Francisco Miguel Sánchez Margallo, Juan Alberto Sánchez Margallo, Kostantinos Gianikellis (Spain), Andreas Skiadopoulos (USA)

12.20 O39: Finite element analysis in colorectal surgery: preliminary results on the interaction between tissue and surgical tool
Robinson Guachi, Michele Bici, Fabiano Bini, Laura Lorenzon, Francesca Campana, Franco Marinozzi (Italy)

12.30 LUNCH & POSTER PRESENTATION

13.30 New ways for colorectal cancer screening
Carlo Senore (Italy)

13.45 Present and future of robotic capsule endoscopy
Pietro Valdastri (UK)

14.00 The ENDOVESPA project
Gastone Ciuti (Italy)

14.15 EndoMASTER, Transported and other robotic systems for operative flexible endoscopy
Philip Wai-yan Chiu (Hong Kong)

14.30 FTRD in full-thickness resection of colorectal lesions: a meta-analysis of current clinical data
Gianluca Andrisani (Italy)

14.45 Status and future of sentinel node detection in early colorectal cancer: towards organ sparing surgery
Ronan Cahil (Ireland)

15.00 Actual and future applications of fluorescence in colorectal cancer surgery
Luigi Boni (Italy)

13.30-15.15 MADRID HALL

S20 - Nanomedicine tools supporting / replacing surgery

Chairs:
Paolo Netti (Italy)
Enrica Verne’ (Italy)

Keynote: Materials and processes to engineering 3D viable human tissues in vitro
Paolo Netti (Italy)
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<tr>
<td>14.00</td>
<td>ERC Corner 1: Multifunctional hybrid nanovectors: a new tool to overcome highly invasive tumor resistance</td>
<td>Giovanni Ciofani (Italy)</td>
</tr>
<tr>
<td>14.15</td>
<td>ERC Corner 2: Smart stimuli-responsive nanoconstructs for cancer theranostics</td>
<td>Tania Limongi, Nadia Garino, Giancarlo Canavese, Marco Laurenti, Luisa Racca, Marta Canta, Bianca Dumontel, Andrea Ancona, Valentina Cauda (Italy)</td>
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<tr>
<td>14.30</td>
<td>ERC Corner 3: MYKI: A Biodirectional MyoKinetic Implanted Interface for Neural Control of Artificial Limbs</td>
<td>Christian Cipriani (Italy)</td>
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<td>14.45</td>
<td>O20: Ion-doped mesoporous bioactive glass nanoparticles as antibacterial agents in tissue regeneration</td>
<td>Alessandra Barì, Carlotta Pontremoli, Sonia Fiorilli, Chiara Vitale Brovarone (Italy), Joanna Shepherd, Sheila MacNeil (UK)</td>
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<td>14.55</td>
<td>O23: Magneto-Plasmonic nanoparticles for photodynamic therapy</td>
<td>Cristina Multari, Marta Miola, Francesco Laviano, Roberto Gerbaldo, Doriane Debellis, Enrica Vernè (Italy), Giuseppe Pezzotti (Japan)</td>
</tr>
<tr>
<td>15.05</td>
<td>O55: Antithrombogenic nano-coatings by doping into amorphous carbon films for blood contacting medical devices</td>
<td>Shunto Maegawa, Terumitsu Hasebe, Kenta Bito, Masamitsu Nakaiama, Tomohiro Matsumoto, Tetsuya Suzuki (Japan)</td>
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**13.30-14.30 LISBONA HALL**

**S29 - Diagnostic systems**

**Chairs:**

**Helge Wuerdmann (UK)**

**Marco Knaflitz (Italy)**

Keynote: Advancements in Transcatheter aortic valve replacement (TAVR) – Data mining using soft robotic balloon catheters

Helge Wuerdmann (UK)

O107: Detection of acute upper gastrointestinal bleeding with the HemoPill acute – a set of volunteer experiments

Melanie Zimmermann, Sebastian Schostek, Mario Fode, Jan Keller, Michael Melbert, Thomas Gottwald, Marc O. Schurr (Germany)

O130: Colonoscopic Tactile Instrument to improve cancer detection sensitivity

Federico Bianchi, Enrico Trallori, Domenico Camboni, Calogero Maria Oddo, Arianna Meniciassi, Gastone Ciuti, Paolo Dario (Italy)

O146: Automation in quantitative medical imaging and its role as an enabling technology

Kristen Meiburger, Massimo Salvi, Cristina Caresio, Rosaria Santoro, Francesco Angelini, Francesco Amadeo, Isotta Chimenti, Maurizio Pesce, Umberto Morbiducci, Filippo Molinari (Italy)
14.30-15.15 LISBONA HALL
S30 - NEURO@SMIT2017: New techniques and devices in neurosurgery I
Chairs:
Alessandro Ducati (Italy)
Franco Servadei (Italy)
14.30 From microscopy to endoscopy in the sellar parasellar tumours
Lasio Giovanni (Italy)
14.50 3D technology in sellar parasellar tumors
Francesco Zenga (Italy)

15.15-17.00 LONDRA HALL
S11 - Advances in rectal cancer surgery
Chairs:
Andrea Pietrabissa (Italy)
Gilberto Poggioli (Italy)
15.45 Keynote: Ta-TME & non-restorative abdomino-endoscopic perineal excision of the anorectum
Roel Hompes (UK)
16.15 Transanal Endoscopic Microsurgery: 35 years now
Eiji Kanehira (Japan)
16.35 Robot for rectal cancer surgery
Paolo Pietro Bianchi (Italy)
16.50 O138: Transperineal minimally invasive approach in Abdomino-perineal resection
Simone Arolfo, Alberto Arezzo, Massimiliano Mistrangelo, Mario Morino (Italy)

15.15-17.00 MADRID HALL
S21 - Organ repair & tissue engineering
Chairs:
Laura Montanaro (Italy)
Valeria Chiono (Italy)
15.15 Keynote: Redefining Identity of Disease, Tissue and Cells – A BioMaterials Paradigm
Abhay Pandit (Ireland)
15.40 ERC Corner 4: Smart bone-like scaffolds for osteoporotic fractures
Chiara Vitale Brovarone (Italy)
15.50 O3: Human Liver Stem Cells-derived Extracellular Vesicles reduce hepatic injury in a murine model of ex vivo hypoxic normothermic liver perfusion
Dorotea Roggio, Federica Rigo (Italy)
16.00 O58: Design of a socket with variable stiffness for lower limb prosthesis
Michele Ibrahim, Linda Paternò, Leonardo Ricotti, Arianna Menciassi (Italy)
16.10 O73: Nanotechnology-Based Strategies To Treat Chronic Wounds
Chiara Tonda Turo, Monica Boffitto, Francesca Ruini, Alessandro Torchio, Rossella Laurano, Chiara Ceresa, Letizia Fracchia, Gianluca Ciardelli (Italy), Miguel Gisbert Garzaran, Miguel Manzano Garcia (Spain), Piergiorgio Gentile, Ana Marina Ferreira Duarte (UK)
16.20  O88: Injectable polyurethane-based hydrogels for smart drug release in the treatment of chronic skin wounds
   Rossella Laurano, Alessandro Torchio, Monica Boffito, Gianluca Ciardelli (Italy)

16.30  O149: Collagen-based biomimetic smart scaffold for bone tissue engineering
   Giulia Montalbano, Giulia Molino, S. Fiorilli, Chiara Vitale- Brovarone (Italy)

16.40  O24: Plant derived natural molecules: a promising way for surface functionalization of biomaterials in bone contact applications
   Martina Cazzola (Italy)

16.50 O12 In-vitro detection of small isolated Cartilage Defects: Intra-Vascular Ultrasound vs. Optical Coherence Tomography
   Tim Horeman (The Netherlands)

15.15-17.00 LISBONA HALL
   S31 - NEURO@SMIT2017: New techniques and devices in neurosurgery II
   Chairs:
   Diego Garbossa (Italy)
   Uwe Spetzger (Germany)

15.15  New intraoperative techniques for vascular neurosurgery
   Fady T. Charbel (USA)

15.30  Intraoperative real time navigation and new tracers technology for brain gliomas
   Francesco Di Meco (Italy)

15.50 Intraoperative CT in brain surgery
   Giuseppe Barbagallo (Italy)

16.10 Intraoperative O-arm in spine surgery
   Maurizio Fornari (Italy)

16.30 O151: Anatomic model for artery injury simulation in management of vascular complications in endoscopic endonasal surgery
   Paolo Pacca (Italy)

16.40 O102: Clinical Use of Intraoperative Decision - making Supporting System
   Yuki Horise, Kitaro Yoshimitsu, Takashi Maruyama, Yroshi Iseki, Ken Masamune, Yoshiro Muragaki (Japan)

16.50 O115: Hyper-spectral imaging of the human brain reveals slow sinusoidal, hemodynamic oscillations at distinct frequencies
   Herke Jan Noordmans, Doien Van Blooijs, Jeroel Siero, Jaco Zwanenburg, John Klaessens, Nik Ramsey (The Netherlands)

17.00  O122: The ReCIVA breath sampler for colorectal cancer screening. Preliminary evaluation and results
   Donato Francesco Altomare (Italy)

17.00  COFFEE BREAK

17.00-19.00 GENERAL ASSEMBLY

20.00  SOCIAL EVENT AND DINNER
   Museo dell’Automobile
<table>
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<th>AUTHORS</th>
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<td>44</td>
<td>Dental Surgery</td>
<td>Focus on soft tissue cell response elicited by anodized titanium</td>
<td>Serra Francesca Giulia, Genova Tullio, Zicola Elisa, Mussano Federico, Carossa Stefano (Italy)</td>
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<tr>
<td>49</td>
<td>Dental Surgery</td>
<td>OCT for oral measurement: a preliminary study.</td>
<td>Alessio Gambino (Italy)</td>
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<tr>
<td>50</td>
<td>Dental Surgery</td>
<td>Effects of fiber-glass-reinforced composite restorations on fracture resistance, failure mode and marginal integrity of endodontically treated molars</td>
<td>Riccardo Michelotto Tempesta (Italy)</td>
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<td>76</td>
<td>Dental Surgery</td>
<td>Argon-based treatments for titanium dental implants to introduce organic functionalities</td>
<td>Genova Tullio, Serra Francesca Giulia, Patelli Alessandro, Zicola Eliza, Mussano Federico, Carossa Stefano (Italy)</td>
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<tr>
<td>9</td>
<td>Engineering</td>
<td>TJBOT: a Robot to prevent the cognitive decline</td>
<td>Berardino Cristina, Barbara Kulaga (Italy)</td>
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<tr>
<td>17</td>
<td>Engineering</td>
<td>Automatic determination of the two largest axes from the largest slice of thyroid in a 2D Ultrasound Dataset</td>
<td>Poudel Prabal, Illanes Alfredo, Friebe Michael (Germany) Bhise Aashay, Sheet Debdoot (India)</td>
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<td>32</td>
<td>Engineering</td>
<td>Improving functional recovery after radical prostatectomy: in vitro evidences on a chitosan-based medical device</td>
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GENERAL INFORMATION

GENERAL INFO
CONFERENCE VENUE
LINGOTTO CONGRESS CENTER
VIA NIZZA, 280 - TORINO - ITALY

HOW TO GET THERE
The Lingotto Congress Centre is 10 minutes from the centre of Turin and the Porta Nuova train station. Connections can be made by underground, metro, bus and tram. The Lingotto train station can be reached via the Olympic footbridge. Visitors arriving from motorways or from city by-pass will be guided directly to the Lingotto’s underground car parks by road signs. Turin’s Sandro Pertini airport is 16 km from the city centre and can be reached in 40 minutes by taxi, at a fixed rate.

ON SITE CONGRESS REGISTRATION FEES
(EURO, VAT included)
Non-Member SMIT 500,00 €
Member SMIT ** 400,00 €
Bachelor/Master student 85,00 €
Postgraduate student*** 200,00 €
Gala Dinner 70,00 €

Registration fee includes:
Scientific Program 9-10 November 2017, All Scientific Sessions, Welcome Reception on November 9th.
Admission to the Exhibition Electronic material (program, abstracts etc.), Coffee Breaks and Lunches, Certificate of Attendance

METHOD OF PAYMENT
Only credit card (VISA and MASTERCARD) or cash (Euro) are accepted.

REGISTRATION DESK
Congress Secretariat Opening Hours:
Wednesday, 8th November 2017: from 04.00 pm to 06.00 pm
Thursday, 9th November 2017: from 07.30 am to 06.00 pm
Friday, 10th November 2017: from 07.30 am to 06.00 pm

ABSTRACT BOOK
Abstract book can be downloaded from the website www.smit2017.com at the end of the congress.

CERTIFICATE OF ATTENDANCE
The certificate of attendance will be available on line for all registered participants at www.smit2017.com.
LIABILITY
The organizer cannot accept liability for any personal accidents, loss of belongings or damage to private property of participants and accompanying persons that may occur during the congress.

BADGES
Conference badges must be worn at all times during the congress activities. The badge is required for admission to sessions and social activities that are included in the registration. Admission may be denied to anyone not wearing his/her name badge.

SPEAKER INFORMATION
All presentations must be prepared in PowerPoint (file extension: .pptx). They will be displayed from a PC with Windows 7 or 10 and PowerPoint 2013 on a 4:3 format screen. All presentations must be delivered at Speaker Ready Room located close to the Secretariat Desk 2 hours before your scheduled presentation time. If your presentation is scheduled early in the morning please deliver your presentation the day before.

On site help
If you have technical questions regarding your presentation you can meet the technician in the Speaker Ready Room to either make sure that your presentation will run properly on the system or to anticipate a backup solution.

INTERNET AND WI-FI
Free access to the Wi-Fi inside the congress venue is provided.

MOBILE PHONES & PERSONAL DEVICES
All mobile phones must be on silent mode during the sessions. Recording or photos of any scientific sessions are NOT permitted and this policy will be strictly enforced.

ORAL COMMUNICATIONS PROGRAM
Sessions are organized for topics, and the presentations are based on abstracts submissions accepted. The authors will have 7 minutes for presentation + 3 minutes for discussion. Note: at least one author (the first or the presenting author) must register for the Congress. Please check the program.

POSTER PRESENTATIONS
Paper Poster Size
Each poster must be contained within the 70x100 cm space provided. The poster must not exceed the size limit. If your poster is larger than the above dimensions, SMIT2017 reserves the right to remove or fold your poster to accommodate space for others.

Set Up
Your poster must be placed in the assigned space in the Poster Area on 8th November, 2017 from 02.00pm to 05.00 pm.

Poster Removal
Posters should be removed between 04.30 pm and 05.30 pm on 10th November. If your poster is not removed by this time, SMIT2017 will remove the poster.

SMIT2017 will not be held responsible for any missing or damaged posters. You will receive assistance onsite from our personnel.
TAXIS
Taxis can drive right to the entrance of Lingotto Congress center, that is the only entrance for SMIT2017 Congress. Taxi company: +39 011 5730

CURRENCY
Euro.

EMERGENCY & FIRST AID
First Aid Service is present throughout the opening hours of any event and can be contacted through the Congress Secretariat.

INSURANCE
The congress fee does not include individual insurance coverage. All participants are advised to arrange their own travel and health insurance, which must be purchased in your country of origin. The organizers will also not be responsible for loss or damage to a person or personal belongings.

LOST AND FOUND
Found items should be returned to the cloakroom. If you lose something, please report to this desk for assistance.

ATTIRE
Business casual attire is appropriate. Room temperature can vary in session rooms. We encourage attendees to dress in layers for their personal comfort.

CHILD POLICY
The congress does not provide childcare. Children and infants are not permitted in any of the congress session rooms or events.

NO SMOKING POLICY
Smoking is strictly prohibited during all meetings and sessions and in the exhibition hall at all times. Smoking is allowed in the external area.

OPENING CEREMONY
9th November 08.45 – 09.15
Lingotto Congress Center – Londra Hall

GET TOGETHER PARTY
9th November 19.00 - 20.00
Lingotto Congress Center – exhibition and poster area
We invite you to join us at the get together party SMIT2017. You will taste and enjoy the typical Italian “Aperitivo”. Welcome reception is included into the registration fee. Don’t miss it!!!

SOCIAL DINNER, CLOSING CEREMONY & SMIT AWARDS
10th November 20.00 – 24.00
Auto Museum - Corso Unità d’Italia, 40 - Torino
The Closing Ceremony will conclude an outstanding 2 days, congress in Torino.
Cost for social event is € 70,00
ORGANIZING SECRETARIAT

CENTRO CONGRESSI INTERNAZIONALE SRL
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