SIXTH NATIONAL CONGRESS OF BIOENGINEERING
POLITECNICO DI MILANO • MILAN - JUNE 25-27, 2018

Organizers: POLITECNICO MILANO 1863 | GNB | IEEE
In cooperation with: Fondazione Politecnico di Milano

Agenda GNB2018

Day 1 | 25 June 2018 | Politecnico di Milano, Room De Donato

08:00-8:30 | **Registration**

08:30-09:00 | **Welcome address**, Ferruccio **Resta**, Rector, Politecnico di Milano

09:00-10:00 | **Keynote speaker** – Hans **Van Oosterwyck**, KU Leuven, Leuven // "Quantifying cellular forces during endothelial cell migration and vascular invasion"

Chair: Luca **Cristofolini**, Alma Mater Studiorum – Università di Bologna

10:00-10:30 | **Coffee break**

10:30-12:00 | **Podium session (in collaboration with ESB-ITA)**

Chairs: Christian Cipriani, Scuola Superiore Sant'Anna di Pisa – Federica **Caselli**, Università degli Studi di Roma "Tor Vergata"

Time	Title	Authors	Track
10:30-10:45	**CT-based non-linear finite element models of healthy and metastatic femurs**	**Cristina Falcinelli, Alessio Gizzi and Giuseppe Vairo**	**Track 1 – Biomechanics and mechanobiology**
10:45-11:00	**Local vascular remodeling and hemodynamic changes of patient-specific arteriovenous fistulae for hemodialysis**	**Michela Bozzetto, Paolo Brambilla, Stefano Rota, Bogdan Ene-Iordache, Diego Curtò, Sandro Sironi, Giuseppe Remuzzi and Andrea Remuzzi**	**Track 1 – Biomechanics and mechanobiology**

11:00-11:15	**In vitro full-field strain distribution of the anterior longitudinal ligament**	**Maria Luisa Ruspi, Fabio Galbusera, Marco Palanca, Christian Liebsch, Tomaso Villa, Hans-Joachim Wilke, Marco Brayda-Bruno, Luca Cristofolini and Luigi La Barbera**	**Track 1 – Biomechanics and mechanobiology**
11:15-11:30	**A wearable system based on Time-of-Flight technology for direct derivation of step number and step width on healthy gait**	**Stefano Bertuletti and Ugo Della Croce**	**Track 6 – Neural and rehabilitation engineering**
11:30-11:45	**An innovative MIMU-based procedure for the estimate of the knee flexion-extension angle**	**Marco Caruso, Marco Knaflitz and Andrea Cereatti**	**Track 6 – Neural and rehabilitation engineering**
11:45-12:00	**An OCMFET-based platform for electrical and metabolic activity monitoring of living cells in vitro**	**Andrea Spanu, Laura Martines, Maria Teresa Tedesco, Luisa Bozano, Annalisa Bonfiglio and Sergio Martinoia**	**Track 6 – Neural and rehabilitation engineering**

12:00-12:30 | **Poster track presentation** – Michele **Conti**, Università degli Studi di Pavia

Poster Track 1 – Biomechanics and mechanobiology / Poster Track 6 – Neural and rehabilitation engineering / S2P – GNB 2018 "Your idea in a tweet and an image"

Poster Track 1 – Biomechanics and mechanobiology:

- **"Computational tools for the reliability assessment and the engineering design of procedures and devices in bariatric surgery"** Emanuele Luigi Carniel, Chiara Giulia Fontanella, Claudia Salmaso, Ilaria Toniolo, Simone Gentilotti, Lino Polese, Mirto Foletto, Stefano Merigliano and Arturo Natali **(n° 17)**
- **"Investigation of the biomechanical response of infrapatellar fat pad in osteoarthritic condition"** Chiara Giulia Fontanella, Emanuele Luigi Carniel, Veronica Macchi, Raffaele De Caro and Arturo N Natali **(n° 31)**

- **"A segmentation method for OCT images of coronary arteries treated with bioresorbable stents: validation and application to numerical modelling"** Marco Bologna, Susanna Migliori, Eros Montin, Rajiv Rampat, David Hildick-Smith, James Cockburn, Francesco Migliavacca, Luca Mainardi and Claudio Chiastra **(n° 40)**
- **"Bone healing monitoring based on external fixator instrumentation: three case studies"** Angela Sorriento, Fatima Omar Ahmed Ba Fakih, Cesare Stefanini, Luca Fabbri, Gastone Ciuti, Michelangelo Scaglione, Paolo Dario and Stefano Mazzoleni **(n° 45)**
- **"Combining computational and experimental methods to investigate the effect of hemodynamics on vascular tissues"** Marco Franzoni, Nicolas Aristokleous, Connor Cunnane, Rachel Cahalane, Neda Alam, James Lynch, Daniel Moran, David T O'Connor, David Newport, J. Graeme Houston and Michael T Walsh **(n° 59)**
- **"Modelling the abdominal wall response under active muscles and effective internal pressures"** Silvia Pianigiani, Piero G. Pavan, Silvia Todros, Paola Pachera and Arturo N. Natali **(n° 67)**
- **"Biomechanical characterization of diaphragmatic hernia repair with FE modelling"** Niccolò de Cesare, Caterina Trevisan, Edoardo Maghin, Arturo N. Natali, Martina Piccoli and Piero G. Pavan **(n° 71)**
- **"A novel computational framework for large strain explicit solid dynamics: applications in biomechanics"** Osama Hassan, Antonio Gil, Chun Hean Lee, Ferdinando Auricchio and Javier Bonet **(n° 80)**
- **"A three-dimensional biomechanical model for shoulder joint kinematics and kinetics during forearm crutch walking in post after total hip replacement patients"** Marco Freddolini, Francesco Esposito, Leonardo Latella, Massimiliano Marcucci and Andrea Corvi **(n° 90)**
- **"Does prosthesis design influence dynamic activities in patients following Total Knee Replacement?"** Francesco Esposito, Marco Freddolini, Leonardo Latella, Massimiliano Marcucci and Andrea Corvi **(n° 91)**
- **"Biomechanical analysis of the interaction phenomena between the cuff of an artificial urinary sphincter and urethral duct"** Arturo N Natali, Chiara Giulia Fontanella, Silvia Todros, Simone Carmignato, Filippo Zanini, P.G. Pavan and Emanuele Luigi Carniel **(n° 92)**
- **"Influence of the diagonal branches in stenotic left anterior descending coronary"** Lina T. Gaudio, Salvatore De Rosa, Maria Vittoria Caruso, Ciro Indolfi, Pierangelo Veltri and Gionata Fragomeni **(n° 97)**
- **"Computational modelling of brain tissue in neurosurgery"** Daniele Bianchi and Giuseppe Vairo **(n° 98)**
- **"Engineering viscoelasticity in biomaterials"** Ludovica Cacopardo, Nicole Guazzelli, Roberta Nossa, Mattei Giorgio and Arti Ahluwalia **(n° 101)**
- **"Computational modeling of the Interaction of lymphatic and vascular microcirculation in uremia"** Possenti Luca, Giustina Casagrande, Simone Di Gregorio, Paolo Zunino and Marialaura Costantino **(n° 110)**
- **"Mechanical characterization of the passive elastic behaviour of muscular fibres and bundles"** Piero Pavan, Lorenzo Marcucci, Carlo Reggiani and Arturo Natali **(n° 113)**

- **"Aortic expansion induces lumen narrowing in anomalous coronary arteries: a parametric structural finite element analysis"** Giovanni Maria Formato, Mauro Lo Rito, Ferdinando Auricchio, Alessandro Frigiola and Michele Conti **(n° 121)**
- **"Mechanics-based quantitative tumor identification and characterization"** Antonio Candito, Robert L. Reuben and Yuhang Chen **(n° 123)**
- **"Upper limb biomechanical model for orthopaedic applications: preliminary results"** Vi Do Tran, Paolo Dario and Stefano Mazzoleni **(n° 127)**
- **"Thermal stabilization of the deglycating enzyme Amadoriase I by computational protein design"** Federica Rigoldi, Stefano Donini, Alberto Redaelli, Emilio Parisini and Alfonso Gautieri **(n° 131)**
- **"Evaluation of butanediol diglycidyl ether crosslink density along a collagen molecule"** Irene Cristiani, Federica Rigoldi and Simone Vesentini **(n° 132)**
- **"On-field assessment of the rugby tackle for ACL injury prevention and technique enhancement"** Davide Pavan, Federica Cibin, Annamaria Guiotto, Alessandra Colangelo, Fabiola Spolaor, Tiziano Casagrande, Giorgio Sbrocco, Antonio Pavanello and Zimi Sawacha **(n° 137)**
- **"Patient-Specific CFD modelling in the Thoracic Aorta through a Least-Square 3-Element Windkessel approach"** Rodrigo Romarowski, Adrien Lefieux, Simone Morganti, M. Conti, Alessandro Veneziani and Ferdinando Auricchio **(n° 138)**
- **"Effect of Nichoid substrates on the morphology of adhering mesenchymal stem cells"** Emanuela Jacchetti, Roberto Osellame, Giulio Cerullo and Manuela Teresa Raimondi **(n° 140)**
- **"Age and risk factors promote abnormal hemodynamics and differentially influence aortic calcification"** Rodrigo Romarowski, Michele Conti, Ferdinando Auricchio, Simone Morganti and Alexey Kamenskiy **(n° 141)**
- **"Dynamic torsional behaviour of native ACL and grafts commonly used in surgical reconstruction: setup definition and preliminary results"** Matteo Berni, Gregorio Marchiori, Stefano Zaffagnini and Nicola Lopomo **(n° 154)**
- **"Carotid restenosis risk via hemodynamic and morphometric analysis: a 5 year follow-up"** Diego Gallo, Maurizio Domanin, David Iommi, Christian Vergara and Umberto Morbiducci **(n° 170)**
- **"MicroCT-traction apparatus to follow anterior cruciate ligament fibrous structure under strain"** Gregorio Marchiori, Annapaola Parrilli, Nicola Sancisi, Michele Conconi, Matteo Berni, Luca Luzi, Riccardo Calzoni, Giorgio Cassiolas, Milena Fini, Stefano Zaffagnini and Nicola Lopomo **(n° 172)**
- **"Structure and mechanosensing response of the nuclear pore complex"** Francesca Donnaloja, Emanuela Jacchetti, Monica Soncini and Manuela Teresa Raimondi **(n° 184)**
- **"An in vitro system for the mechano-electrical characterization of excitable cells"** Ilaria Pulsoni, Giorgio Carlini, Pasqualina Farisello and Roberto Raiteri **(n° 203)**
- **"MRI T2 mapping of knee cartilage status and multi-body simulation of joint loads in anterior cruciate ligament reconstruction"** Giorgio Cassiolas, Marco Bontempi, Nicola Lopomo, Gregorio Marchiori, Matteo Berni, Giordano Valente, Cecilia Signorelli, Laura Bragonzoni and Stefano Zaffagnini **(n° 204)**

- **"Left ventricle dysfunctions in post-ischemic cardiomyopathy: an integrated methodological approach based on 4D Flow CMR"** Silvia Pozzi, Filippo Piatti, Antonia Camporeale, Gabriella Di Giovine, Serenella Castelvecchio, Lorenzo Menicanti, Andreas Greiser, Emiliano Votta, Alberto Redaelli and Massimo Lombardi **(n° 210)**
- **"A non-local approach to model blood flow in small arterial vessels"** Gioacchino Alotta, Emanuela Bologna and Massimiliano Zingales **(n° 219)**
- **"Patient-specific aortic root FE models biomechanics: impact of leaflets thickness distribution and discretization approach"** Giovanni Rossini, Marco Sabbatini, Francesco Sturla, Alessandro Della Corte, Ciro Bancone, Santo Dellegrottaglie, Alberto Redaelli and Emiliano Votta **(n° 222)**
- **"Image-based analysis of tricuspid valve biomechanics: towards a novel approach integrating in vitro 3D echocardiography and finite element modelling"** Matteo Selmi, Omar Pappalardo, Angela Aversa, Eleonora Careddu, Michal Jaworek, Riccardo Vismara, Giovanni Battista Luciani, Giuseppe Faggian, Alberto Redaelli and Emiliano Votta **(n° 229)**
- **"Simulation of Mitral valve function: quantitative comparison between mass-spring and finite element approach"** Omar Antonio Pappalardo, Francesco Sturla, Francesco Onorati, Giovanni Puppini, Matteo Selmi, Giovanni Luciani, Giuseppe Faggian, Alberto Redaelli and Emiliano Votta **(n° 230)**
- **"Passive beating heart platform for transcatheter tricuspid valve treatments evaluation"** Michal Jaworek, Marco Piola, Federico Lucherini, Guido Gelpi, Claudia Romagnoni, Carlo Antona, Gianfranco Beniamino Fiore and Riccardo Vismara **(n° 233)**
- **"Internal fixation of spinal metastasis: a finite element analysis of a new technique"** Luigi La Barbera, Andrea Ferrari, Alessandro Cianfoni, Daniela Distefano, Giuseppe Bonaldi and Tomaso Villa **(n° 234)**
- **"Biomechanical analysis of different treatments for Kienböck's disease"** Anna Aimar, Emmanuel Camus, Cristina Bignardi, Alberto Audenino, Frederic Schuind and Bernardo Innocenti **(n° 244)**
- **"Towards non-invasive assessment of human aortic tissue microstructure: Diffusion Tensor Imaging for collagen fiber detection"** Emanuele Vignali, Nicola Martini, Paola Losi, Katia Capellini, Daniele Della Latta, Francesco Di Bartolo, Luigi Landini, Vincenzo Positano and Simona Celi **(n° 257)**
- **"Transcatheter aortic valve repair performances in elliptic annuli: Corevalve versus Portico"** Alice Finotello, Simone Morganti, Nedy Brambilla, Riccardo Gorla, Francesco Bedogni and Ferdinando Auricchio **(n° 266)**
- **"Bidomain simulations of ventricular tachycardia in presence of infarct scars"** Simone Scacchi, Piero Colli Franzone, Vincenzo Gionti and Luca Pavarino **(n° 270)**
- **"Ex vivo vascular human-based models: new strategies to limit the use of animal models in vascular diseases studies"** Marco Piola, Simona Seminati, Monica Soncini and Gianfranco Beniamino Fiore **(n° 280)**
- **"A novel method for slippage detection with tactile sensors"** Rocco Antonio Romeo, Angelo Davalli, Rinaldo Sacchetti, Eugenio Guglielmelli and Loredana Zollo **(n° 288)**
- **"A mathematical model of healthy and dystrophic skeletal muscle biomechanics"** Marco Stefanati, Chiara Villa, Yvan Torrente and Jose F Rodriguez Matas **(n° 298)**

- **"Mechanical X'talk between Stem Cells and ECM"** Sabato Fusco, Valeria Panzetta and Paolo Netti **(n° 309)**

Poster Track 6 – Neural and rehabilitation engineering:

- **"Characterizing Silicon Photomultipliers for optical monitoring of human brain activity: towards wearable, whole-head, high-density EEG-fNIRS systems."** Antonio Maria Chiarelli, Sebania Libertino, Filippo Zappasodi, Massimo Mazzillo, Salvatore Lombardo, Giorgio Fallica and Arcangelo Merla **(n° 16)**
- **"Motor imagery classification through multimodal EEG-fNIRS recordings and Deep Learning classifier"** Antonio Chiarelli, Pierpaolo Croce, Arcangelo Merla and Filippo Zappasodi **(n° 18)**
- **"Comparison between frequency and amplitude modulation for restoring neural sensory feedback in a bidirectional hand prosthesis"** Giacomo Valle, I. Strauss, F.M. Petrini, F. Iberite, A. Mazzoni, E. D'Anna, G. Granata, M. Controzzi, C. Cipriani, T. Stieglitz, P.M. Rossini, S. Raspopovic and Silvestro Micera **(n° 21)**
- **"An overground robotic exoskeleton gait training in complete spinal cord injured patients: preliminary results"** Stefano Mazzoleni, Elena Battini, Alessandro Rustici and Giulia Stampacchia **(n° 28)**
- **"Motor recovery in subacute stroke patients following wrist robot-assisted rehabilitation"** Stefano Mazzoleni, Vi Do Tran, Elisa Falchi, Paolo Dario and Federico Posteraro **(n° 30)**
- **"Kinematic Monitoring of Upper Limb Robot-Assisted Therapy in Subacute Stroke Patients"** Michela Goffredo, Stefano Mazzoleni, Alessandro Pesci, Simone Criuscuolo, Daniele Galafate, Francesco Infarinato, Federico Posteraro and Marco Franceschini **(n° 36)**
- **"Fatigue-induced kinematic changes enhance knee injury risk in running with repeated turns"** Matteo Zago, Chiarella Sforza, Alfredo Marchetti, Filippo Bertozzi, Fabio Esposito and Manuela Galli **(n° 50)**
- **"Long-term effect of intracortical microstimulation in awake behaving rats"** Alberto Averna, David Guggenmos, Valentina Pasquale, Marianna Semprini, Randolph Nudo and Michela Chiappalone **(n° 55)**
- **"Two ways to improve SSVEP recognition based on Canonical Correlation Analysis"** Valeria Mondini, Anna Lisa Mangia, Luca Talevi and Angelo Cappello **(n° 65)**
- **"Novel robotic system to train and assess forelimb motor function in rodents"** Maria Pasquini, Stefano Lai, Alessandro Panarese and Silvestro Micera **(n° 70)**
- **"Preload force and stimulation point effects on the vibration-induced proprioceptive illusions"** Francesca Ferrari, Francesco Clemente and Christian Cipriani **(n° 72)**
- **"Effects of scapula calibration in sensor-based and marker-based protocols"** Antonella Berardi, Marco Muraccini, Alessandro Varini, Matteo Mantovani and Angelo Cappello **(n° 81)**

- **"A novel robotic task for assessment and training of dynamic balance in subjects with Parkinson's disease"** Ilaria Carpinella, Antonio Nardone, Gianluca Bonora, Thomas Bowman, Davide Cattaneo, Marco Rabuffetti and Maurizio Ferrarin **(n° 87)**

- **"Gait ratios as estimated by a single inertial sensor: a feasibility analysis"** Carlotta Caramia, Cristiano De Marchis, Carmen D'Anna, Ivan Bernabucci and Maurizio Schmid **(n° 151)**
- **"Number of monitoring days required for reliable estimates of individual actigraphic outcome"** Marco Rabuffetti, Laura Fabbri, Silvia Pancani, Filippo Gerli, Irene Mosca, Leonardo Martini, Francesca Baglio, Maurizio Ferrarin and Federica Vannetti **(n° 159)**
- **"EMG-based online decoding of motor tasks in amputees: a pilot study"** Federica Barberi, Federica Aprigliano, Alberto Mazzoni, Emanuele Gruppioni, Angelo Davalli, Rinaldo Sacchetti and Silvestro Micera **(n° 161)**
- **"Neural acoustic stimulation mediated by piezoelectric nanoparticles"** Marietta Pisano, Camilo Rojas, Mariateresa Tedesco, Pasqualina Farisello, Sergio Martinoia, Paolo Massobrio, Attilio Marino, Gianni Ciofani and Roberto Raiteri **(n° 182)**
- **"Electric field modelling during Deep TMS for addiction treatment"** Serena Fiocchi, Emma Chiaramello, Marta Bonato, Marta Parazzini, Livio Luzi and Paolo Ravazzani **(n° 201)**
- **"A Learning-based Approach to the Real-time Estimation of the Feet Ground Reaction Forces and Centres of Pressure in Humans"** Marta Lorenzini, Wansoo Kim, Elena De Momi and Arash Ajoudani **(n° 205)**
- **"A virtual reality platform to assess virtual hand embodiment"** Marco D'Alonzo, Alessandro Mioli, Domenico Formica, Luca Vollero and Giovanni Di Pino **(n° 212)**
- **"Wearable gait analysis through the harmonic oscillations of the COM accelerations"** Marcello Cono Fusca, Paolo Perego and Giuseppe Andreoni **(n° 217)**
- **"Applicability of optimised orthoses for upper limb dyskinesia in the young."** Lorenzo Garavaglia, Emanuela Pagliano, Giovanni Baranello, Andrea Aliverti and Simone Pittaccio **(n° 226)**
- **"An upper limb Functional Electrical Stimulation controller based on Reinforcement Learning: A feasibility case study"** Davide Di Febbo, Emila Ambrosini, Matteo Pirotta, Marcello Restelli, Alessandra Pedrocchi and Simona Ferrante **(n° 227)**
- **"Prototype of multisignal wearable sensors for the characterisation of Movement Disorders"** Fabio Lazzari, Lorenzo Garavaglia, Jacopo Romanò and Simone Pittaccio **(n° 231)**
- **"A Hydrogel-Based EMG Electrode Transparent to Ultrasounds"** Alberto Botter, Giacinto Luigi Cerone, Marialaura Beltrandi, Marco Gazzoni and Taian Vieira **(n° 235)**
- **"Arm-weight support for 3D upper limb rehabilitation"** Francesco Scotto di Luzio, Davide Simonetti and Loredana Zollo **(n° 239)**
- **"An Integrated Automatic Tool for Kinematic Assessment of Postures in Ergonomic Applications"** Stefano Elio Lenzi, Carlo Emilio Standoli, Giuseppe Andreoni and Nicola Francesco Lopomo **(n° 253)**
- **"Stroke rehabilitation through robot-assisted exercise: insights on spatial generalisation using a dynamical model of the recovery process"** Giulia Sedda, Rita Franzosi, Alessandra Mazzone, Roberto Colombo and Vittorio Sanguineti **(n° 258)**
- **"Preliminary study on bias of coherent percept induced by active interaction with moving plaids"** Giulia Sedda, Vittorio Sanguineti and Silvio Paolo Sabatini **(n° 261)**

- **"Phase coupling in the STN-network during gait"** Andrea Canessa, Gabriele Arnulfo, Nicolò G. Pozzi, Chiara Palmisano, Alice Leporini and Ioannis U. Isaias **(n° 263)**
- **"Floating array of intrafascicular soft electrodes to interface with the peripheral nerve"** Ivo Strauss, F. Petrini, A. Cutrone, F. Bernini, K. Gabisonia, L. Carlucci, M.M. Ottaviani, S. Raspopovic, F.A. Recchia and Silvestro Micera **(n° 272)**
- **"EMG-controlled force field generation: myocontroller module for Real-Time force estimation"** Nicola Lotti and Vittorio Sanguineti **(n° 273)**
- **"Functional evaluation of cervical spinal cord injury survivors after training with a Body-Machine interface"** Elisa Galofaro, Alice De Luca, Elisa Tasso, Federica Cervetto, Simona Gamba, Luca Losio, Anna Venegoni, Sergio Mandraccia, Ingeborg Muller, Elisabetta Quinland, Antonino Massone, Ferdinando A. Mussa-Ivaldi, Maura Casadio and Camilla Pierella **(n° 274)**
- **"Design of a wearable mechatronic device to measure the wrist rigidity in Parkinson's Disease patients"** Luigi Raiano, Giovanni Di Pino, Dino Accoto and Domenico Formica **(n° 275)**
- **"An organic transistor-sensorized glove for non-invasive monitoring of hand movements for healthcare applications"** Stefano Lai, Piero Cosseddu and Annalisa Bonfiglio **(n° 278)**
- **"A platform to evaluate cortical changes induced by rehabilitation with neuromodulation"** Marianna Semprini, Gaia Bonassi, Elisa Pelosin, Dante Mantini, Laura Avanzino and Michela Chiappalone **(n° 282)**
- **"Wearable and modular system for neuromuscular assessment"** Giacinto Luigi Cerone and Marco Gazzoni **(n° 285)**
- **"Analog-like control is possible in SSVEP based Brain-Computer Interfaces"** Luigi Bianchi and Lucia Rita Quitadamo **(n° 289)**
- **"Assessing structural adaptation of biceps brachii motor units in chronic post-stroke patients: preliminary results"** Talita Pinto, Andrea Turolla, Marco Gazzoni, Michela Agostini and Taian Vieira **(n° 290)**
- **"Evaluation of hand-eye and robot-world calibration algorithms for TMS application"** Alessia Noccaro, Giovanni Di Pino and Domenico Formica **(n° 291)**
- **"Do aged and young subjects activate differently their ankle muscles during standing?"** Fabio Vieira Dos Anjos, Talita Pinto, Marco Gazzoni and Taian Vieira **(n° 292)**

12:30-14:00 | **Lunch, Posters & LAB TOUR – "Laboratories of medical technologies"**

GOVERNMENT FORUM

Moderator: Maria Chiara **Carrozza**, Scuola Superiore Sant'Anna of Pisa

14:00-14:15 | **Introduction**

14:15-14:45 | Daniela **Corda**, Consiglio Nazionale delle Ricerche

14:45-15:15 | Roberto **Cingolani**, Istituto Italiano di Tecnologia

15:15-15:45 | Ugo **Della Croce**, Università degli Studi di Sassari

15:45-16:30 | **Discussion**

16:30-17:00 | Coffee break & posters

17:00-18:30 | **Parallel sessions**

Session 1 | PhD in Bioengineering Forum – Andrea **Aliverti**, Politecnico di Milano – Maria Gabriella **Signorini**, Politecnico di Milano (Room De Donato)

17:00-17:10 – PhD Bioengineering in Italy. State-of-the-art.

17:10-17:50 – Four recent stories of PhDs

17:50-18:30 – Round table (four answers from ‘influencers’)

Both PhDs and influencers come from a large BIO company, an entrepreneurship experience, a foreign Academia, a non-academic research institutions

Session 2 | ESB-ITA general assembly (Aula Magna)

18:30-20:00 | **GNB Council**

20:00-23:00 | **PhD social event**

SIXTH NATIONAL CONGRESS OF BIOENGINEERING
POLITECNICO DI MILANO • MILAN - JUNE 25-27, 2018

Organizers | In cooperation with

Agenda GNB2018

Day 2 | 26 June 2018 | Politecnico di Milano, Room De Donato

08:00-09:00 | **Registration**

09:00-10.00 | **Keynote speaker** – Lena **Maier-Hein**, DKFZ – Deutsches Krebsforschungszentrum in der Helmholtz-Gemeinschaft, Heidelberg //

"Combioscopy: A multidisciplinary approach to interventional cancer care"

Chair: Riccardo **Bellazzi**, Università degli Studi di Pavia

10:00-10:30 | **Coffee break**

10:30-12:00 | **Open Podium Session (in collaboration with IEEE-Italian Chapter on Engineering in Medicine and Biology)**

Chairs: Gianna Toffolo, Università degli Studi di Padova **– Annalisa Bonfiglio**, Università degli Studi di Cagliari

Time	Title	Authors	Track
10:30-10:45	**Stochastic Modeling of Insulin Sensitivity Variability in Subjects with Type 1 Diabetes from 1-Month Free-Living Conditions Data**	**Michele Schiavon, Roberto Visentin, Chiara Dalla Man and Claudio Cobelli**	**Track 3 – E-Health and bioinformatics**
10:45-11:00	**An application for reporting adverse events in patients undergoing cancer immunotherapy**	**Elisa Maria Zini, Giordano Lanzola, Paolo Bossi, Carlo Resteghini and Silvana Quaglini**	**Track 3 – E-Health and bioinformatics**

11:00-11:15	**Synchronicity among hippocampal co-cultures in a four-chamber in vitro system**	**Daniele Poli, Yash S. Vakilna, Thomas B. Demarse, Bruce C. Wheeler and Gregory J. Brewer**	**Track 4 – Signal processing and medical image processing**
11:15-11:30	**Mathematical Model for cardiac troponin T release in patients with Acute Myocardial Infarction and ST-segment Elevation**	**Anna Procopio, Salvatore De Rosa, Caterina Covello, Alessio Merola, Jolanda Sabatino, Alessia De Luca, Ciro Indolfi, Francesco Amato and Carlo Cosentino**	**Track 4 – Signal processing and medical image processing**
11:30-11:45	**Acoustical analysis of sustained vowels in children: an aid to the diagnosis of autism spectrum disorders**	**Maria Sole Morelli, Sara Sarhan, Fabio Apicella, Silvia Orlandi, Valeria Costanzo and Claudia Manfredi**	**Track 4 – Signal processing and medical image processing**
11:45-12:00	**Spectral photon counting discrete computed tomography**	**Francesco Brun, Vittorio Di Trapani, Diego Dreossi, Luigi Rigon, Renata Longo and Pasquale Delogu**	**Track 4 – Signal processing and medical image processing**

12:00-12:30 | **Poster track presentation** – Cristiana **Corsi**, Alma Mater Studiorum – Università di Bologna

Poster Track 3 – E-Health and bioinformatics / Poster Track 4 – Signal processing and medical image processing

Poster Track 3 – E-Health and bioinformatics:

- **"Towards the introduction of the messengers in digital-radiology teleconsulting"** Daniele Giansanti and Luca Cosentino **(n° 12)**
- **"Towards the design of wearable systems in Animal Assisted therapy"** Daniele Giansanti, Giovanni Maccioni and Mauro Grigioni **(n° 14)**
- **"The Text Neck and the smartphone: emerging problems and proposals"** Daniele Giansanti, Lorenzo Colombaretti and Rossella Simeoni **(n° 15)**
- **"Fall risk models: a literature review and an estimate of model score concordance"** Elisa Salvi, Antonio Caronni, Silvana Quaglini, Giordano Lanzola, Massimo Corbo and Lucia Sacchi **(n° 26)**

- **"System Dynamics Modelling in Systems Biology and Applications in Pharmacology"** Javier Fernandez, Juan Carlos Ramos-Diaz and Rafael Fernandez de Canete **(n° 27)**
- **"The standardization of Radiotherapic treatment and chronological Check list in the structured discharge Report of patient, for the Protocol of treatment, Follow-up and in the electronic sanitary file (FSE)."** Manuela Stroili, S. Saldi and Sara Chierichini **(n° 37)**
- **"Indoor-Outdoor Detection using Head-mounted Color Light Sensors"** Tommaso Martire, Payam Nazemzadeh, Alessia Cristiano, Alberto Sanna and Diana Trojaniello **(n° 43)**

- **"Predictors of hearing aid benefit and user satisfaction in elderly hearing impaired subjects"** Gabriella Tognola, Anna Mainardi and Domenico Cuda **(n° 47)**
- **"Development of a PBPK model for the study of Azathioprine pharmacokinetics in rats and translation in humans"** Roberta Bartolucci, Nicola Melillo and Paolo Magni **(n° 62)**
- **"Variance based Global Sensitivity Analysis on Models describing Drug Absorption following Oral Administration"** Nicola Melillo, Leon Aarons, Paolo Magni and Adam Darwich **(n° 64)**
- **"Hospital-Customised HTA of Vessel Sealing Systems in Thyroidectomy"** Michela D'Antò, Maria Romano, Agostino Accardo, Irene Lasorsa, Paolo Bifulco, Francesco Amato and Mario Cesarelli **(n° 89)**
- **"How to teach the best-practices to the Magnetic Resonance workers? Basics of a training procedure for avoiding high-exposure behaviours"** Valentina Hartwig, Daniele De Marchi, Cristiano Biagini, Alessandra Flori, Chiara Gabellieri, Giorgio Virgili, Luca Fabiano Ferrante Vero, Luigi Landini, Nicola Vanello and Giulio Giovannetti **(n° 93)**
- **"Actigraphy and tele-rehabilitation: a study to improve physical activity in MCI subjects"** Laura Fabbri, Leonardo Martini, Silvia Pancani, Filippo Gerli, Irene Mosca, Giulia Lucidi, Francesca Baglio and Federica Vannetti **(n° 108)**
- **"Simulating pharmacokinetic profiles in different species through PBPK modelling: validation of a MATLAB-based platform"** Silvia Grandoni, Nicola Cesari, G. Brogin, P. Puccini and Paolo Magni **(n° 115)**
- **"A Rule-based Expert System for automatic genomic variant interpretation"** Giovanna Nicora, Ivan Limongelli, Patrick Gambelli, Mirella Memmi, Carlo Napolitano, Alberto Malovini, Andrea Mazzanti, Silvia Priori and Riccardo Bellazzi **(n° 116)**
- **"Health-Geomatics application for evaluation and improvement of Public Access Defibrillation in the city of Milan"** Lorenzo Gianquintieri, M.A. Brovelli, P. Brambilla, A. Pagliosa, G.F. Villa and Enrico Gianluca Caiani **(n° 120)**
- **"A metabolic engineering approach to optimize ethanol production from dairy waste in Escherichia coli"** Davide De Marchi, Lorenzo Pasotti, Michela Casanova, Ilaria Massaiu, Maria Gabriella Cusella De Angelis and Paolo Magni **(n° 128)**
- **"Evaluation of mathematical methods to in-silico study the metabolic phenotype of E. coli"** Ilaria Massaiu, Lorenzo Pasotti, Davide De Marchi and Paolo Magni **(n° 129)**

- **"Concurrent clustering and classification for assessing the risk of falling during ageing"** Massimo W. Rivolta and Roberto Sassi **(n° 143)**
- **"Autonomous rehabilitation at home through exer-games: lessons learnt"** Nunzio Alberto Borghese, Jacopo Essenziale, Manuel Pezzera and Renato Mainetti **(n° 146)**

- **"Integrative analysis of multiple "-omics" with network diffusion"** Noemi Di Nanni, Matteo Gnocchi, Marco Moscatelli, Luciano Milanesi and Ettore Mosca **(n° 157)**
- **"Temporal prediction of Multiple Sclerosis progression: the role of patient-centered outcomes"** Andrea Tacchino, Samuele Fiorini, Annalisa Barla, Alessandro Verri, Michela Ponzio, Mario Alberto Battaglia and Giampaolo Brichetto **(n° 166)**
- **"Reduced Sampling Schedule & Protocol Duration for the Single Tracer Oral Minimal Model: from 7 to 3 Hours & from 21 to 9 Samples"** Roberto Visentin, Chiara Dalla Man and Claudio Cobelli **(n° 167)**
- **"Assessing the Performance of a Commercial Sensorized Mat for Estimating Gait Parameters"** Riccardo Bagarotti, Giordano Lanzola, Elisa Maria Zini, Lucia Sacchi, Elisa Salvi and Silvana Quaglini **(n° 168)**
- **"Is the Fitbit activity tracker a reliable device for the home monitoring of sleep?"** Elisa Salvi, Francesco Fanfulla, Nadia D'artavilla Lupo, Carolina Boveri, Giordano Lanzola, Silvana Quaglini and Lucia Sacchi **(n° 181)**
- **"Quantify ecological dual-task gait interference through mobile-controlled sensorized insoles"** Stefano Tolomeo, Francesca Lunardini, G. Ferriero and Simona Ferrante **(n° 197**)
- **"Implementation of IBM Watson in a decision support system for temporomandibular disorders"** Enrico Guerra, Pierluigi D'Antrassi, Luca Contardo, Bachar Reda, Giacomo Derchi and Sara Marceglia **(n° 247)**
- **"Validation and recalibration of the Finnish Diabetes Risk Score on the older American population of the Health and Retirement Study"** Enrico Longato, Martina Vettoretti, Barbara Di Camillo and Andrea Facchinetti **(n° 260)**
- **"Building a predictive model of diabetes from Veneto's regional HIE: identification of patients from administrative data"** Enrico Longato, Gian Paolo Fadini, Lara Tramontan, Martina Vettoretti, Barbara Di Camillo and Giovanni Sparacino **(n° 267)**
- **"A physiologically based modelling of cardio-aspirin pharmacodynamics in normal subjects"** Alberto Giaretta, Bianca Rocca, Carlo Patrono and Gianna Maria Toffolo **(n° 281)**
- **"An usability evaluation of an advanced home-based telerehabilitation platform for stroke survivors"** Francesco Infarinato, Paola Romano, Sanaz Pournajaf, Michela Goffredo, Giuseppe Caggianese, Luigi Gallo, Nazzareno Marchese, Francesco Adinolfi and Marco Franceschini **(n° 301)**
- **"Microfluidic platform for data acquisition on cell morphology and circulating biomarkers"** Domenico Rossi, David Dannhauser, Edmondo Battista, Paolo Antonio Netti and Filippo Causa **(n° 305)**

Poster Track 4 – Signal processing and medical image processing:

- **"Toward an Automatic Algorithm for Dyskinesia detection In Cine MRI Sequencences"** Mohammed Ammar, Rachid Namane, Said Mahmoudi, Rafika Boughrarou and Boudjema Mansouri **(n° 19)**

- **"DCE-MRI, DKI and IVIM DWI: Functional 3 Parameters to assess Pancreatic Cancer"** Roberta Fusco, Vincenza Granata, Mario Sansone, Raffaele Palaia, Francesco Izzo, Fabiana Tatangelo and Antonella Petrillo **(n° 22)**
- **"Computer-Assisted Review of Auto-Segmented MRI Images in Surface-based"** Andrea Gerardo Russo, Antonietta Canna, Sara Ponticorvo, Renzo Manara, Francesco Di Salle and Fabrizio Esposito **(n° 25)**
- **"Laser Doppler pulse wave modeling for SVM-based age classification"** Michele Sorelli and Leonardo Bocchi **(n° 32)**
- **"Influence of Calibrating Magnetic Sensors on Heading Estimation Using Magneto-Inertial Measurement Units"** Michelangelo Guaitolini, Andrea Mannini and Angelo Sabatini **(n° 33)**
- **"Numerical algorithm to recover contrast dynamics in 3D digital subtraction angiography data-sets: a preliminary clinical validation"** Sara El Hadji, Augusto Bonilauri, Elena De Momi, Giuseppe Baselli and Francesco Cardinale **(n° 38)**
- **"Liver-donor steatosis assessment from smartphone images acquired in the OR"** Sara Moccia, Ilaria Patrini, Michela Ruperti, Elena De Momi, Alberto Diaspro, Olivier Soubrane, Leonardo S. Mattos and Manuela Cesaretti **(n° 41)**
- **"Head acceleration patterns in postural transitions and straight walking: a preliminary study"** Alessia Cristiano, Payam Nazemzadeh, Andrea Tettamanti, Alberto Sanna and Diana Trojaniello **(n° 44)**
- **"Comparison between NODDI metrics acquired at 3T and 7T in the human brain"** Benedetta Toselli, Mattia Chesi, Gabriele Arnulfo, Andrea Canessa, Domenico Tortora, Mariasavina Severino, Andrea Rossi and Marco Massimo Fato **(n° 60)**
- **"Estimating sympathetic baroreflex sensitivity via phase rectified signal averaging technique"** Beatrice De Maria, Vlasta Bari, Beatrice Cairo, Emanuele Vaini, Elisabeth Lambert, Murray Esler, Mathias Baumert, Sergio Cerutti, Laura Dalla Vecchia and Alberto Porta **(n° 61)**
- **"Combined MRI study of perfusion, cerebrovascular reactivity and neurodegeneration in Multiple Sclerosis"** Laura Pelizzari, Maria Marcella Laganà, Niels Bergsland, Laura Mendozzi, Alice Pirastru, Pietro Cecconi, Giuseppe Baselli, Mario Clerici, Raffaello Nemni and Francesca Baglio **(n° 63)**
- **"Towards patient-specific stroke risk assessment in atrial fibrillation using computational fluid dynamics"** Alessandro Masci, Martino Alessandrini, Davide Forti, Filippo Menghini, Luca Dedè, Corrado Tomasi, Alfio Quarteroni and Cristiana Corsi **(n° 68)**
- **"Histological group identification in sinonasal cancer with diffusion weighted magnetic resonance imaging"** Marco Bologna, Eros Montin, Valentina Corino, Paolo Bossi, Giuseppina Calareso, Lisa Licitra and Luca Mainardi **(n° 69)**
- **"Heart rate and heart rate variability from spectrally tuned video and ICA processing"** Veronica Chiara Zuccalà, Riccardo Favilla and Giuseppe Coppini **(n° 73)**
- **"Identification of psammoma bodies in thyroid papillary carcinoma by FT-IR microspectroscopy"** Andrea Zancla, Anna Crescenzi, Monica Orsini, Alberto Rainer and Giovanni Sotgiu **(n° 75)**
- **"An automatic algorithm for the sEMG envelope estimation: evaluation on experimental data"** Simone Ranaldi, Cristiano De Marchis and Silvia Conforto **(n° 77)**

- **"Carotid Sinus Nerve and sympathetic neural overactivity in a diabetic rat model"** Marina Cracchiolo, Alberto Mazzoni, Alessandro Panarese, Joana Filipa Sacramento, Jacopo Carpaneto, Silvia Conde and Silvestro Micera **(n° 96)**
- **"Smart Region Growing: a novel algorithm for the segmentation of 3D confocal image stacks"** Alejandro Callara, Chiara Magliaro, Arti Ahluwalia and Nicola Vanello **(n° 99)**
- **"Open-Source Automated External Defibrillator"** Licia Di Pietro, Jacopo Ferretti, A. Ravizza, Carmelo De Maria and Arti Ahluwalia **(n° 105)**
- **"Longitudinal Atlases of the Pediatric Brain by Multimodal High Field MRI"** Elisa Marchetta, Cristina Baldoli, Antonella Iadanza, Sara Cirillo, Andrea Falini and Paola Scifo **(n° 109)**
- **"Automated live/dead cell counting in confocal microscopy images of Acinetobacter baumannii"** Massimiliano Lucidi, Marco Marsan, Daniela Visaggio, Paolo Visca and Gabriella Cincotti **(n° 114)**
- **"Brain Hemodynamic Response during Yoga Meditation"** Marco Ghislieri, Valentina Agostini and Marco Knaflitz **(n° 117)**
- **"Higher-order spectral analysis of pattern-induced brain rhythms synchronization"** Stefania Coelli, Giulia Tacchino, Silvana Franceschetti, Ferruccio Panzica and Anna Maria Bianchi **(n° 118)**
- **"Multiband EPI imaging from a Functional Connectivity Study Perspective"** Alessandro Palombit, Erica Silvestri, Marco Castellaro, Enrico De Vita, Diego Cecchin and Alessandra Bertoldo **(n° 122)**
- **"Diffusion MRI sensitivity to contralateral GM modulations after stroke"** Lorenza Brusini, Ilaria Boscolo Galazzo, Mauro Zucchelli, Cristina Granziera and Gloria Menegaz **(n° 124)**
- **"Surface-based Quantitative Susceptibility Mapping in Multiple Sclerosis"** Marco Castellaro, Roberta Magliozzi, Alessandro Palombit, Stefania Montemezzi, Francesca Benedetta Pizzini, Massimiliano Calabrese and Alessandra Bertoldo **(n° 125)**
- **"Thermography as a tool for injuries prevention"** Sara Matteoli, Giada Beconi, Sibilla Bigiarini, Laura Simoni, Guido Pasquini, Federica Vannetti, Claudio Macchi and Andrea Corvi **(n° 126)**
- **"Activity of biceps brachii during a boxing cross punch"** Marco Prenassi, Renato De Donato, Lorenzo Rossi, Sara Marceglia, Luca Andreoletti and Simona Mrakic-Sposta **(n° 130)**
- **"Assessing the effects of synaptic plasticity using structural MRI in the mouse: preliminary results"** Lorenza Brusini, Federica Cruciani, Ilaria Boscolo Galazzo, Alberto Galbusera, Mirta Borin, Giovanni Diana, Mario Buffelli, Alessandro Gozzi and Gloria Menegaz **(n° 135)**
- **"The fractal dimension of the brain at ultra-high field MRI"** Chiara Marzi and Stefano Diciotti **(n° 145)**
- **"Ultrasound thyroid nodule texture-based classification with artificial neural networks"** Bruno De Santi, Massimo Salvi, Nicola Michielli, Kristen Mariko Meiburger, Nadia Bonelli, Ruth Rossetto, Roberto Garberoglio and Filippo Molinari **(n° 147)**

- **"New Bayesian algorithm to reduce calibrations in continuous glucose monitoring sensors"** Giada Acciaroli, Martina Vettoretti, Andrea Facchinetti and Giovanni Sparacino **(n° 150)**
- **"Automatic sleep stage classification: a step forward to automated assessment of neurocognitive performance"** Nicola Michielli, Silvia Seoni, Bruno De Santi, Massimo Salvi, Kristen Mariko Meiburger, Antonella Iadarola, Alessandro Cicolin and Filippo Molinari **(n° 152)**
- **"In vivo automated quantification of anatomical and fluid-dynamic alterations in Fontan patients"** Filippo Piatti, Giulia Signorini, Stefania Tirelli, Francesca Pluchinotta, Sergii Siryk, Andreas Greiser, Emiliano Votta, Massimo Lombardi and Alberto Redaelli **(n° 155)**
- **"Wavelet analysis of resting state and evoked Local Field Potentials in rodent barrel cortex"** Marta Bisio, Alessandra Bertoldo, Claudia Cecchetto, Mufti Mahmud, Stefano Vassanelli and Maurizio Corbetta **(n° 158)**
- **"Handwriting parametrization for dysgraphia identification"** Giulia Silveri, Agostino Accardo and Iolanda Perrone **(n° 164)**
- **"The role of beamforming in quantitative muscle ultrasonography: a texture analysis approach"** Kristen Meiburger, Massimo Salvi, Nicola Michielli, Bruno De Santi, Marco Alessandro Minetto and Filippo Molinari **(n° 169)**
- **"Determination of E. coli and S. aureus concentration using a LED-based photometer"** Marco Marsan, Massimiliano Lucidi and Gabriella Cincotti **(n° 171)**
- **"Windowed Wavelet Filter: a New Approach to Identify Event-Related Potentials in Disorders of Consciousness"** Jlenia Toppi, Donatella Mattia, Rita Formisano and Laura Astolfi **(n° 174)**
- **"A Comparison of Pre-Processing Pipelines for the Analysis of Resting-State Data in Epilepsy"** Bianca De Blasi, Ilaria Boscolo Galazzo, Luca Pasetto, Silvia Storti, Matthias Koepp, Anna Barnes and Gloria Menegaz **(n° 176)**
- **"Automated gleason grading in prostate cancer histopathology images"** Massimo Salvi, Kristen Mariko Meiburger, Bruno De Santi, Nicola Michielli, Luca Molinaro and Filippo Molinari **(n° 178)**
- **"ECG Features to Discriminate between Patients with Paroxysmal and Persistent Atrial Fibrillation"** Rita Laureanti, Valentina Corino, Angelo Auricchio, Giulio Conte, Stefan Osswald, David Conen and Luca Mainardi **(n° 179)**
- **"Evaluation of spatial heterogeneity of ventricular repolarization during coronary angioplasty"** Massimo W. Rivolta, Filippo Rocchetta and Roberto Sassi **(n° 186)**

- **"Modelling the exposure of children to extremely low frequency magnetic fields by segmentation"** Marta Bonato, Marta Parazzini, Emma Chiaramello, Serena Fiocchi, Laurent Le Brusquet, Isabelle Magne, Martine Souques, Martin Röösli and Paolo Ravazzani **(n° 191)**
- **"Accuracy Optimization of the Spike Sorting Algorithm"** Emiliano Noce, Anna Lisa Ciancio and Loredana Zollo **(n° 196)**
- **"Quantifying mixing in reconstructed brain sources"** Alessandra Anzolin, Paolo Presti, Frederik Van de Steen, Jlenia Toppi, Laura Astolfi, Stefan Haufe and Daniele Marinazzo **(n° 199)**

- **"SPICODYN 2.0: A toolbox for spike trains data analysis"** Vito Paolo Pastore, Sergio Martinoia and Paolo Massobrio **(n° 200)**
- **"Stochastic modelling of 3D electric field in children brain exposed to 50 Hz magnetic field"** Emma Chiaramello, Marta Parazzini, Serena Fiocchi, Marta Bonato, Laurent Le Brusquet and Paolo Ravazzani **(n° 207)**
- **"Towards deformable registration for AR in nephrectomy"** Anna Morelli, Sara Moccia, Leonardo S. Mattos, Giovanni Cordima, Ottavio De Cobelli, Giancarlo Ferrigno and Elena De Momi **(n° 208)**
- **"Automatic grading of Acne Vulgaris using deep learning"** Antonella Melina, Nhan Ngo Dinh, Benedetta Tafuri, Stefania De Vitis, Giusy Schipani, Steven Nisticò, Carlo Cosentino, Francesco Amato and Andrea Cherubini **(n° 209)**
- **"EEG functional brain connectivity in patients with Cheyne-Stokes respiration"** Alejandro Luis Callara, Maria Sole Morelli, Valentina Hartwig, Alberto Giannoni, Luigi Landini, Michele Emdin and Nicola Vanello **(n° 214)**
- **"3D engineered neuronal networks coupled to 3D Micro-Electrode Arrays"** Nicolò Colistra, Mariateresa Tedesco, Paolo Massobrio and Sergio Martinoia **(n° 218)**
- **"Characterization of muscle functionality of a population based on principal activations"** Cristina Castagneri, Samanta Rosati, Valentina Agostini, Marco Knaflitz and Gabriella Balestra **(n° 220)**
- **"Adaptive integrate and fire neuron for cerebellar Spiking Neural Networks: modelling resonance in Granule cells"** Alice Geminiani, Claudia Casellato, Alessandra Pedrocchi and Egidio D'Angelo **(n° 228)**
- **"Quantitative Clinical MRI using STrategically Acquired Gradient Echo (STAGE) at 1.5 T"** Maria Marcella Lagana, Yongsheng Chen, Pietro Cecconi and E. Mark Haacke **(n° 236)**
- **" The effect of pre-processing settings on muscle co-activation assessment with synthetic and experimental signals"** Martina Rinaldi, Carmen D'Anna, Maurizio Schmid and Silvia Conforto **(n° 242)**
- **"Muscle activity detection in weak and noisy myoelectric signals"** Tiwana Varrecchia, Carmen D'Anna, Maurizio Schmid and Silvia Conforto **(n° 243)**
- **"Real-time Ultrasound-MRI Fusion Imaging of the head in supine and weight bearing"** Maria Marcella Laganà, Pietro Cecconi, Leonardo Forzoni, Stefano De Beni, Giuseppe Loliva and Giovanni Malferrari **(n° 248)**
- **"Consistency of brain perfusion patterns and grey matter volume distribution and their relationship with resting state networks."** Alice Pirastru, Laura Pelizzari, Niels Bergsland, Pietro Cecconi, Giuseppe Baselli and Maria Marcella Laganà **(n° 251)**
- **"Brain perfusion and functional connectivity investigated with MRI and Independent Component Analysis in Parkinson's Disease"** Maria Marcella Laganà, Laura Pelizzari, Alice Pirastru, Niels Bergsland, Federica Rossetto, Mario Clerici, Pietro Cecconi, Giuseppe Baselli, Raffaello Nemni and Francesca Baglio **(n° 255)**
- **"Evaluation of the autonomic response during severe haemorrhage and resuscitation"** Marta Carrara, Giovanni Babini, Giuseppe Baselli, Giuseppe Ristagno and Manuela Ferrario **(n° 264)**

- **"Medical image analysis of aortic arch geometric changes after hybrid treatment"** Alice Finotello, Michele Conti, Elena Faggiano, Giovanni Spinella, Bianca Pane, Domenico Palombo and Ferdinando Auricchio **(n° 268)**
- **"Brain criticality in different conscious states"** Luca Daccà, Andrea Canessa, Benedetta Toselli, Marco M. Fato, Lino Nobili, Francesco Cardinale, Annalisa Rubino, J. Matias Palva and Gabriele Arnulfo **(n° 269)**
- **"Brain Criticality in High-Frequency Activity"** Massimiliano Riccò, Andrea Canessa, Lino Nobili, Francesco Cardinale, Annalisa Rubino, Marco Massimo Fato and Gabriele Arnulfo **(n° 271)**
- **"Epilepsy enhances large scale phase synchrony in the infant human brain"** Arianna Briano, Giovanna Giudizioso, Andrea Canessa, Benedetta Toselli, Marco Massimo Fato, Pasquale Striano and Gabriele Arnulfo **(n° 279)**
- **"How does multicollinearity affect brain connectivity estimation? A simulation study based on penalized regression technique"** Yuri Antonacci, Jlenia Toppi, Antonio Pietrabissa, Febo Cincotti, Donatella Mattia and Laura Astolfi **(n° 284)**
- **"Motifs analysis-based indices to discover brain network architecture"** Manuela Petti, Floriana Pichiorri, Febo Cincotti, Donatella Mattia and Laura Astolfi **(n° 286)**
- **"Analysis of multilayer clustering algorithms for the application to brain functional connectivity"** Maria Grazia Puxeddu, Manuela Petti, Floriana Pichiorri, Febo Cincotti, Donatella Mattia and Laura Astolfi **(n° 287)**
- **"Automatic Recognition on Fetal Pulsed-Wave Doppler Envelope using Neural Networks"** Eleonora Sulas, Emanuele Ortu, Monica Urru, Roberto Tumbarello and Danilo Pani **(n° 293)**
- **"A new approach for the dynamic quantification of LV volume and myocardium mass from cine magnetic resonance images"** Claudio Fabbri and Cristiana Corsi **(n° 294)**
- **"Development of a novel dataset for non-invasive fetal electrocardiography research"** Eleonora Sulas, Emanuele Ortu, Elisa Gusai, Monica Urru, Alessandra Cadoni, Roberto Tumbarello, Luigi Raffo and Danilo Pani **(n° 296)**
- **"Characterization of screen-printed textile electrodes for EMG signal acquisition"** Andrea Achilli, Andrea Zedda, Eleonora Sulas, Alberto Botter, Marco Gazzoni, Annalisa Bonfiglio and Danilo Pani **(n° 297)**
- **"A novel objective method for human gustatory sensitivity assessment"** Danilo Pani, Alice Evelina Martis, Eleonora Sulas, Piero Cosseddu, Ilenia Usai, Veronica Moi, Melania Melis, Giorgia Sollai, Roberto Crnjar, Iole Tomassini Barbarossa and Annalisa Bonfiglio **(n° 299)**

12:30-14:00 | **Lunch, Posters & LAB TOUR – "Laboratories of biomechanics and biomedical signal processing"**

14:00-17:00 | **Parallel sessions**

Session 1 | CLINICAL ENGINEERING FORUM

Moderator: Sergio **Cerutti**, Politecnico di Milano

14:00-14:10 | **Introduction**

14:10-14:30 | Elena **Bottinelli**, Irccs Istituto Ortopedico Galeazzi and Irccs Ospedale San Raffaele

14:30-14:50 | Lorenzo **Leogrande**, Fondazione Policlinico Universitario Agostino Gemelli

14.50-15.10 | Samuel **Dal Gesso**, Vice-Segretario Nazionale Fedir-Federazione Dirigenti e Direttivi Pubblici

15:10-15:30 | Diego **Bravar**, Biovalley Investments S.p.A.

15:30-16:15 | **Discussion**

Session 2 | S2P – GNB 2018: Innovation Corner (Aula Beltrami - Closed Session, access by invitation only)

16:15-16:45| Coffee break & posters

18:00-23:00 | **Cultural Event & Dinner**

Day 3 | 27 June 2018 | Politecnico di Milano, Room De Donato

08:00-09:00 | **Registration**

09:00-10.00 | **Keynote speaker** – Paolo **Bonato**, Harvard Medical School, Boston

Chair: Silvestro **Micera**, Scuola Superiore Sant'Anna di Pisa

10:00-10:30 | **Coffee break**

10:30-12:00 | **Oral Presentations**

Chairs: Paolo Netti, Università degli Studi di Napoli Federico II – Antonella Motta, Università degli Studi di Trento

Time	Title	Authors	Track
10:30-10:45	**3D FEM Model of Osteophytes in the Human Femur Head**	**Andrada Pica, Fabiano Bini, Andrea Marinozzi and Franco Marinozzi**	**Track 1 – Biomechanics and mechanobiology**
10:45-11:00	**Development of a porous scaffold to mimic the topography of the intestinal epithelium**	**Joana Costa, R. Irardi, Marta Macchi and Arti Ahluwalia**	**Track 2 – Biomaterials and tissue engineering**
11:00-11:15	**Three-dimensional scaffold based on chitosan microbeads for 3D neuronal culture**	**Donatella Di Lisa, Mariateresa Tedesco, Paolo Massobrio, Nicolò Colistra, Mattia Pesce, Tiziano Catelani, Elena Dellacasa, Roberto Raiteri, Sergio Martinoia and Laura Pastorino**	**Track 2 – Biomaterials and tissue engineering**
11:15-11:30	**Novel thermo-responsive polyurethane-based hydrogels encapsulating pH-sensitive mesoporous silica nanocarriers**	**Alessandro Torchio, Monica Boffito, Chiara Tonda-Turo, Rossella Laurano, Miguel Gisbert-Garzaran, Miguel Manzano, Maria Vallet-Regi and Gianluca Ciardelli**	**Track 2 – Biomaterials and tissue engineering**

11:30-11:45	**Towards an autonomous fully-implantable artificial pancreas**	**Veronica Iacovacci, Izadyar Tamadon, Carmine Perri, Paolo Dario, Leonardo Ricotti and Arianna Menciassi**	**Track 5 – Artificial Organs, Medical and assistive robotics**
11:45-12:00	**A Hybrid Joint/Cartesian DMP-based motion planner for anthropomorphic robots**	**Clemente Lauretti, Francesca Cordella and Loredana Zollo**	**Track 5 – Artificial Organs, Medical and assistive robotics**

12:00-12:30 | **Poster track presentation** – Andrea **Remuzzi**, Università degli Studi di Bergamo

Poster Track 2 – Biomaterials and tissue engineering / Poster Track 5 – Artificial Organs, Medical and assistive robotics

Poster Track 2 – Biomaterials and tissue engineering:

- **"Vibration-based stimulation for non-viral gene delivery to cells"** Nina Bono, Federica Ponti and Gabriele Candiani **(n° 34)**
- **"Modelling and experimental evaluation of the oxygen control in a vascular culture system"** Simona Seminati, Marco Piola, Matthjis Ruiter, Maurizio Pesce, Gianfranco Fiore and Monica Soncini **(n° 35)**
- **"4D Printing for Bio-Inspired Actuators"** Amedeo Franco Bonatti, Carmelo De Maria and Giovanni Vozzi **(n° 46)**
- **"High-throughput impedance microflow cytometer for label-free characterization and localization of cells and particles**" Adele De Ninno, Riccardo Reale, Luca Businaro, Paolo Bisegna and Federica Caselli **(n° 49)**

- **"Bioactive materials functionalized with natural polyphenols for the modulation of the host response to implants"** Sara Ferraris, Martina Cazzola, Andrea Cochis, Lia Rimondini, Enrico Prenesti, Silvia Spriano and Enrica Vernè **(n° 58)**
- **"Surface-protein interaction modelling: an application to marine biofouling"** Norbert Maggi and Carmelina Ruggiero **(n° 74)**
- **"Multifunctional Fe-doped sol-gel bioactive scaffolds for bone tissue engineering and cancer treatment"** Elisa Fiume, Francesco Baino, Marta Miola, Federica Leone, Barbara Onida, Francesco Laviano, Roberto Gerbaldo and Enrica Verné **(n° 78)**

- **"Comparative cytocompatibility evaluation: two-dimensional (2D) vs. three-dimensional (3D) cell culture tools"** Ayesha Idrees, Valeria Chiono, Richard Viebahn, Gianluca Ciardelli and Jochen Salber **(n° 79)**
- **"Miniaturized Imaging Window for Intravital Nonlinear Microscopy: Preliminary Results"** Claudio Conci, Emanuela Jacchetti, Tommaso Zandrini, Laura Sironi, Maddalena Collini, Giuseppe Chirico, Giulio Cerullo, Roberto Osellame and Manuela Raimondi **(n° 83)**
- **"A novel stimulation pattern for accurate impedance cytometry with standard chips"** Riccardo Reale, Adele De Ninno, Luca Businaro, Paolo Bisegna and Federica Caselli **(n° 85)**
- **"Characterisation of synthetic surgical mesh for hernia repair with regard to physicochemical and mechanical properties"** Silvia Todros, Silvia Pianigiani, Niccolò de Cesare, Giuseppe Pace, Piero Pavan, Vito Di Noto and Arturo N Natali **(n° 100)**
- **"3D micro-porous composite scaffolds with tuneable multiscale porosity"** Anna Lapomarda, Mike Geven, Olivier Guillaume, Christoph Sprecher, David Eglin, Dirk Grijpma and Giovanni Vozzi **(n° 102)**
- **"Flexible silk fibroin-based wound dressings with regenerative properties"** Federica Paladini, Angelica Panico and Mauro Pollini **(n° 103)**
- **"A novel 3D model of gut microbiota"** Francesco Biagini, Alessandra Vecchione, Anna Lapomarda, Francesco Celandroni, Francesca Montemurro, Emilia Ghelardi and Giovanni Vozzi **(n° 106)**
- **"Engineering a dynamic model of the alveolar interface for the study of aerosol deposition"** Roberta Nossa, Daniele Cei and Arti Ahluwalia **(n° 107)**
- **"Development of Cu-doped bioactive and antibacterial glasses by ion exchange process"** Marta Miola and Enrica Vernè **(n° 112)**
- **"CRISPRi for rational design of genetic circuits in Synthetic Biology"** Massimo Bellato, Lorenzo Pasotti, Elia Salibi, Angelica Frusteri Chiacchiera, Pin-Yi Chen, Yili Qian, Michela Casanova, Maria Gabriella Cusella De Angelis, Domitilla Del Vecchio and Paolo Magni **(n° 119)**
- **"Myoblasts proliferation in a porous polyurethane matrix: first steps towards a 3D bio-hybrid actuator"** Federica Iberite, Tommaso Santaniello, Lorenzo Vannozzi, Marco Piazzoni, A. Marino, Irini Gerges, Cristina Lenardi and Leonardo Ricotti **(n° 134)**
- **"Multi-channel microfluidic device for studying cancer metastasis"** Silvia Giuliano, Marta Cavo, Alessandra Marrella, Marco Fato and Silvia Scaglione **(n° 142)**
- **"NF-κB in motion: role of NF-κB dynamics in multiple myeloma – stromal cells interactions"** Federica Colombo, Samuel Zambrano, Marco Bianchi, Marco Rasponi and Alessandra Agresti **(n° 148)**
- **"Piezoelectric nanocomposite ultra-thin films for bone healing"** Lorenzo Vannozzi, Pedro Gouveia, Arianna Menciassi and Leonardo Ricotti **(n° 153)**
- **"Bioprinting of methylcellulose hydrogels for regenerative medicine applications"** Nicola Contessi Negrini, Luca Contili and Silvia Farè **(n° 160)**
- **"Experimental study of protein adsorption on multifunctional Ti-6Al-4V surfaces"** Tiziana Porta, Sara Ferraris, Veronica Peretti, Barbara Stella and Silvia Spriano **(n° 163)**
- **"Sleep- related electrophysiological activity of cortical cultures on MEA"** Ilaria Colombi, Marta Pace, Valter Tucci and Michela Chiappalone **(n° 173)**

- **"An engineered supernegative GFP to track the nuclear import of transcription factors in mesenchymal stem cells"** Lucia Boeri, Emanuela Jacchetti, Alessandro Negro, Diego Albani and Manuela Teresa Raimondi **(n° 177)**
- **"On-chip high-throughput screening of non-viral gene delivery vectors"** Elisa Giupponi, Roberta Visone, Paola Occhetta, Federica Colombo, Gabriele Candiani and Marco Rasponi **(n° 185)**
- **"A multi-compartmental bone-cartilage microfluidic model towards the articular joint-on-chip"** Giovanni Stefano Ugolini, Federica Costa, Paola Occhetta, Andrea Mainardi, Martin Ehrbar, Andrea Barbero and Marco Rasponi **(n° 188)**
- **"Assessment of in vivo response of PU foam-gelatin hydrogel interpenetrated scaffolds for adipose tissue regeneration"** Serena Bertoldi, Nicola Contessi Negrini, Andrea Cochis, Rita Sorrentino, Barbara Azzimonti, Lia Rimondini and Silvia Fare' **(n° 189)**
- **"Nuclear internalization kinetics of a permeable fluorescent dye in cell nuclei of different shape."** Valentina Parodi, Emanuela Jacchetti, Tommaso Zandrini, Roberto Osellame, Giulio Cerullo and Manuela Teresa Raimondi **(n° 198)**
- **"Organ-on-chip platform based on a Miniaturized Optically Accessible Bioreactor: magnetic characterization of the culture chambers"** Luca Izzo, Marta Tunesi, Alessandro Marturano-Kruik, Matteo Laganà, Carmen Giordano and Manuela Teresa Raimondi **(n° 211)**
- **"A microfluidic chip for 3D microtissue culture and high-throughput drug screening"** Roberta Visone, Giovanni Stefano Ugolini, Alberto Redaelli and Marco Rasponi **(n° 216)**
- **"Development of an in vitro three-dimensional model for the study of neurodegenerative diseases"** Valentina Fantini, Matteo Bordoni, Franca Scocozza, Michele Conti, Orietta Pansarasa, Stefania Marconi, Ferdinando Auricchio and Cristina Cereda **(n° 221)**
- **"Effect of the nichoid substrate on mesenchymal stem cell structure and function"** Barbara Bonandrini, Marina Figliuzzi, Sara Conti, Tommaso Zandrini, Roberto Osellame, Giulio Cerullo, Andrea Remuzzi and Manuela Teresa Raimondi **(n° 223)**
- **"An experimental platform for in vitro controlled Low Intensity Pulsed Ultrasound stimulation"** Andrea Cafarelli, Alice Rita Salgarella, Arianna Menciassi and Leonardo Ricotti **(n° 225)**
- **"No stress for the host: model-based and in-vivo strategies to improve predictability and reliability of synthetic biological systems without overloading host cells"** Lorenzo Pasotti, Massimo Bellato, Michela Casanova, Maria Gabriella Cusella De Angelis and Paolo Magni **(n° 232)**

- **"Cartilage-on-chip model: triggering osteoarthritis traits through mechanical compression"** Andrea Mainardi, Paola Occhetta, Emiliano Votta, Martin Ehrbar, Ivan Martin, Andrea Barbero and Marco Rasponi **(n° 237)**
- **"Human Decellularized Dermis as Novel Scaffold for Cardiac Regenerative Medicine: Structure and Mechanical Behaviour"** Mara Terzini, Diana Massai, Veronica Romano, Clotilde Castaldo, Franca Di Meglio, Daria Nurzynska, Alessandra Aldieri, Gianpaolo Serino, Cristina Bignardi and Alberto L. Audenino **(n° 238)**

- **"Controlling cell adhesion by thiol-mediated interaction on thiol-modified glass surfaces"** Elisa Giupponi, Francesca Tana, Nina Bono, Daniele Pezzoli, Luigi De Nardo, Lina Altomare and Gabriele Candiani **(n° 241)**
- **"Stretchable sensors for cell monitoring under mechanical stimuli: preliminary assessment"** Mariagrazia Marziano, Sarah Tonello, Marialaura Serzanti, Michela Borghetti, Nicola Lopomo, Mauro Serpelloni, Stefano Pandini, Nicoletta Inverardi, Chiara Gualandi, Marialetizia Focarete, Daniela Uberti, Patrizia Dell'Era and Emilio Sardini **(n° 245)**
- **"Novel microfluidic platform to assess the influence of perfusion on cardiac microtissue"** Daniela Cruz-Moreira, Alberto Redaelli and Marco Rasponi **(n° 252)**
- **"Hybrid hydrogels based on gelatin, chitosan and functionalized graphene layers"** Luciana Sartore, Fabio Bignotti, Kamol Dey, Silvia Agnelli, Nicola Lopomo, Muhammad Ahmed Khan, Vincenzina Barbera and Maurizio Galimberti **(n° 259)**
- **"Fractional-order quasi-linear hereditariness of human tendons and ligaments"** Emanuela Bologna, Gioacchino Alotta, Gregorio Marchiori, Nicola Francesco Lopomo, Stefano Zaffagnini and Massimiliano Zingales **(n° 265)**
- **"Novel design procedure to optimize scaffolds for bone tissue engineering obtained by 3D-printing PCL combined with an innovative bioactive glass: in vitro phase"** Gregorio Marchiori, Matteo Berni, Marco Boi, Mauro Petretta and Michele Bianchi **(n° 300)**
- **"Micropatterned stromal equivalent induces polarized crypt-villus architecture of human small intestinal epithelium"** Giorgia Imparato, Vincenza De Gregorio, Francesco Urciuolo and Paolo Netti **(n° 303)**
- **"In vitro replication of ECM and capillary network reorganization in an engineered breast cancer model"** Francesco Urciuolo, Giorgia Imparato, Claudia Mazio and Paolo Netti **(n° 304)**
- **"Altering endothelial cell morphology and cytoskeletal organization with micropatterning: the role of 3D topographic and 2D microprinted patterns"** Carlo Fortunato Natale, Maurizio Ventre, Julie Lafaurie-Janvore, Paolo Antonio Netti and Abdul I Barakat **(n° 306)**
- **"Fluorescence Responsive Synthetic Receptors by Polymer Imprinting"** Edmondo Battista, Liana Scognamiglio, Nadia Rega, Greta Donati, Umberto Raucci, Paolo Antonio Netti and Filippo Causa **(n° 307)**

Poster Track 5 – Artificial Organs, Medical and assistive robotics:

- **"The Powered Exoskeletons: towards an investigation on the citizen acceptance"** Daniele Giansanti, Riccardo De Chicchis, Sara Raffaele and Rossella Simeoni **(n° 13)**
- **"Toward a Personalized Behavioural Model for Service Robotics Applications."** Laura Fiorini, Giorgi Acerbi, Raffaele Limosani, Paolo Dario and Filippo Cavallo **(n° 24)**

- **"An innovative robotic wheelchair for mobility and verticalisation of persons affected by spinal cord injury"** Stefano Mazzoleni, Elena Battini, Elisa Taglione and Paolo Catitti **(n° 29)**
- **"Event-based Adaptive Control of 7-DoF Serial Robot for Teleoperated MIS"** Hang Su, Giancarlo Ferrigno and Elena De Momi **(n° 39)**
- **"Wireless monitoring of a magnetic endo-urethral artificial urinary sphincter"** Leonardo Marziale, Gioia Lucarini, Tommaso Mazzocchi, Leonardo Ricotti and Arianna Menciassi **(n° 56)**
- **"Magnetically driven microrobotic platform for cell manipulation"** Gioia Lucarini, Veronica Iacovacci, Pedro Gouveia, Leonardo Ricotti and Arianna Menciassi **(n° 57)**
- **"Antibacterial treatments on micrometric hydroxyapatite for wearable devices"** Riccardo Raho, Mauro Pollini, Alessandro Sannino and Federica Paladini **(n° 76)**
- **"Muscle stimulation system using implantable magnets: a feasibility study"** Jordan Montero, Francesco Clemente, Marco Controzzi and Christian Cipriani **(n° 82)**
- **"Evaluation of XoSoft Beta-1 Lower Limb Exoskeleton on a Post Stroke patient"** Matteo Sposito, Tommaso Poliero, Christian Di Natali, Jesus Ortiz, Carole Pauli, Eveline Graf, Adam De Eyto, Eliza Bottenberg and Darwin Caldwell **(n° 84)**
- **"Residual limb volume fluctuations in transfemoral amputees"** Linda Paternò, Michele Ibrahimi, Elisa Rosini, Arianna Menciassi and Leonardo Ricotti **(n° 95)**
- **"Nano-in-micro drug delivery systems for Cystic Fibrosis"** Stefania Boi, Elena Dellacasa, Paola Petrini, Orietta Monticelli and Laura Pastorino **(n° 104)**
- **"Microfluidic technology for label-free platelet separation: a step forward towards the development of a Point-Of-Care diagnostic device of prothrombotic platelet function"** Stefano Ugolini, Silvia Bozzi, A. Dimasi, Loris Pozzi, Marco Rasponi, Federico Pappalardo, Han Wei Hou, Alberto Redaelli and Filippo Consolo **(n° 133)**
- **"Towards novel advanced neural interfaces reducing the mechanical mismatch: the potential of soft zwitterionic coatings"** Alice Rita Salgarella, Annarita Cutrone, Guido Giudetti, Dusana Treľová, Petra Šrámková, Anna Zahoranová, Dušan Jr. Chorvát, Daniel Haško, Claudio Canale, Juraj Kronek, Arianna Menciassi, Igor Lacik, Silvestro Micera and Leonardo Ricotti **(n° 136)**
- **"ZnO nanorod array-based tactile transducers for biomedical applications"** Ilaria Cesini, Pramod Kumar, Alessandro Fraleoni Morgera and Calogero Maria Oddo **(n° 144)**
- **"Context-Aware Augmented Reality for Laparoscopy"** Veronica Penza, Sara Moccia, Antonio Gallarello, Andrea Panaccio, Elena De Momi and Leonardo S. Mattos **(n° 149)**
- **"A wearable device for real-time monitoring of the labour progress**" Luigi Truppa, Margherita Brancadoro, Selene Tognarelli and Arianna Menciassi **(n° 156)**
- **"A novel artificial bladder featured by high resistance to urine"** Angelo Cardona, Veronica Iacovacci, Tommaso Mazzocchi, Arianna Menciassi and Leonardo Ricotti **(n° 162)**
- **"Network dynamics of interconnected neuronal assemblies"** Lara Faccani, Martina Brofiga, Pasqualina Farisello, Sergio Martinoia and Paolo Massobrio **(n° 175)**
- **"Nanotechnological challenges in application of two-photon polymerization to biology"** Tommaso Zandrini, Emanuela Jacchetti, Claudio Conci, Roberto Osellame, Giulio Cerullo and Manuela Teresa Raimondi **(n° 180)**

- **"Alginate Functionalized Brushite Cement for Antibiotic Controlled released"** Seyed Mohammad Hossein Dabiri, Alberto Lagazzo, Bahar Aliakbarian, Elisabetta Finocchio and Laura Pastorino **(n° 183)**
- **"New approaches to determine insulin dose in type 1 diabetes treatment using continuous glucose monitoring data"** Francesca Marturano, Giacomo Cappon, Martina Vettoretti, Andrea Facchinetti and Giovanni Sparacino **(n° 187)**
- **"Investigation of novel ICT-based approach in Neuropsychology: a review."** Gianmaria Mancioppi, Laura Fiorini, Paolo Dario and Filippo Cavallo **(n° 213)**
- **"An automatic speech recognition platform for dysarthric speech: assessment of accuracy"** Irene Calvo, Peppino Tropea, Maria Scialla, Agnieszka Bętkowska Cavalcante, Monika Grajzer, Marco Gilardone and Massimo Corbo **(n° 224)**
- **"A novel strategy to detect and control force and slippage in prosthetic hands"** Cosimo Gentile, Francesca Cordella and Loredana Zollo **(n° 240)**
- **"Large scale simulations of hollow fiber bundles in blood oxygenators and comparison with porous media approach"** Ricardo Gomez, Beatriz Eguzkitza, Giancarlo Pennati and Gabriele Dubini **(n° 249)**
- **"Towards standards for the evaluation of active back-support exoskeletons to assist lifting task"** Maria Lazzaroni, Stefano Toxiri, Jesus Ortiz, Elena De Momi and Darwin Caldwell **(n° 250)**
- **"A robust and intuitive M-IMU/EMG user interface for assistive robots"** Francesca Cordella, Clemente Lauretti, Francesco Scotto di Luzio, Stefano Saccucci and Loredana Zollo **(n° 254)**
- **"Preliminary study of the influence of compliant sinuses of Valsalva on Poli-Valve hydrodynamic performance"** Francesco De Gaetano, Davide Dell'Oca, Eugeniya Nikishova, Marta Serrani, Joanna Stasiak, Geoff Moggridge and Maria Laura Costantino **(n° 256)**
- **"A soft device for locomotion assistance of tethered magnetically-driven endoscopes"** Noemi Gabrieli, Joan Ortega Alcaide, Matteo Cianchetti, Arianna Menciassi and Gastone Ciuti **(n° 262)**
- **"Wearable devices for detecting hand movements and returning non-vibratory tactile feedback"** Gabriele Frediani, Laura Fabbri, Filippo Gerli, Silvia Pancani, Federica Vannetti and Federico Carpi **(n° 276)**
- **"Physics-based task classification of da Vinci robot surgical procedures"** Mario Selvaggio, Luigi Villani, Bruno Siciliano and Fanny Ficuciello **(n° 283)**
- **"Preliminary study on a magnetically driven soft robotic total artificial heart"** Daniele D'Accolti, Debora Zrinscak, Mariangela Manti and Matteo Cianchetti **(n° 295)**
- **"Microgels as biosensing platform for optical detection of oligonucleotide detection"** Tania Caputo, Edmondo Battista, Filippo Causa and Paolo Antonio Netti **(n° 308)**

12:30-14:00 | **Lunch, Posters & LAB TOUR – "Laboratories of biological structure mechanics"**

INDUSTRY FORUM

Moderator: Riccardo **Pietrabissa**, Politecnico di Milano

14:00-14:15 | **Introduction**

14:15-14:45 | Fabrizio **Landi**, Panakes Partners SGR

14:45-15:15 | Enrico **Perfler**, 1MED SA

15:15-15:45 | **Discussion**

15:45-16:30 | **Scientific Tracks, Sponsor Awards and S2P – GNB 2018 Award**

16:30-16:35 | **Closure of the GNB 2018**