

IX

Gruppo Nazionale di Bioingegneria

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CONGRESS OF
BIOENGINEERING**
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Day 1

Oral session

Track 1 - E-health and Clinical Engineering

Self-supervised learning for standardizing medical software failure classification

Alessandro Zazzeri, Alessio Luschi, Gabriele Cevenini and Ernesto Iadanza

Measuring steam composition according to standards: is the method sufficiently specified?

Francesco Tessarolo, Michela Masè and Giandomenico Nollo

Integrating Guideline-based Retrieval-Augmented Generation with Large Language Models in Hepatology

Simone Kresevic, Mauro Giuffrè, Alberto Bortolotto, Alessia Distefano, Lory Saveria Crocè, Agostino Accardo and Milos Ajcevic

Track 4 - Biomaterials, Cell & Tissue Engineering, Biofabrication

Microfluidic Analysis of Sperm Rheotaxis and Orientation Under Controlled Flow Conditions

Luigi Fausto Canonico, Maria Isabella Maremonti, Claudia De Clemente, Filippo Causa and Paolo Antonio Netti

A Modular Bioprinting Approach for Endogenous Connective Tissue Fabrication

Annachiara Scalzone, Giorgia Imparato, Francesco Urciuolo and Paolo A. Netti

Leveraging osmotic shock to enhance intracellular nanoparticles delivery

Flaminia Fruzzetti, Beatrice Ruzzante, Marco Cattaneo, Giuseppe Lauria Pinter, Stefania Marcuzzo, Gabriele Candiani and Nina Bono

A de novo designed ultrashort self-assembling peptide for the development of silk-based inks

Eugenia Spessot, Daniele Campoli, Antonella Motta, Devid Maniglio, Abdulwahhab Khedr, Mohamed A.N. Soliman, Mohamed A. Elsayy and Annalisa Tirella

Experimental and computational pipeline for extracting morphometrics of cell-constructs

Piera Mancini, Flavio Fontana, Ermes Botte, Chiara Magliaro, Francesco Pampaloni and Arti Ahluwalia

Potassium sodium niobate piezoelectric nanoparticles: a platform for wireless cell modulation in tissue engineering

Carlotta Pucci, Lorenzo Vannozzi, Diego Trucco, Claudia Turini, Paola Parlanti, Mauro Gemmi and Leonardo Ricotti

Flow Focusing Microfluidic Device for Pancreatic Islets Conformal Coating in a PEG-based Hydrogel

Francesca Vicinanza, Tatiana Mencarini, Francesca Verderio, Alice Tomei and Alberto Redaelli

Design and assessment of an ISO-compliant Gut-on-Chip device with electrospun scaffolds through rapid prototyping method

Chiara Curiale, Maria Testa, Chiara Di Marco, Graziella Serio, Carla Gentile, Vincenzo La Carrubba and Francesco Lopresti

Track 8 - Design and Validation of Biomedical Devices

Relations between age, tympanometric parameters and pressureless measurements

Francesco Bassi, Aleksandar Miladinovic and Agostino Accardo

Validation of PEDOT:PSS-based epidermal electrodes for ECG monitoring

Fabrizio Antonio Viola, Giulia Baldazzi, Andrea Spanu, Danilo Pani and Annalisa Bonfiglio

Track 9 - Bioinformatics and Synthetic Biology

A synthetic Biology framework to deal with Antimicrobial Resistance

Sara Letrari, Mahmoud Shalata, Chiara Cimolato, Tommaso Varaschin, Francesca Galiazzo, Giulia Bernabè, Paola Brun, Ignazio Castagliuolo, Simone Del Favero, Claudia Del Vecchio, Barbara Di Camillo, Luca Schenato and Massimo Bellato

NMR-Like: A New Molecular Descriptor for Virtual Screening Analysis

Salvatore Contino and Roberto Pirrone

Poster session

Track 1 - E-health and Clinical Engineering

On the Adoption of Transformers for Efficient Classification of Medical Abstracts

Luca Petrillo, Antonella Santone, Fabio Martinelli, Mario Cesarelli and Francesco Mercaldo

Economic impact assessment of medical devices performance: a risk-based approach

Simone Falco, Laura Oddera, Ezio Nicolàs Bruno Urbina and Mauro Giacomini

Continuos, long term monitoring of IVC size and collapsibility indexes during simulated blood volume challenges

Piero Policastro, Marco Romanelli, Silvestro Roatta, Paolo Pascquero and Luca Mesin

Evaluating propensity-score-based methods in treatment effect estimation: a simulation study

Sara Poletto, Enrico Longato, Erica Tavazzi and Martina Vettoretti

Assessing the impact of personal exposure to air pollution on asthma control: feasibility study and preliminary findings using the AirPredict eHealth platform

Sergio Gaiotti, Michele Atzeni, Luca Cossu, Giacomo Cappon, Mariaenrica Tinè, Daniele Previtero, Ylenia Padrin, Simonetta Baraldo, Umberto Semenzato and Martina Vettoretti

Clinical Approaches to Managing and Maintaining Biomedical Technologies: Metrics and Practical Applications

Rita Granata, Annarita Tedesco, Santa Vallante, Maria Vittoria Ciccarelli, Vittorio Santoriello, Alfonso Maria Pongiglione, Giuseppe Cesarelli, Alessandra Franco, Maria Romano and Fabrizio Clemente

An AI predictive model for drifts detection in dialysis machines components

Alessia Nicosia, Nunzio Cancilla, Michele Passerini, Francesca Sau, Ilenia Tinnirello and Andrea Cipollina

Data collection and correlation analysis of patient-specific dialytic variables for the development of an AI assistance therapeutic tool

Alessia Nicosia, Nunzio Cancilla, Eleonora Di Liberti, José David Martín Guerrero, Angelo Ferrantelli, Francesco Iacono, Vincenzo La Carrubba, Valerio Maria Bartolo Brucato, Ilenia Tinnirello and Andrea Cipollina

Eloquentia: an innovative platform for speech based rehabilitation processes

Francesco Vallone, Aurora Delfino, Martina De Salazar, Patrizia Vizza, Pietrro Hiram Guzzi, Pierangelo Veltri and Gionata Fragomeni

Enhancing pediatric type 1 diabetes therapy using TWIN, a clinical decision support system based on digital twins

Luca Cossu, Elisa Pellizzari, Giacomo Cappon, Annalisa Deodati, Riccardo Schiaffini, Giovanni Sparacino, Stefano Cianfarani and Andrea Facchinetti

Multidisciplinary approach for the investigation of the relation between Type 2 Diabetes Mellitus and Musco-skeletal system relation

Chiara Stomaci, Andrea Claudio Stetco, Fiorella Anna Lombardi, Amilcare Barca, Paola Pisani, Francesco Conversano, Ernesto Casciaro, Fabiola Rosa Contaldo, Luigi Antelmi, Tiziano Verri and Sergio Casciaro

REMS-based Imminent Fracture Risk prediction: a new opportunity for cancer patients

Fabiola Rosa Contaldo, Paola Pisani, Fiorella Anna Lombardi, Francesco Conversano, Chiara Stomaci, Andrea Claudio Stetco, Giusy Peluso, Marco Di Paola, Maurizio Muratore, Amilcare Barca, Tiziano Verri and Sergio Casciaro

Track 4 - Biomaterials, Cell & Tissue Engineering, Biofabrication

Targeting Tumor Microenvironment Mechanics: The Role of ECM Stiffness in Lung Adenocarcinoma Response to Radiotherapy

Crescenzo Frascogna, Aurora Maglione, Cecilia Arrichiello, Paolo Muto, Paolo A. Netti, Sabato Fusco, Mariagabriella Pugliese and Valeria Panzetta

Engineering a dynamically tuneable photoresponsive cell culture platform

Francesca Mauro, Carlo Fortunato Natale, Valeria Panzetta and Paolo Antonio Netti

Development of a Bioresorbable Sacrificial Mandrel as a Support for 4D Printed Ingestible Capsule Scaffolds to treat Intestinal Ulcers

Andrea Guerra, Irene Chiesa, Giuseppe Raffaele, Laura Fazzini, Giovanni Vozzi and Carmelo De Maria

Streamlined Cryostat Microtome Protocol: Preserving Tissue Viability and Mechanics

Marco Cristiano, Claudia Mazio, Valeria Panzetta, Giorgia Imparato, Francesco Urciuolo and Paolo Antonio Netti

Engineering a 3D neuro-into-bone bioprinted model for the study of human skeletal pain mechanisms

Anna Dell'Armi, Salvatore D'Alessandro, Maria Cristina Benedetti, Lucia Iafrate, Giancarlo Ruocco, Alessandro Rosa and Gianluca Cidonio

Biosensing of intracellular pH in an in vitro model of Parkinson's Disease

Valentina Pavanati, Donatella di Lisa, Fabio Falleroni, Valentina Onesto, Helena Iuele, Loretta L. Del Mercato and Laura Pastorino

Scalable cell migration assay using photopatterning approach

Eloisa Torchia, Moises Di Sante, Melissa Pezzotti, Alessandro Enrico and Francesco Silvio Pasqualini

Patient-derived breast cancer microtissues to study chemoresistance and explore drug efficacy

Claudia Mazio, Paola Nevola, Francesco Urciuolo, Francesca Di Rella, Alessandra Calabrese, Raffaella Di Monda, Valeria Varone, Debora De Bartolo, Giorgia Imparato and Paolo Netti

Impact of the decellularization procedure of plant-based scaffolds on cellular viability

Maria Isabela Vargas Ovalle, Marta Madaghiele, Benedetta Di Chiara Stanca, Luisa Siculella and Christian Demitri

Implementing meso-scale surface patterns on polymeric substrates for blood-contact application

Marta Baccarella, Federica Cosentino, Pietro Terranova, Enrica Romano, Vincenzo La Carrubba, Francesco Lopresti, William R. Wagner, Claudio Arnone and Antonio D'Amore

TE-DaXi: LEGO®-like instructions for assembling a light-sheet microscope for tissue engineering applications

Melissa Pezzotti, Alessandro Zunino, Kay Oliver Schink, Xiyu Yi, Moises Di Sante, Eloisa Torchia, Paolo Bianchini, Loic Alain Royer, Giuseppe Vicidomini and Francesco Silvio Pasqualini

Stretching-based cell stimulation triggers YAP signaling dynamics and promotes non-viral gene delivery in vitro

Flaminia Fruzzetti, Beatrice Ruzzante, Eleonora Giagnorio, Silvia Bonanno, Stefania Marcuzzo, Giuseppe Lauria Pinter, Gabriele Candiani and Nina Bono

Exploiting topography and stiffness to promote muscle fibre self-organization in vitro

Maria Iannone, Stefania Saporito, Maurizio Ventre and Paolo Antonio Netti

A model-driven pipeline for measuring oxygen metabolism in vitro: application to brain organoids

Ermes Botte, Piera Mancini, Sonia Cerchio, Jens Schwamborn, Arti Ahluwalia and Chiara Magliaro

Gelatin-based scaffolds as promising tools for the generation of biomimetic skin in vitro models

Costanza Daddi, Elisa Batoni, Marilyn Marlene Angulo Salavarría, Carmelo De Maria, Marco Onorati and Giovanni Vozzi

Chitosan-coated magnetic nanoparticles for the treatment of intestinal dysmotilities

Paolo Signorello, Ludovica Cacopardo, Bruno Sarmento and Arti Ahluwalia

Engineered collagen-coated scaffolds for tendon repair: a novel drug delivery system

Francesco Lopresti, Francesca Romano, Chiara Di Marco, Simona Campora, Vincenzo La Carrubba and Roberto Di Gesù

A Microfluidic Approach to Promote Bacterial Cellulose Fiber Alignment During Synthesis

Francesca Mauro, Brunella Corrado, Elena Lagreca, Raffaele Vecchione and Paolo Antonio Netti

Bioactive methacrylate hyaluronic acid – Silicon doped Hydroxyapatite composite scaffolds for bone tissue regeneration

Rebecca Pellegrino, Giulia Gennari, Paola Nitti, Sanosh Kunjalukkal Padmanabhan, Benedetta Di Chiara Stanca, Laura Giannotti, Luisa Siculella and Christian Demitri

Decellularization of Porcine Ureters for the Replacement of Extensive Human Ureter Segments: A Histological and Biomechanical Assessment to Compare Native and Decellularized Tissues

Martina Casarin, Martina Todesco, Edi Simoni, Laura Astolfi, Andrea Bagno, Fabrizio Dal Moro and Alessandro Morlacco

Hybrid conduits: mechanical characterization for advanced cardiovascular applications

Martina Todesco, Martina Casarin, Laura Astolfi, Chiara Giulia Fontanella and Andrea Bagno

Biofabrication of vascular model: process optimization and preliminary assessment

Franca Scocozza, Elena Delgrosso and Michele Conti

Design and Optimization of in vitro Transfection (DeOT) process of PEI/pDNA polyplexes

Nina Bono, Flaminia Fruzzetti, Cristina Oldani, Chiara Lazzarini, Federica Taddio, Beatrice Cantoni and Gabriele Candiani

Exploring magnetoelectric nanoparticles for advanced nanoelectroporation and drug delivery: a preliminary in silico study

Anna Tommasini, Giulia Suarato, Serena Focchi, Emma Chiamello, Alessandra Marrella, Martina Lenzuni, Marta Parazzini and Paolo Ravazzani

Characterization of the biological profile of ethylcellulose/soybean oil oleogels for tissue engineering

Stefania Villani, Marco Friuli, Emma Arnesdotter, Charlotte Stoffels, Leonardo Lamanna, Tommaso Serchi and Christian Demitri

FDM printed multi-material reconstruction of the auricle

Licia Chiudaroli, Elena Capotorto, Edoardo Montrasio, Giada Beltramini and Silvia Farè

Alginate microspheres for drug release for the treatment of breast cancer

Elena Capotorto, Licia Chiudaroli, Delia Catalano, Sophia Dalfino, Matteo Pitton and Silvia Farè

Customized PMMA microfluidic device for in situ hydrogel crosslinking

Chiara Di Marco, Núria Torras Andrés, Maria Testa, David Bartolomé Català, Francesco Lopresti, Vincenzo La Carrubba and Elena Martínez Fraiz

Bioprinting of a Microphysiological Model of the Blood-Brain Barrier

Riccardo Barrile

Rheological and morphological insights into Bio-glass 1393 and Car12N incorporation in PLLA and Chitosan scaffolds

Elisa Capuana, Katja Süchting-Rose, Valerio Brucato, Gaetano Burriesci, Francesco Carfi Pavia, Francesco Lopresti, Sofia Di Leonardo, Sven Wiltzsch and Vincenzo La Carrubba

An engineered 3D model for in vitro replication of dermis damages

Francesco Urciuolo, Roberta Passariello, Francesco Galardo, Giorgia Imparato, Costantino Casale and Paolo Netti

Development of 3D artificial niches with spheroids from adipose stem cell and injectable xyloglucan hydrogels for tissue regeneration

Anna Barbara Di Stefano, Emanuela Muscolino, Marco Trapani, Francesca Toia, Clelia Dispenza and Adriana Cordova

3D bioprinted functional neural tissue models of the central nervous system using a chitosan-based bioink

Corinna Barella, Donatella Di Lisa, Alberto Lagazzo, Sergio Martinoia and Laura Pastorino

In situ application of xyloglucan hydrogels and extracellular vesicles from amniotic stem cells for diabetic foot ulcer healing

Mattia Biondo, Laura Tomasello, Emanuela Muscolino, Grazia Laura Di Grado, Fabiola Vaglica, Antonio Simone Laganà, Giorgio Arnaldi, Clelia Dispenza and Giuseppe Pizzolanti

Deagalactosylated xyloglucan hydrogels as a delivery medium for neural cells mitochondrial transplantation

Emanuela Muscolino, Antonella Girgenti, Daniela Giacomazza, Clelia Dispenza, Pasquale Picone and Domenico Nuzzo

The MioPRO² project: a novel regenerative peripheral nerve interface for prostheses control based on an engineered piezoelectric skeletal muscle construct

Juliana Redondo, Lorenzo Vannozzi, Diego Trucco, Leonardo Boccoli, Carlotta Pucci, Paola Parlanti, Mauro Gemmi, Marta Gherardini, Camilla Schirru, Ivana Barravecchia, Debora Angeloni, Paolo Sassu, Christian Cipriani, Emanuele Gruppioni and Leonardo Ricotti

WOUND - Active patches and biophysical stimulations for chronic ulcer healing

Giorgia Romano, Andrea Cafarelli, Bianca Cioni, Francesco Iacoponi, Francesco Nocilla, Leonardo Ricotti, Loredana Voci, Elisa Taglione, Guido Vaghegini and Emanuele Gruppioni

Hydrogel bioinks based on Polyvinyl alcohol and k-Carrageenan for 3D printing of human tissues

Simona Galvano, Emanuela Muscolino, Anna Barbara Di Stefano, Marco Trapani, Adriana Cordova, Francesca Toia, Sabina Alessi and Clelia Dispenza

Melt-wet processing for reservoir-type controlled release

Marta Balsamo, Maria Chiara Mistretta, Salvatore Pasta and Roberto Scaffaro

Antibacterial Effect and Cytotoxic Evaluation of Mg alloy Functionalised by Sol-Gel Magnesium Hydroxide Copper doped.

Angela De Luca, Lavinia Raimondi, Rosa Alduina, Alessandro Presentato, Roberto Chiesa, Agnese D'Agostino, Antonio Piccininni, Daniele Bellavia, Gianluca Giavaresi and Viviana Costa

Preliminary investigations of the osteointegrative effects of Ti6A14V-AM via Sol-Gel on an in vitro model of hMSCs

Viviana Costa, Lia Pulsatelli, Angela De Luca, Daniele Bellavia, Roberto Chiesa, Gianluca Zappini, Gianluca Giavaresi and Lavinia Raimondi

Engineered Microgels for High-Performance Diagnostic Applications

Nicoletta Martone, Filippo Causa, Paolo Antonio Netti and Edmondo Battista

A CFD-based analysis to identify an optimal size and shape pattern that promotes the growth of a functional endothelial cell layer

Enrica Romano, Nunzio Cancilla, Federica Cosentino, Marta Baccarella, Michele Ciofalo, William Richard Wagner, Giorgio Micale, Alessandro Tamburini and Antonio D'Amore

Double Component Deposition (DCD) technology to assist polymeric isotropic Mitral Valve fabrication

Ignazio Niosi, Viktor Balashov, Pietro Terranova, Matthias Jacquot, Antonio Pantano and Antonio D'Amore

Fabrication and Validation of a dual stimulation Organ-on-Chip

Salvatore Tornabene, Maria Testa, Sofia Di Leonardo, Vincenzo La Carruba, Gaetano Burriesci and Francesco Lopresti

Innovative dedicated phantom for optimal ultrasound imaging systems calibration

Alessandro Acquasanta, Luigi Antelmi, Ivan Primitivo, Diego Lezzi, Tommaso De Marco, Antonio Greco, Francesco Conversano, Ernesto Casciaro, Paola Pisani, Christian Demitri and Sergio Casciaro

Polylactic acid scaffolds improve osteogenesis of mesenchymal stem cell cultured with human vascular endothelial cells

Nadia Calabriso, Francesco Lopresti, Salvatore Tornabene, Chiara Di Marco, Maria Testa, Irene Carmagnola, Mattia Spedicati, Marika Massaro, Stefano Quarta, Luisa Siculella, Lorenza Draghi, Silvia Farè, Vincenzo La Carrubba and Maria Annunziata Carluccio

One-Step Thermally Stabilized PVA fiber Membranes via Solution Blow Spinning

Emmanuel Fortunato Gulino and Roberto Scaffaro

Effect of poly lactic acid fiber orientation on neural cell migration and spheroid-like polarization

Martina La Rosa, Antonella Girgenti, Laura Palumbo, Chiara Di Marco, Maria Testa, Pasquale Picone, Domenico Nuzzo, Francesco Lopresti and Vincenzo La Carrubba

An Advanced Culture System for Coronary Bloodstream-Induced Stimuli Replication in CABG Applications

Lucrezia Moro, Alessia Sofia Bolandrina, Elia Pederzani, Gianfranco Beniamino Fiore and Monica Soncini

3D Bioprinted Structures for Kidney in vitro Models

Federico Sinnona, Chiara Tonda-Turo, Giuseppe De Nisco, Kristen Mariko Meiburger, Hirofumi Hitomi and Gianluca Ciardelli

Micro engineered Membrane-on-Chip Platform with CFD-Guided Design for Intestinal Crypt-Villus Axis Morphogenesis

Sara Sibilio, Giorgia Imparato, Francesco Urciuolo and Paolo Antonio Netti

Engineered brain-on-chip to be implemented in a retina-brain axis model

Riccardo Tripputi, Simone Perottoni, Leonardo Cherubin, Diego Albani, Federica Boschetti and Carmen Giordano

Development and Characterization of a Blood-Mimicking Fluid for Hemodynamic Research

Vincenzo La Carrubba, Chiara Di Marco, Maria Testa, Salvatore Tornabene, Sofia Di Leonardo, Gaetano Burriesci and Francesco Lopresti

Optimization of a Protocol for Primary Dermal Fibroblast Seeding on Collagen-Coated PLLA Scaffolds for Wound Healing

Francesco La Monica, Simona Campora, Camilla Carbone, Alessandra Lo Cicero, Gabriele Lo Buglio, Veronica Schiera, Selene Sammataro, Francesco Carfi Pavia and Giulio Gherzi

Isolation of Primary Breast Cancer Cells and Evaluation of Doxorubicin Effects in 2D and 3D Systems

Alessandra Lo Cicero, Simona Campora, Gabriele Lo Buglio, Francesco La Monica, Selene Sammataro and Giulio Gherzi

Injectable supramolecular hydrogels as delivery system of siRNA loaded PLGA nanoparticles

Paola Grillo Coppola, Adrian P. E. Kromer, Monica Boffito, Benjamin Winkeljann, Gianluca Ciardelli and Olivia M. Merkel

Long-term corrosion resistance assessment of 3D printed Ti6Al4V biomedical plates in simulated body fluid

Giada Tranchida, Davide Pupillo, Francesco Di Franco, Dina Palmeri, Gaetano Pollara, Gianluca Buffa, Livan Fratini and Monica Santamaria

Nano-bio-interaction-driven insulin activation in liver microtissues

Angela Costagliola Di Polidoro, Simona Silvestri, Vincenza De Gregorio, Paolo Antonio Netti and Enza Torino

Mechanical stimulation system for pathological in vitro models of cardiac tissue

Francesca Cossetta, Mattia Spedicati, Irene Carmagnola and Valeria Chiono

Mechanically engineered hydrogels for advanced in vitro drug permeability testing

Alessandra Maria Anna Rando, Gianfranco Beniamino Fiore, Marco Cantini and Monica Soncini

Tricompartmental platform to recapitulate epithelium-stroma-endothelium interactions

Alessandra Maria Anna Rando, Chiara Russo, Gianfranco Beniamino Fiore and Monica Soncini

Interaction of polyvinyl alcohol – gelatine/alginate/fibrinogen hydrogels in scaffolds for cartilage tissue engineering

Marta Confalonieri, Christopher Y. Leon-Valdivieso, Cristina Cavinato, Elena Stocco, Silvia Barbon, Silvia Todros, Andrea Porzionato, Emeline Perrier-Groult and Piero G. Pavan

Streamlined production of micropatterned scaffolds from 3D printed templates for gut in vitro models

Martina Poppa, Lorenzo Pietro Coppadoro, Michela Bruzzi, Vladimir Matining, Emanuele Mauri, Davide Moscatelli, Marina Mapelli and Monica Soncini

ISO-Compliant multiscaffold microfluidic platform for scalable Organ-on-Chip applications

Maria Testa, Chiara Di Marco, Francesco Lopresti, Virginia Pensabene and Vincenzo La Carrubba

Lyophilization Strategies Enhancing the Storage Stability of RNA-loaded Nanoparticles

Francesco Schiavone, Letizia Nicoletti, Camilla Paoletti, Martina Coletto, Elena Marcello, Giovanni Paolo Stola, Francesca Cossetta, Barbara Stella, Silvia Arpicco, Clara Mattu and Valeria Chiono

Hierarchically Patterned Poly(L-lactic acid)/Quercetin Membranes for Periodontal Tissue Engineering

Pier Francesco Ferrari, Fatemeh Ahmadpoor, Donatella Di Lisa, Alberto Lagazzo and Laura Pastorino

Track 6 - Neural Engineering and Micro and Nano-technologies

Non-invasive assessment of electromechanical coupling in the study of cardiomyocytes

Alice Godino, Carolina Scandellari, Michele Dipalo and Luca Mesin

Characterization of functional human-derived neurospheroids

Giulia Parodi, Michela Chiappalone and Sergio Martinoia

Analysis of Intraoperative MER Signals in Pediatric Patients with Dystonia Undergoing DBS of the Globus Pallidus Internus

Valentina Forestiere, Marta Lazzeri, Matteo Lenge, Flavio Giordano and Luca Mesin

Advancing Cancer Therapy with Glutathione-Sensitive Gold Nanoparticles for Drug Delivery

Simona Campora, Alessandra Lo Cicero, Gabriele Lo Buglio, Francesco La Monica, Francesco Carfi Pavia, Selene Sammataro and Giulio Gherzi

High-density probe enables precise mapping of functional connectivity across cortical and subcortical brain regions in vivo

Francesco Negri, Dania Vecchia, Marta Carè, Federico Barban and Michela Chiappalone

Day 2

Oral session

Track 2 - Physiological and Neural System Modelling

Mathematical Modeling of Disease Progression in Symptomatic Stage 3 Type 1 Diabetes

Alessandro Brunasso, Jacopo Bonet, Erik Sundermann, Elisabeth Roesch, Britta Wagenhuber, Chiara Dalla Man and Michele Schiavon

Precision dosing by integrating Reinforcement Learning and PK-PD models: application to givinostat treatment of Polycythemia Vera

Alessandro De Carlo, Elena Maria Tosca and Paolo Magni

A Deep Learning Approach to EEG Subcortical Source Localization

Christian Buda, Benedetta Gambosi, Nicola Toschi and Laura Astolfi

Track 4 - Biomaterials, Cell & Tissue Engineering, Biofabrication

Modelling skeletal pain: engineering a novel drug-testing platform using microfluidic 3D bioprinting

Lucia Iafrate, Maria Cristina Benedetti, Anna Dell'Armi, Biagio Palmisano, Mara Riminucci, Salvatore D'Alessandro, Giancarlo Ruocco, Alessandro Rosa and Gianluca Cidonio

3D in vitro models to mimic the microenvironment of equine sarcoid tumors for comparative oncology

Alessia Zancchi, Floriana Fruscione, Sara Grasselli, Elisabetta Razzuoli, Laura Pastorino and Donatella Di Lisa

Development of an advanced culture system for physiologically relevant 3D vascular modelling

Elia Pederzani, Chiara Emma Campiglio, Elena Carrara, Marta Ripamonti, Stefano Garbellini, Elisa Gorlini, Alessia Sofia Bolandrina, Alice Caldiroli, Stefania Adele Riboldi, Andrea Remuzzi, Gianfranco Beniamino Fiore and Monica Soncini

Development of an acino-ductal unit 3D in vitro model through additive manufacturing technologies

Federico Farina, Viola Sgarminato, Chiara Tonda-Turo and Gianluca Ciardelli

Track 5 - Biomedical Signal and Image Processing

Development of a robust segmentation network for single-cell impedance cytometry data

Marta Righetto, Riccardo Reale, Adele De Ninno, Daniel Spencer, Hywel Morgan, Paolo Bisegna and Federica Caselli

Exploring Brain Connectivity EEG Correlates of Gait Kinematic Parameters

Marianna Chianese, Simone Papallo, Federica Franza, Giuseppe Prisco, Maria Agnese Pirozzi, Fabrizio Esposito and Leandro Donisi

Higuchi fractal dimension difference between wakefulness and sleep in the EEG during the first year of life

Francesco Colussi, Jacopo Favaro, Claudio Ancona, Edoardo Passarotto, Maria Federica Pelizza, Eleonora Lorenzon, Simone Ruzzante, Stefano Masiero, Giorgio Perilongo, Giovanni Sparacino, Irene Toldo, Stefano Sartori and Maria Rubega

Mutual-Information-based Neurophysiological Assessment of Teamwork in Realistic Settings

Rossella Capotorto, Pietro Aricò, Gianluca Borghini, Gianluca Di Flumeri Di Flumeri, Andrea Giorgi, Daniele Germano, Fabio Babiloni and Vincenzo Ronca

Disentangling the role of strategic and intrinsic inter-subject variability in motor and cognitive task: toward precision diagnostic and personalized rehabilitation.

Alice Pirastru, Monia Cabinio, Diego Michael Cacciatore, Morgane Marzulli, Valeria Blasi and Francesca Baglio

A Statistical Framework for the Analysis of Heartbeat-Evoked Brain Potentials

Valeria Rosalia Vergara, Chiara Barà, Irene Franzone, Andrea Zaccaro, Francesca Ferri, Luca Faes and Yuri Antonacci

Track 6 - Neural Engineering and Micro and Nano-technologies

Integrating white matter anisotropy and structural connectivity for enhanced electric field precision in tDCS: a computational study

Giulia Caiani, Eleonora Arrigoni, Emma Chiaramello, Marta Parazzini, Alberto Pisoni and Serena Fiocchi

Development of PLGA Nanoparticle Drug Depot for Photoresponsive Ocular Therapy

Lorenzo Guidi, Elisabetta Rosellini, Gaia Riccio, Anna Maria Piras, Fabio Lineu Favrin, Andrea Camposeo, Dario Pisignano and Maria Grazia Cascone

Track 7 - Biorobotics, rehabilitation & Assistive Technologies

How are you feeling? Design and testing emotional dictionary for NAO robot to be used with children.

Lorenzo Pugi, Laura Fiorini, Gabriele Buttari, Nunzio Alberto Borghese, Francesca Ciardo, Paola Ricciardelli, Rossana Actis-Grosso, Eleonora Chitti, Raffaele Simone Scuotto and Filippo Cavallo

Exploring the role of heat exchange during tactile human-robot interaction

David Perpetuini, Giulio Galimberti, Daniela Cardone, Alessandro Tiberio, Marta Calbi, Chiara Cappelletto and Arcangelo Merla

Assessing Wheelchair Driving Skills using a Dual-Scoring VR Simulator in Children and Adolescents with Cerebral Palsy

Kevin Marcaccini, Francesca Rita Pulvirenti, Francesco Pierotti, Valerio Antonio Arcobelli, Annalisa Groppi, Federica Giorgi, Laura Dellarole, Francesco Torelli, Lorenzo Chiari, Antonella Cersosimo and Silvia Orlandi

Feasibility of a Robotic Protocol to Evaluate Muscle Fatigue During 2D Wrist Coordination Task

Carolina Gay, Andrea Romairone, Valentina Massone, Giulia Aurora Albanese, Daniel Cousins, Maura Casadio, Jacopo Zenzeri and Michael Holmes

Robotic-assisted flexible colonoscopy: a comparison of tele-operated control strategies

Rosaura Morfino, Clemente Lauretti, Guido Manni, Paolo Soda and Loredana Zollo

Track 9 - Bioinformatics and Synthetic Biology

Pharmacokinetic-pharmacodynamic modeling of tumor angiogenesis unveils the need for time-adjustable drug regimens

Michela Prunella, Nicola Altini, Gian Maria Zaccaria, Paolo Scarabaggio, Raffaele Carli, Mariagrazia Dotoli and Vitoantonio Bevilacqua

Poster session

Track 2 - Physiological and Neural System Modelling

Unimanual vs bimanual intersensory switch in visuotactile detection: a multimodal analysis

Eleonore Federica Di Rosa, Aaisha Sheth, Jeffrey Min-In Yau, Laura Astolfi and Cristiano Cuppini

Investigating the role of septohippocampal acetylcholine in episodic memory: a neurocomputational study

Gabriele Pirazzini and Mauro Ursino

Impact of Acquisition Conditions on PPG Signal Characteristics: A Mathematical Modelling Approach

Sara Lombardi, Riccardo Pernice, Chiara Barà, Luciano Curcio, Alessandro Busacca and Leonardo Bocchi

Nonlinear Mixed Effect Modeling of LNA-i-miR-221 kinetics in rats

Hadija Marchiori, Michele Schiavon, Chiara Roversi, Simone Zannoni, Massimiliano Fonsi, Maria Teresa Di Martino, Pierfrancesco Tassone, Pierosandro Tagliaferri and Chiara Dalla Man

Synthetic data generation to investigate the dynamics of wave-fibrosis interactions in cardiac arrhythmias

Michela Masè, Alessandro Cristoforetti, Samuele Pelloni, Giandomenico Nollo and Flavia Ravelli

Mobile application for digital capacity assessment

Alberto Morelli, Alba Liso, Lorenzo Viviani, Elisa Straulino, Luisa Sartori, Laila Craighero and Leonardo Bocchi

Impact of trabeculae on thromboembolic risk in the left atrial appendage

Anna Maria Lo Presti, Giulio Musotto, Alessandro Tamburini, Enrico Napoli, Alessandra Monteleone and Gaetano Burriesci

Integrated pipeline for evaluating antitumor efficacy of RC-106 on glioblastoma spheroids

Ludovica Aiello, Gabriele Ceccarelli, Davide Ronchi, Michela Casanova, Andrea Fantinato, Giulia Fiorentino, Maurizio Zuccotti, Roberta Listro, Simona Collina, Lorenzo Pasotti, Elena Maria Tosca and Paolo Magni

Characterizing Minimal Hepatic Encephalopathy from Inertial Measurements of Asterixis

Dario Milone, Giorgio Lo Giudice, Clelia Asero, Maria Franzè, Irene Cacciola and Cristiano De Marchis

Towards Brain State Classification with Functional Ultrasound Imaging

Benedetta Gambosi, Christian Buda, Nicola Toschi and Laura Astolfi

On the role of neuromuscular control in ACL injury mechanisms: development of a muscle-driven 6-DOF knee model

Maria Dalle Vacche, Giulio Rigoni, Davide Pavan, Fabiola Spolaor and Zimi Sawacha

Track 5 - Biomedical Signal and Image Processing

Assessing Biomechanical Risk using Tree-Based Machine Learning Algorithms fed with Postural Sway Parameters derived from Angular Velocity Data

Giuseppe Prisco, Maria Agnese Pirozzi, Antonella Santone, Fabrizio Esposito, Mario Cesarelli, Paolo Gargiulo, Francesco Amato and Leandro Donisi

A Variational Autoencoder Framework for Apical Echocardiographic View Classification

Edoardo Spairani, Francesco Podda, Edoardo Bosco, Michela Ferrari, Marco Piastra, Giulia Matrone and Giovanni Magenes

AI-driven framework for calcium detection in atherosclerotic lesions using intracoronary optical coherence tomography

Camilla Cardaci, Michela Sperti, Francesco Bruno, Syed Taimoor Hussain Shah, Giuseppe De Nisco, Enrico Cerrato, Paolo Angelo Canova, Umberto Morbiducci, Raffaele Piccolo, Francesco Burzotta, Fabrizio D'Ascenzo, Marco Agostino Deriu and Claudio Chiastra

Reproducibility and reliability of renal image segmentation and radiomics: the AI4PKD project

Ettore Lanzarone, Rossella Damiano, Francesca Lussana, Giulia Villa, Anna Caroli and Elisa Scalco

p53 oscillatory dynamics as signal of DNA damage response after nuclear compression

Maria Isabella Maremonti, Paolo Antonio Netti and Filippo Causa

Efficacy of Anatomical Facial Landmarks on Sex Classification

Ali Shadman Yazdi, Benedetta Baldini, Annalisa Cappella, Gianluca Tartaglia, Chiararella Sforza and Giuseppe Baselli

Integration of the multimodal scene with electro-clinical information: Source Imaging approaches

Irene Incerti, Anna Elisabetta Vaudano, Jonathan Mapelli, Stefano Meletti and Daniela Gandolfi

Characterization of single nuclei in an electro-optical cytometer for metaphase detection

Cristian Brandi, Adele De Ninno, Filippo Ruggiero, Valentina Mussi, Mauro Nanni and Federica Caselli

Algorithm for the identification and quantification of F-actin fibers in widefield fluorescence images

Riccardo Reale, Damiana Battaglini, Giovanna Peruzzi, Giancarlo Ruocco, Marco Leonetti and Marialaura Petroni

Enhanced Gray Matter Specificity of Integrated Local Correlation Mapping Using Multi-Echo fMRI

Giulia Bosello, Federica Tomaiuolo, Giordano Ponetti, Raffaella Franciotti, Martin Gajdoš, Michal Mikl, Valeria Onofrj, Piero Chiacchiaretta, Mauro Gianni Perrucci, Irena Rektorova and Antonio Ferretti

Evaluation of the total small bowel length in obese patients using bioimaging

Maria Vittoria Mascolini, Ilaria Toniolo, Lorenza Bonaldi, Alice Berardo, Marta Zerunian, S Nardacci, A Laghi, Mirto Foletto, Niccolò Petrucciani, M Musella, G Silecchia and Chiara Giulia Fontanella

Evaluation of T2* time series as an fMRI approach for task paradigms: a language mapping application

Giordano Ponetti, Giulia Bosello, Fedele Dono, Giacomo Evangelista, Federica Tomaiuolo, Giovanna Bubbico, Piero Chiacchiaretta, Massimo Della Cuna, Stefano Sensi, Massimo Caulo, Mauro Gianni Perrucci and Antonio Ferretti

Controllability of the EEG Human Connectome as derived from Phase-Locking Value and Cross-correlation Coefficient

Simone Papallo, Marianna Chianese, Maria Agnese Pirozzi, Mario Cirillo, Leandro Donisi and Fabrizio Esposito

Unraveling single cell trajectories using GraphMaps

Federico Tozzi, Flavio Fontana, Ermes Botte, Arti Ahluwalia and Chiara Magliaro

Control theory reveals efficiency properties of meditative brain networks

Giulia Pieramico, Alessio Basti, Vittorio Pizzella, Laura Marzetti and Roberto Guidotti

Detecting malignant cardiac tumors in contrast-free MRI images using machine learning

Meri Ferretti, Michele Pagliaccia, Andrea Baggiano, Gianluca Pontone, Valentina Corino, Carmine Pizzi, Francesco Angeli, Matteo Armillotta, Luca Bergamaschi and Luigi Lovato

EEG power spectral correlates of adolescent idiopathic scoliosis treatment

Matilde Paramento, Maria Rubega, Edoardo Passarotto, Maria Chiara Maccarone, Hillary Veronese, Paola Contessa, David Pascucci, Stefano Masiero and Emanuela Formaggio

Dehydration and Rehydration Monitoring Through Ultrasound Imaging of the Inferior Vena Cava

Piero Policastro, Matteo Raggi, Umberto Macri, Alessandra Mattana and Luca Mesin

Neural network-based segmentation and rendering of anatomical structures in augmented reality from tomographic images

Alberto Morelli, Cosimo Aliani and Leonardo Bocchi

Prediction of TMS-evoked potentials from prestimulus spectral features: A Machine Learning Approach

Sadaf Moaveninejad, Antonio Luigi Bisogno, Simone Cauzzo, Maurizio Corbetta and Camillo Porcaro

Automatic B-lines Detection in Lung Ultrasound Using Variational Mode Decomposition

Alberto Bottino, Chiara Botrugno, Francesco Conversano, Francesco Dell'Olio, Jacques Tene Koyazo, Fiorella Anna Lombardi, Paola Pisani, Rocco Morello, Aimé Lay-Ekuakille and Sergio Casciaro

ECG-based Data-Driven Seizure Prediction with Minimum A-Priori Assumptions

Matteo Olivotto and Luca Mesin

Patterns of spectral and fractal changes in the aging brain

Simone Cauzzo, Sadaf Moaveninejad and Camillo Porcaro

Beat by beat blood pressure classification based on PPG and ECG data using a deep learning framework

Damiano Fruet, Michela Masè and Giandomenico Nollo

Organization of alpha-band connectivity networks during visuospatial attention orienting

Matteo Fraternali, Davide Borra and Elisa Magosso

Deep Learning-Based Assessment of POMA Scores Through EMG Derived Correlation and Coherence Matrices

Francesco Romano, David Perpetuini, Daniela Cardone and Arcangelo Merla

Evaluation of lumbar spine mineral density through echographic scans in paediatric subject: a preliminary study

Antonio Colucci, Luigi Antelmi, Fiorella Anna Lombardi, Chiara Stomaci, Giulia Macchia, Tommaso De Marco, Francesco Conversano, Roberto Franchini, Paola Pisani and Sergio Casciaro

Sympathovagal Correlates of the Aperiodic Component of Electroencephalographic Signals: A preliminary study

Vincenzo Catrambone, Francesca Mura, Giovanna Mioni, Virginie Van Wassenhove, Claudio Gentili and Gaetano Valenza

Single-Subject Unsupervised Detection of Covariate Shift in EEG: A Step Towards Real-World passive Brain-Computer Interface

Daniele Germano, Vincenzo Ronca, Rossella Capotorto, Gianluca Di Flumeri, Gianluca Borghini, Andrea Giorgi, Alessia Vozzi, Fabio Babiloni and Pietro Aricò

An iterative approach for CT image reconstruction from low-dose data

Maria Maddalena Autorino, Stefano Franceschini, Michele Ambrosanio, Giuseppe Cesarelli, Gilda Schirinzi and Fabio Baselice

Evaluating the effect of kinematic features in an action observation paradigm: a preliminary study for designing a motor priming in a BCI system

Francesca Patarini, Camilla Maronati, Jordi Manuella, Luigi Felice Cuturi, Melissa Monti, Giulia Savina, Elisabetta Ferrari, Igor Iarrobino, Cristina Iani, Sandro Rubichi, Angela Ciaramidaro, Laura Astolfi, Andrea Cavallo and Jlenia Toppi

Electroencephalographic response to music: Characterization using involvement indexes

Erica Iammarino, Ilaria Marcantoni, Claudia D'Agostino, Alessandro Dell'Orletta, Sara Frezzotti and Laura Burattini

Phase Integration in Differential Phase Contrast (DPC) Computed Tomography (CT) via deconvolution

Giada Rizzo, Gaia Boncore, Luca Brombal and Francesco Brun

A Physics-driven Learning Framework for MRI-Based Electrical Properties Tomography

Sabrina Zumbo, Stefano Mandija, Tommaso Isernia and Martina Teresa Bevacqua

FetalBio-AI: Novel AI-based Software for Fetal Biometry Estimation

Agnese Sbröllini, Meri Gjika, Mhd Jafar Mortada, Muhammad Alkalet and Laura Burattini

Robustness of Symbolic Analysis for Estimating Heart-Rate Variability during Sport

Stella Rinaldi, Meri Gjika, Mhd Jafar Mortada, Laura Burattini and Agnese Sbröllini

Effects of Virtual Reality and Respiratory Biofeedback on Heart Rate Variability and Skin Conductance

Vittorio Santoriello, Rita Granata, Alfonso Maria Ponsiglione, Michela D'Antò, Giuseppe D'Agostino, Arturo Cuomo, Marco Cascella, Maria Romano and Francesco Amato

Radiomics Reproducibility in MRI: Influence of Noise Reduction Filters

Noemi Pisani, Alessandra Franco, Michela Russo, Ludovica Di Fiore, Carmine Giugliano, Mario Sansone, Francesco Amato and Carlo Ricciardi

MEABeat: a software for enhanced electrophysiological analysis of hiPSC-derived cardiomyocytes using Multi-Electrode Arrays

Francesco De Santis, Francesca Chivu, Alessandra Pace, Andrea Menegon, Alessandra Pedrocchi and Antonietti Alberto

Tomographic Ultrasound Imaging via Deep Learning for Breast Cancer Localization

Michele Ambrosanio, Stefano Franceschini, Maria Maddalena Autorino, Giuseppe Cesarelli, Vito Pascazio and Fabio Baselice

Heart rate variability in professional SCUBA divers

Federica Ricci, Cecilia Vivarelli, Enrico Marchetti, Luigi Fattorini, Corrado Costanzo, Floriana Sacco, Eugenio Mattei and Giovanni Calcagnini

The Effect of Systolic and Diastolic Arterial Pressures on Mean Arterial Pressure: Linear and Non-Linear Prediction Approaches

Roberta Saputo, Laura Sparacino, Riccardo Pernice, Michal Javorka and Luca Faes

Wearable EEG systems: toward Single-Channel personalized configurations for seizure detection

Rosanna Ferrara, Martino Giaquinto, Gennaro Percannella, Alessia Saggese and Mario Vento

A Deep Learning-Based Framework for Structural Segmentation of Hepatic Lobules in Digital Pathology

Simone Kresevic, Deborah Bonazza, Davide Dilella, Alberto Bortolotto, Emilia Giacomello, Mauro Giuffrè, Lory Saveria Crocè, Silvia Palmisano, Nicolò de Manzini, Fabrizio Zanconati, Agostino Accardo and Milos Ajcevic

Multi-dimensional networks as a tool to quantify role imbalance in EEG-hyperscanning data

Greta Rinaldini, Maria Grazia Puxeddu, Angela Ciaramidaro, Pascal Vogel, Christine M. Freitag, Michael Siniatchkin, Jlenia Toppi and Laura Astolfi

Reconstructing whole brain spectral activations during the execution of Box and Block Test

Giulia Savina, Emma Colamarino, Floriana Pichiorri, Francesca Patarini, Eduardo Palermo, Febo Cincotti, Donatella Mattia and Jlenia Toppi

Can Gait Analysis Distinguish Between Motor Patterns in Drug-Induced Parkinsonism and Parkinson's Disease?

Michela Russo, Martina Mestizia, Marianna Amboni, Annamaria Landolfi, Noemi Pisani, Federico Di Filippo, Maria Romano, Paolo Barone and Carlo Ricciardi

Radar Imaging Systems for Biomedical Applications: Preliminary Broadband Characterization of the Experimental Scenario

Simona Di Meo, Alessia Cannatà, Giulia Matrone, Giovanni Magenes and Marco Pasian

Preliminary combination of Radiofrequency Echographic Multi Spectrometry and Neural Networks for femoral densitometry in children

Antonio Colucci, Luigi Antelmi, Giulia Metrangolo, Fiorella Anna Lombardi, Fabiola Rosa Contaldo, Gabriele D'Amato, Tommaso De Marco, Francesco Conversano, Roberto Franchini, Paola Pisani and Sergio Casciaro

The peculiar potential of shallower networks in medical image classification

Lodovica Pia Maria Sutera, Matteo Lai, Stefano Diciotti and Riccardo Poli

Automatic CTP-ASPECTS assessment in Ischemic Stroke

Andrea Bonini, Katerina Iskra, Giovanni Furlanis, Marcello Naccarato, Edoardo Ricci, Maja Ukmar, Paolo Manganotti, Agostino Accardo and Milos Ajcevic

Photoacoustic Image Reconstruction with Uncertainty Quantification Using Deep Learning

Bruna Cotrufo, Silvia Seoni and Kristen Meiburger

Assessing Gait Pattern in Functional Motor Disorders: a Classification Approach

Michela Russo, Marialuisa Gandolfi, Angela Sandri, Sara Mariotto, Stefano Tamburin, Anna Paolicelli, Mirta Fiorio, Giulia Pedrotti, Paolo Barone, Roberto Erro, Marianna Amboni, Sofia Cuoco, Immacolata Carotenuto, Claudia Vinciguerra, Annibale Botto, Lucia Zenere, Elisa Canu, Elisa Sibilla, Massimo Filippi, Elisabetta Sarasso, Federica Agosta, Carlo Ricciardi, Maria Teresa Pellecchia, Michele Tinazzi and Francesco Amato

Assessment of the efficacy of LBNP stimulation in fMRI studies

Cecilia Vivarelli, Eugenio Mattei, Matteo Mancini, Hajar Al Naqshbandi, Andrea Salaris, Giuseppina Porciello, Cristina Ottaviani and Giovanni Calcagnini

Advancing Dermatological Imaging: The Role of 3D Optical Coherence Tomography Angiography Processing

Giulia Rotunno, Lisa Krainz, Julia Deinsberger, Brunna Cotrufo, Mengyang Liu and Kristen Mariko Meiburger

Automatic quantification of cytoplasmic granularity in metaphase-II human oocytes

Alessandro Biscontin, Milos Ajcevic, Stefania Luppi, Monica Martinelli, Agostino Accardo and Giuseppe Ricci

Impact of Feature Stability on the Robustness of AI-Driven Pathomics Biomarkers in Rectal Cancer

Debora Cafaro, Federica Cruciani, Giulia Nicoletti, Arianna Defeudis, Maria Costanza Aquilano, Emanuela Bonoldi, Maria Giulia Zampino, Francesca Bergamo, Stefania Mosconi, Sara Mariano, Alessio Amatu, Silvia Marsoni, Salvatore Siena, Daniele Regge and Valentina Giannini

The impact of loss functions and optimizers on U-Net for aneurysmal ascending aorta segmentation

Chiara Livolsi, Lorenzo Nioi, Salvatore Castelbuono, Salvatore Pasta and Nicola Cuscino

The Validity of Ultra-Short-Term Heart Rate Variability during Physical Activity and Cognitive Load

Islem Bejaoui, Carlotta Occhipinti, Pietro Picerno, Sergio Solinas, Ugo Della Croce and Cristiano De Marchis

Characterization of Muscle Activity in Water Polo Players with and without Shoulder Pain during penalty shot

Danilo Canepa, Andrea Cervia, Valentins Guzzone, Federica Tignonsini, Filippo Cotellessa, Laura Mori, Maura Casadio and Camilla Pierella

Inter-brain synchronization in naturalistic EEG hyperscanning: a case study in educational settings

Giulia Blandolino, Melissa Monti, Cristiano Cuppini and Laura Astolfi

Markov Chains for the Study of Brain Connectivity via MEG Signals in Parkinson's Disease

Michele Ambrosanio, Stefano Franceschini, Maria Maddalena Autorino, Carmela Bonavolontà, Carmine Granata and Fabio Baselice

Statistical Characterization of Brain Functional Connectivity in Patients at Risk of Post Operative Cognitive Decline

Salvatore Castelbuono, Laura Sparacino, Vincenzina Lo Re, Emanuele Lo Gerfo, Gianvincenzo Sparacia, Nicola Cuscino, Luca Faes and Yuri Antonacci

A Combined Analysis of Bioimpedentiometry and Cardiovascular Variability Indices for Non-Invasive Classification of Obesity

Marta Iovino, Giuseppe Genova, Francesco Oddo, Teo Francesco Scognamiglio, Nicoletta Salviato, Luca Faes, Yuri Antonacci, Alessandro Busacca and Riccardo Pernice

Track 9 - Bioinformatics and Synthetic Biology

Comparing Machine Learning and Deep Learning Approaches for ALS Diagnosis Using Blood-Derived Biomarkers and Synthetic Data

Ali Salman, Matteo Leoncini, Elena Niccolai, Jessica Mandrioli, Amedeo Amedei and Ernesto Iadanza

Breast cancer staging classification from publicly available miRNA-seq expression data

David Dannhauser, Sabrina Napoletano, Paolo Antonio Netti and Filippo Causa

Enhancing matRadiomics with a Cascade of 3D U-Nets for Prostate Cancer Segmentation and Digital Biopsy Applications

Giovanni Pasini, Alessandro Stefano, Alessia Finti, Michela Franzò, Giorgio Russo, Franco Marinozzi and Fabiano Bini

Development of a pipeline for quantifying light-induced alterations to cell motility

Flavio Fontana, Ermes Botte, Federico Tozzi, Giulia Paties Montagner, Piera Mancini, Chiara Magliaro and Arti Ahluwalia

Privacy-Preserving AI for Healthcare: Federated Learning in Diabetic Nephropathy Prediction

Nicola Cortese, Antonio Cutruzzolà, Michela Destito, Anna Procopio, Paolo Zaffino, Agostino Gnasso, Concetta Irace and Carlo Cosentino

Characterization and control of engineered bacteria through Chi.Bio, a scalable bioreactor platform

Giulia Mordeglia, Daniele Pastorelli, Paolo Magni and Lorenzo Pasotti

Approaching Health Big Data in a federated research context

Pierluigi Reali, Pierluigi Plebani, Letizia Tanca and Maria G. Signorini

An Explainable Graph Neural Network Framework for Diffusion Processes Modell

Ugo Lomoio, Annamaria Defilippo, Barbara Puccio, Pietro Hiram Guzzi and Pierangelo Veltri

Day 3

Oral session

Track 3 - Biomechanics and prosthetics

Inter-joint coordination during manual task in myoelectric hand prosthesis users

Lorenzo Rum, Eleonora Braccili, Eva Zimei and Ugo Della Croce

Assessment of a novel musculoskeletal lumbar spine model: sensitivity analyses and validation

Linda Carpenedo and Luigi La Barbera

Track 5 - Biomedical Signal and Image Processing

Wearable Seismocardiography: Gender Differences in Sternal Measures

Paolo Castiglioni, Francesco Rizzo, Maurizio Ferrarin, Jacopo Casartelli, Damiano Formenti and Giampiero Merati

Assessment of cardiovascular coupling during rest and postural stress using Mutual Information Rate

Stefano Cimignolo, Chiara Barà, Riccardo Pernice, Michela Masè, Giandomenico Nollo and Luca Faes

Estimation of Bone Fracture Risk by combining Artificial Intelligence techniques and Radiofrequency Echographic Multi Spectrometry

Giusy Peluso, Mauro Bellone, Fiorella Anna Lombardi, Francesco Conversano, Paola Pisani, Italo Epicoco, Massimo Cafaro, Ernesto Casciaro and Sergio Casciaro

Ultra-Short-Term Analysis of Cardiovascular Interactions at Rest and During Stress Conditions Using Mutual Information Rate

Anna Raimondi, Roberta Saputo, Michal Javorka, Luca Faes and Riccardo Pernice

Comparing Supervised and Unsupervised Algorithms for the Retrospective Detection of Faults in Continuous Glucose Monitoring Sensors

Elena Idi, Andrea Facchinetti, Giovanni Sparacino and Simone Del Favero

Stain normalization in histopathology: does target patch selection matter?

Giulia Nicoletti, Debora Cafaro, Federica Cruciani, Gianluca Mauri, Gabriella Balestra, Daniele Regge and Valentina Giannini

Electrogram duration for the identification of abnormal ventricular potentials

Marco Orrù, Maura Cossu, Giulia Baldazzi, Graziana Viola and Danilo Pani

Track 8 - Design and Validation of Biomedical Devices

A mechanical framework for the design of metamaterial scaffolds for tissue engineering

Alice Berardo, Damiano Coato, Gianmarco Dolino, Ilaria Toniolo, Paolo Gargiulo and Emanuele Luigi Carniel

Assessing primary stability of acetabular cup with different screw configurations

Davide Bentivoglio, Nicholas Elena, Mara Terzini, Alessandro Aprato, Stefano Giaretta, Cristina Bignardi, Alberto Momoli and Federico Andrea Bologna

Integration of Customized TEER Electrodes in a Microphysiological System Fabricated with an Innovative Low-Cost Production Technique

Giordana Marsili, Lorenzo Pietro Coppadoro, Gianfranco Beniamino Fiore and Monica Soncini

Track Joint ESB-GNB

Transport Phenomena through the Retina: Mathematical Modelling and in Vitro Study

Alessandro Conte, Riccardo Tripputi, Diego Albani, Giovanna Guidoboni, Alon Harris, Riccardo Sacco, Carmen Giordano and Federica Boschetti

Simulation and virtual reality visualization for planning stenting procedure of sinus venosus defect

Fabrizio Crascì, Giuliano Giusti, Salvatore Pasta and Claudio Capelli

A COMBINED IN VITRO AND IN SILICO PIPELINE FOR THE CHARACTERIZATION OF DRUG-COATED BALLOON COATINGS

Francesca Berti, Martina Clerici, Ivan Dell'Acqua, Elena Bianchi, Dimitrios Zantzas, Efstathios Stratakis, Giancarlo Pennati

ASSESSING CALCIFICATION EFFECTS IN TEVAR PROCEDURES: A COMPUTATIONAL ANALYSIS

Giulia De Campo, Anna Ramella, Sara Barati, Giulia Luraghi, Virginia Fregona, Maurizio Domanin, Robin Heijmen, Santi Trimarchi, Francesco Migliavacca

CLINICAL UTILITY OF COMPUTATIONAL HEMODYNAMIC MODELLING IN CORONARY ATHEROSCLEROSIS

Diego Gallo, Alessandro Candreva, Maurizio Lodi Rizzini, Andrea Erriquez, Barbara E. Stähli, Gianluca Campo, Simone Biscaglia, Umberto Morbiducci

DYNAMIC MODULATION OF CELL MORPHOLOGY USING A PHOTOSWITCHABLE PDR1M-BASED PLATFORM

Francesca Mauro, Carlo F. Natale, Valeria Panzetta, Paolo A. Netti

FROM BENCH TESTING TO IMPLANTATION: AN IN SILICO COMPARATIVE STUDY BETWEEN PLLA AND NITI BRAIDED VASCULAR STENTS

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