



5th Healthcare & Life Science & Entrepreneurship Workshop



03 & 04 September 2020

Le Benedettine, piazza San Paolo a Ripa d'Arno, Pisa, Italy

Chair & Host: Serena Danti (University of Pisa, Italy)

Co- Chair: Pascal Colpo (European Commission, Joint Research Centre
(JRC) Ispra, Italy)

Science Entrepreneurship Chair & Program Director: Hugo de Haan



Keynote Speakers

Yoann Roupioz, *CNRS, CEA-Grenoble, France*

“SPR imaging of peptide micro-arrays for wide spectrum sensing of pathogenic bacteria” (remote France September 3)

Sue Anne Chew, *Dept. of Health & Biomedical Sciences, University of Texas Rio Grande Valley, TX, USA*

“PLGA Scaffolds Fabricated with an Easy and Economical Mold-Less Technique for Different Applications” (remote From Texas, afternoon session, sept 3 or 4)

Diego Mantovani, *Laval University Lab. for Biomaterials & Bioengineering, Canada*

“Plasma-based surface modification and active biomolecules grafting for regenerative medicine” (remote from Canada)

Booth:

Nadir S.r.l., Venezia, Italy.



Host Pisa University, COVID points, rules and measures

To create a COVID safe workshop environment, we had to reduce the workshop to one plenary session in the largest room, the Auditorium, and a parallel session in room B, which have sufficient capacity and ICT provisions. The capacity of the rooms will be reduced 1:5, thus allowing 17 attendants in the Auditorium (+ chair and ICT) and 12 attendants to room B. A map of seats versus attendants has to be made. Updated rules will be released in the end of August and any change made promptly available. Anyway, since the on-site persons each day are limited, it may be possible to have a seat in both rooms.

PLEASE consider that **LAST MINUTE CHANGES are possible**, including physical conference cancellation (thus, only remote presentation).

COVID key points relevant to the workshop participants

- Remote modes are recommended (live on **Streamyard platform** made available for attendants, easily accessed via YouTube and Facebook channels – just by clicking on links generated on September 1st-2nd before the conference). Primary instructions for connection will be given with the booklet.
- The interpersonal distance to indoor workplaces has been reduced in accordance with the latest instructions provided by the Tuscany Region; **the recommended distance is 1.8 m and in any case not less than 1 m.**
- Face-to-face meetings they can only be carried out if compatible with the spacing rules adopted, in particular minimum distance of 1 meter between people and at least 1.8 meters in all directions for the sessions, **mandatory use of masks, use of hydro alcoholic gel** at the entrance and before touching the podium, preservation of the list of participants, follow entry and exit signs to allow the maintenance of interpersonal distance in the buildings.
- It is prohibited to enter the University buildings for people who have visited risky areas listed in the WHO or have been in contact with COVID positive people in the previous 14 days.

Pisa University behavioral rules

- KEEP the interpersonal distance of 1.8 m and, in any case, not less than 1 m.
- AVOID close contact with people showing symptoms of respiratory disease (such as coughing and sneezing) while still maintaining the interpersonal distance shown above.
- AVOID touching the nose, eyes and mouth with hands (if not just washed).
- Sneeze or cough into a tissue or with your elbow flexed and throw the used tissues into a basket immediately after use and wash hands frequently with soap and water or using alcoholic solutions.
- AVOID hugs and handshakes.
- AVOID the promiscuous use of bottles and glasses.

Workshop specific measures

- Participants get their own seat for that day, so do not switch seats that day.
- The “Auditorium” has direct access to outside lawn for beverages and talks.
- Lunch and snacks will be provided as prepackaged lunch and bottle beverages and self-service coffee machine.
- The on-site speakers must have the mask as the podium microphone is shared. The remote audience / speakers need video and audio.
- We will be flexible in the program to allow last minute changes in COVID regulations.
- Remote and physical speakers will be alternating during the sessions.
- We provide limited number of table top booth close to beverage/lunch section.



Program of the 2-day workshop:

“Healthcare and Life Science & Entrepreneurship”

DAY 1: Program 03 September 2020

AUDITORIUM		Room B (Aula B)
8:00	Hall open for table booth installations	
8:30	Registration opens	
9:00	Welcome & Opening by Chair(s) & Institution Serena Danti and Pascal Colpo & Program Director Hugo de Haan	
	Materials and Surfaces (1) Moderator: Serena Danti	
9:20-10:00	1st keynote: Yoann Roupioz , CNRS, CEA-Grenoble, France, <i>“SPR imaging of peptide micro-arrays for wide spectrum sensing of pathogenic bacteria”</i> [Remote]	
	Biomaterials (1) Moderator: Serena Danti	Biomaterials and Surfaces (1) Moderator: Bahareh Azimi
10:00-10:20	Carlos Mota , MERLN, The Netherlands, <i>“Creation of bulk and surface gradients for scaffolds for tissue engineering”</i> [Remote]	Anna Maria Piras , University of Pisa, Italy, <i>“Quaternary ammonium chitosans grafted with β-cyclodextrin for enhanced oral bioavailability of insoluble actives and therapeutic peptides”</i>
10:20-10:40	Luana Persano , National Research Council (CNR)-NANO, Italy, <i>“Functionalized polymer nanostructures and nanofibers for biophysical studies of cell adhesion and lineage commitment”</i>	Fiara Artusio , Politecnico di Torino, Italy, <i>“Functionalization of glass surfaces with SAMs: the effect of synthesis conditions and the application to pharmaceutical crystallization”</i> [Remote]
10:40-11:00	Dario Puppi , University of Pisa, Italy, <i>“Additive Manufacturing of Biopolymers”</i>	Paolo Scopece , Nadir S.r.l., Venezia, Italy, <i>“Plasma surface modifications of 3D printed medical devices by mean of an innovative dual frequency excitations atmospheric plasma jet device”</i>
11:00-11:30	Coffee break / visit to boot area & exhibition room	
	Cardiovascular Moderator: Serena Danti	Biomimetic Moderator: Bahareh Azimi
11:30-11:50	Valeria Chiono , Politecnico di Torino, Italy, <i>“Direct reprogramming of human cardiac fibroblasts towards the cardiac phenotype through non-viral approaches”</i> [Remote]	Maria Grazia Cascone , University of Pisa, Italy, <i>“Biomimetic and bioactive materials for tissue engineering applications”</i>
11:50-12:10	Caterina Cristallini , CNR-IPCF, Italy, <i>“Nanoengineering for Cardiac Regeneration: a Wide Scenario from Computational to Physico-Chemical and Biological Strategies”</i>	Bahareh Azimi , INSTM and University of Pisa, Italy, <i>“Surface-functionalized electrospun fibers for tissue engineering and drug delivery applications”</i>
12:10-12:30	Irene Carmagnola , Politecnico di Torino, Turin, Italy, <i>“Design of bioartificial scaffolds as in vitro models of pathological human cardiac tissue”</i> [Remote]	Chiara Tonda-Turo , Politecnico di Torino, Italy, <i>“Biomimetic Nano fibrous membranes: a versatile substrate in biomedical applications”</i> [Remote]
12:30	Photo shoot of Day 1 participants in the garden / virtual photo	
13:00-14:00	Lunch (lunch box to eat in the garden)	

Materials and Surfaces (2) Moderator: Serena Danti	
14:00-14:40	2nd keynote: Sue Anne Chew , Dept. of Health & Biomedical Sciences, University of Texas Rio Grande Valley, TX, USA, <i>“PLGA Scaffolds Fabricated with an Easy and Economical Mold-Less Technique for Different Applications”</i> [Remote]
	Translational Approaches Moderator: Serena Danti Biosensors (1) Moderator: Bahareh Azimi
14:40-15:00	Raechelle A. D’Sa , University of Liverpool, UK, <i>“Nitric oxide releasing titanium surfaces for bone-integrating orthopaedic implants”</i> [Remote] Fredrik Höök, Lund University, Sweden, <i>“Highly sensitive optical detection of biomarkers using light-guiding nanowires”</i> [Remote]
15:00-15:20	Maria Donatella Mariniello , University of Pisa, Italy, <i>“Improving outcomes in breast reconstruction: from current techniques towards tissue regeneration”</i> John D. Brennan, Biointerfaces Institute, McMaster University, Hamilton, Canada, <i>“Aptamer and DNzyme Based Point-of-Care Devices for Infectious Disease Monitoring”</i> [Remote]
15:20-15:40	Nihal Engin Vrana , Spartha Medical, France, <i>“Personalization of Host/Implant Interface via Multifunctional, Supramolecular Coatings: A Case of Valorisation of European Project Foreground”</i> [Remote] Maciej Grajewski, SG Papertronics B.V, The Netherlands, <i>“A portable quality control lab – from invention to product prototype”</i> [Remote]
15:40-16:10	Coffee break / visit to boot area & exhibition room
	Nanoparticles Moderator: Serena Danti Advanced Analysis Moderator: Bahareh Azimi
16:10-16:30	Laura Astolfi , University of Padua, INSTM, Italy, <i>“Biocompatibility tests on nanoparticles useful to develop inner ear therapies”</i> [Remote] Giacomo Ceccone, European Commission - Joint Research Centre, Ispra (VA), Italy, <i>“XPS and ToF-SIMS analysis of functionalized carbon and gold nanomaterials for bio-applications”</i> [Remote]
16:30-16:50	Wim De Malsche , Vrije Universiteit Brussel, Belgium, <i>“Large scale monodisperse droplet and particle production using 3D nozzle arrays”</i> [Remote] Joost Lötters, Bronkhorst High-Tech BV, The Netherlands, <i>“Demonstrator system for real-time in-line measurement of medicine mixtures”</i> [Remote]
17:00	Day 1 Workshop closure

19:45 - Social dinner @ restaurant “Il Campano”

Via Domenico Cavalca, 19, 56126 Pisa PI

<https://www.ilcampano.com/>

- **Exhibition** *“Hello world! Computer science from arithmometer to smartphone”* freely available during the conference at level -1.

Day 2: Program 04 September 2020

AUDITORIUM		Room B (Aula B)
8:30	Registration opens	
9:30	Welcome & Opening by Chair(s) & Institution Serena Danti and Pascal Colpo & Program Director Hugo de Haan	
	Clinical Trends Moderator: Serena Danti	Micro-nano approaches Moderator: Bahareh Azimi
9:40-10:00	Nicola Origlia , Institute of Neuroscience - CNR, Italy, <i>"Bypassing the BBB: strategies to target neurodegenerating neurons"</i>	Simone Pacini , University of Pisa, Italy, <i>"Mesangiogenic Progenitor Cells and nano-patterning"</i>
10:00-10:20	Filippo Valente , Ear Science Institute, Perth, Australia, <i>"ClearDrum®: an acoustically-optimized silk fibroin membrane for the treatment of chronic middle ear disease"</i> [Remote]	Giulia Giannone , Center for Nanotechnology, NEST - Scuola Normale Superiore, Pisa, Italy, <i>"A practical ultrasmall-in-nano approach to improve the translation potentiality of noble metal nano-architectures"</i> [Remote]
10:20-10:40	Matteo Ghilli , Azienda Ospedaliero-Universitaria Pisana (AOUP), Italy, <i>"Breast implant associated-anaplastic large cell lymphoma: review"</i>	Alessandra Fusco , Università della Campania 'Luigi Vanvitelli', Napoli, Italy, <i>"Ciprofloxacin loaded polymeric nanoparticles incorporated electrospun fibers with antiinflammatory and antimicrobial activity"</i> [Remote]
10:40-11:00	Gianni Pertici , Industrie Biomediche Insubri SA, Switzerland, <i>"Hydroxyapatite surface modification to enhance bone integration"</i>	Giovanna Brusatin , University of Padova, Italy, <i>"New biomaterials and micro technologies to engineer the microenvironment of tissue-specific stem cells"</i> [Remote]
11:00-11:30	Coffee break / visit to boot area & exhibition room	
	Biomaterials (2) Moderator: Serena Danti	Bio-based materials Moderator: Bahareh Azimi
11:30-11:50	Gianluca Ciardelli , Politecnico di Torino, Italy, <i>"Precisely designed polymeric biomaterials for drug delivery and nanomedicine"</i>	Jaap den Toonder , Eindhoven University of Technology, The Netherlands, <i>"Bioinspired active surfaces for fluid, particle, and cell manipulation"</i>
11:50-12:10	Shivesh Anand , MERLN, The Netherlands, <i>"Hierarchical Biofabrication of the Human Eardrum"</i> [Remote]	Maria-Beatrice Coltelli , INSTM, Italy, <i>"Biopolymers and nanostructured materials for large volume applications in skin contact products"</i>
12:10-12:30	Silvia Faré , Politecnico di Milano; INSTM, Florence, Italy, <i>"Smart natural hydrogels for biomedical applications"</i> [Remote]	Patrizia Cinelli , Planet Bioplastics srl, Italy, <i>"Sustainable and compostable plastic products meeting circular economy approach"</i>
12:30-12:50	Ipsita Roy , University of Sheffield, UK, <i>"Natural polymers of bacterial origin and their use in hard and soft Tissue Engineering"</i> [Remote]	Bahareh Azimi , INSTM, Italy, <i>"Chitin Nanofibril Electro spray to functionalize biopolymeric surfaces"</i>
12:50 -13:00	Photo shoot of Day 2 participants in the garden / virtual photo	
13:00 -14:00	Lunch (lunch box to eat in the garden)	
	Materials and Surfaces (3) Moderator: Serena Danti	

14:00-14:40	3rd keynote: Diego Mantovani , Laval University Lab. for Biomaterials & Bioengineering, Canada, <i>“Plasma-based surface modification and active biomolecules grafting for regenerative medicine”</i> [Remote]	
	In silico Moderator: Serena Danti	Biosensors (2) Moderator: Bahareh Azimi
14:40-15:00	Francisco Martin-Martinez , College of Science, Swansea University, UK, <i>“Multiscale modeling and simulations of bioinspired materials”</i> [Remote]	Mario D'Acunto , CNR-IBF, Italy, <i>“Plasmon-Enhanced Raman Spectroscopy inside cells: what we can observe”</i>
15:00-15:20	Thomas Stoppe , TU Dresden, Germany, <i>“Trends in surgical therapy and diagnosis of middle ear diseases”</i> [Remote]	Valerio Voliani , Istituto Italiano di Tecnologia (IIT), Italy, <i>“Plasmonic ultrasmall-in-nano theranostics: in & out the organism”</i> [Remote]
15:20-15:40	Inna Kurganskaya , University of Bremen, Germany, <i>“Monte Carlo simulations of reactions at mineral surfaces: application to biogenic nano-materials”</i> [Remote]	Jimena Álvarez Freile , Surflay Nanotec GmbH, Berlin, Germany, <i>“Low-Q Whispering Gallery Modes optical biosensors as model tumor cell surface for cancer immunotherapeutics development”</i>
15:40-16:00	Mario Milazzo , MIT, Cambridge, USA, <i>“Viscoelasticity in mineralized collagen: a Molecular Dynamics study”</i> [Remote]	Alexander Belushkin , Institute of BioEngineering EPFL, Switzerland, <i>“Rapid and Digital Detection of Inflammatory Biomarkers Enabled by a Novel Portable Nanoplasmonic Imager”</i> [Remote]
16:00-16:30	Coffee break	
16:30	Workshop closure	

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