

### Sunday 10

- **Hierlemann Andreas:** "CMOS-microelectronics based extracellular electrophysiology at subcellular resolution"
- **Luciano Fadiga:** "Interfacing the Human Brain".
- **Angelo Accardo:** "Light-assisted 3D fabrication of engineered cell microenvironments for mechanobiology and in-vitro disease modelling".
- **Kevin Braeckmans:** "Photoporation: leveraging light and nanoparticles to gently deliver effector molecules in cells in vitro and ex vivo".
- **Stefano Toffanin:** "Organic Optoelectronic Components in a Smart-integrated System for Plasmonic-based Sensing"

18:00 Registration

20:00 Welcome reception and dinner

### Monday 11

08:30- **Opening and welcome**  
09:00 Francesco De Angelis

09:00- **Lecture: Organoid model**  
10:30 Jeroen Pasterkamp

10:30- Coffee break  
10:45

10:45- **Lecture: Bioelectronics**  
12:00 Luciano Fadiga

12:00 **Free time for discussion**

17:00- **Lecture: Bioelectronics**  
18:00 Hierlemann Andreas  
18:00- **Biophysics session**  
19:00

19:00 **Dinner**

21:00- **How to write project/paper**  
21:30 Francesco De Angelis  
21:45 **Project contest organization**

### Tuesday 12

08:30- **Lecture: Biomechanics**  
09:30 Angelo Accardo

09:30- **Biomechanics session**  
10:30

10:30- Coffee break  
10:45

10:45- **Lecture: Bioelectronics**  
12:00 Johannes Bintinger

12:00 **Free time for discussion**

17:00- **Marie Curie projects**  
17:30 BrainTSers – Giulia Bruno  
17:30- **Afternoon session**  
18:45

19:00 **Dinner**

21:00 **Poster session 1**  
22:30

### Wednesday 13

08:30- **Lecture: Biophotonics**  
09:30 Kevin Braeckmans

09:30- **Biophotonics session**  
10:30

10:30- Coffee break  
10:45

10:45- **Lecture: Biophotonics**  
12:00 Małgorzata Barańska

12:00 **Free time for discussion**

17:00- **Lecture: Biointerfaces**  
18:00 Francesco De Angelis  
18:00- **Project contest help session with tutors**  
18:45

19:00 **Dinner**

21:00 **Lecture:**  
22:00 Guglielmo Lanzani

### Thursday 14

**08:30-09:30** **Lecture: Bioelectronics**  
Ardemis Boghossian

**09:30-10:30** **Bioelectronics session**

**10:30-10:45** Coffee break

**10:45-12:00** **Lecture: Bioelectronics**  
Francesca Santoro

**12:00** **Free time for discussion**

**17:00-18:00** **EU projects: NanoBright**  
Massimo De Vittorio  
**18:00-19:00** **EU projects: MOLOKO**  
Stefano Toffanin

**19:00** **Dinner**

**21:00-22:30** **Hands on experiences**

### Friday 15

**08:45-09:45** **Bioelectronics session**

**09:45-10:00** Coffee break

**10:00-11:00** **Bioelectronics session**

**11:20-12:20** **Lecture:**  
Tina Vermonden

**12:00** **Free time for discussion**

**17:00-18:00** **EU projects: Astra**  
Giancarlo Ruocco

**19:00** **Dinner**

**21:00-22:30** **Award session and project contest results**

### Saturday 16

**09:00-11:00** **Departures**

- **Francesca Santoro:** "Material design for bioinspired neuroelectronics"
- **Ardemis Boghossian:** "Hacking biology for optical sensing and living electronics".
- **Giancarlo Ruocco:** "Brillouin Microscopy: A New Tool For Mechanobiology".
- **Pasterkamp, R.J.:** "Modelling motor neuron disease in a dish"
- **Małgorzata Barańska:** "SRS: sensitive, rapid, specific Raman imaging of cells"
- **Tina Vermonden:** "Shrinking Printing Technology: towards narrow tubular tissue structures"
- **Johannes Bintinger:** "Star Trek's Chemistry"
- **Massimo De Vittorio:** "Piezoelectric biointerfaces"

## Venue



The 2<sup>nd</sup> edition of the Biocube Meeting will take place at the hotel Principi di Piemonte in Sestriere (Via Sauze, 3, 10058 Sestriere TO, tel. +39 0122 750918).

The easiest way to reach the hotel is a combination of train and taxi.

You may take the train from the main train station in Turin (**Torino Porta Nuova**) to the station “**Oulx-Cesana-Claviere-Sestriere**”. The train leaves every 2 hours.

From the Oulx-Cesana-Claviere-Sestriere train station, you may take a taxi to the hotel in Sestriere. The taxi trip is approximately 30 minutes.

You may book a taxi ride with Autoservizi Garofalo ([info@autoservizigarofalo.it](mailto:info@autoservizigarofalo.it); +39-335 5830671) or with Sestriere Taxi Service (Alessandro +39 328 4518137; [alesestriere@yahoo.it](mailto:alesestriere@yahoo.it)). (reservation for the taxi ride is highly recommended).

## Monday 11/12/23

### Afternoon session: Biophysics

18:00	<b>Linda Waldherr</b> – Medical University of Graz, Austria
	<i>Iontronic Devices in the Fight Against Cancer</i>
18:20	<b>Giulia Tomaino</b> – Università Milano Bicocca, Italy
	<i>Development and biophysical characterization of vault-based nanoparticles for the targeted delivery of therapeutic molecules</i>
18:40	<b>Miriam Lucariello</b> - Institute of endocrinology and experimental oncology (IEOS) – CNR
	<i>Active targeting of pancreatic ductal adenocarcinoma by aptamer-modified porous biosilica nanoparticles</i>

## Tuesday 12/12/23

### Morning session: Biomechanics

9:30	<b>Nastaran Barin</b> - Delft University of Technology
	<i>Shaping the Blood Brain/Tumor Barrier Using Light</i>
9:50	<b>Giulia Simoncini</b> - Italian Institute of Technology
	<i>Polymer nanofibers for skeletal muscle cells alignment and photostimulation</i>
10:10	<b>Valentina Vit</b> - IMEM CNR of Parma
	<i>Pressure sensors integrated in functionalized soft materials and biocompatible cellulose nanocomposites</i>

### Afternoon session: Biomechanics and Biophotonics

17:30	<b>Ebrahim Yarali</b> - Delft University of Technology (TU Delft)
	<i>Poisson's ratio-driven cell response in meta-biomaterials</i>
17:50	<b>Giuseppe Maria Paternò</b> - Politecnico di Milano
	<i>Membrane Targeted Azobenzenes Drive Optical Modulation of Bacterial Membrane Potential</i>
18:10	<b>Andrea Rossini</b> - Politecnico di Milano
	<i>Detection of Gold/Bacteria Interaction through Plasmon Resonance</i>

## Wednesday 13/12/23

### Morning session: Biophotonics

<b>9:30</b>	<b>Fabio Marangi</b> - CNST, IIT
	<i>Red- and NIR-sensitive Polythiophenes and Small Molecules for Deeper Tissue Optostimulation</i>
<b>9:50</b>	<b>Francesca Vacca</b> – NSYN, Italian Institute of Technology
	<i>HyVIS project: from nanofluidic device toward retinal prosthetics</i>
<b>10:10</b>	<b>Christian Tentellino</b> - Italian Institute of Technology
	<i>The integration of electrophysiology and Raman spectroscopy for biological and drug dynamics investigation</i>

## Thursday 14/12/23

### Morning session: Bioelectronics

<b>9:30</b>	<b>Julien Hurtaud</b> – Italian Institute of Technology
	<i>Simultaneous electrical and optical label-free recording of hiPS cardiomyocytes contraction in vitro</i>
<b>9:50</b>	<b>Ludovico Aloisio</b> - Italian Institute of Technology
	<i>Conductive Thiophene-Based Fibers Synthesized by Living Cells as Novel Bioelectronic Materials</i>
<b>10:10</b>	<b>Rustamzhon Melikov</b> - Italian Institute of Technology
	<i>Photostimulation of hippocampal neurons using plasmonic nanopillars</i>

## Friday 15/12/23

### Morning session 1: Bioelectronics

<b>8:45</b>	<b>Nicola Coppedè</b> - IMEM CNR
	<i>Human-integrated biocompatible devices for physiological monitoring</i>
<b>9:05</b>	<b>Patit Paban Kundu</b> - Indian Institute of Technology, Roorkee, India
	<i>Titanium nanotube embedded polyaniline -polypyrrole based Cathode catalyst for higher electrical efficiency in microbial fuel cell</i>
<b>9:25</b>	<b>Claudia Latte Bovio</b> - Italian Institute of Technology
	<i>Biomimetic dendritic structures for cell-chip coupling</i>

### Morning session 2: Bio-oriented applications

<b>10:00</b>	<b>Matteo Moschetta</b> - Istituto Italiano di Tecnologia (IIT)
	<i>Membrane-targeted photoactuators for the modulation of cellular activity</i>
<b>10:20</b>	<b>Ilaria Venturino</b> - Istituto Italiano di Tecnologia (IIT)
	<i>Light driven skeletal muscle cells contraction</i>
<b>10:40</b>	<b>Marta D'Amora</b> – Università di Pisa
	<i>High density and multiregional neuro electrophysiological recordings in zebrafish: a novel platform for drugs assessment</i>
<b>11:00</b>	<b>Alessio Boschi</b> - Italian Institute of Technology
	<i>High Sensitive, Label-Free, In Vitro Interferometric Biosensor for HiPSC Cardiomyocytes Contractility Assessment</i>