



SUMMER SCHOOL PROGRAM

Monday 18

- 09.30 – 10.00 **Registration and Coffee Break**
- 10.00 – 10.30 **Opening (Prof. Maria Svelto** - Head of the Department of Bioscience, Biotechnology and Biopharmaceutics; **Prof. Grazia Paola Nicchia** - Director of the School)
- 10.30 – 11.30 **Prof. David C. Spray** - *What holds the brain together: Adhesive and communicating junctions in the nervous system and their regulation*
- 11.30 – 12.30 **Prof. Antonio Frigeri** - *Super resolution microscopy for the imaging of membrane protein clustering: from Total Internal Reflection (TIRF) to Stimulated Emission Depletion (STED) and Photoactivated Localization Microscopy (PALM)*
- 12.30 – 01.30 **Prof. Eliana Scemes** - *Purinergic signaling in the nervous system: Properties of Pannexins and P2 receptors*
- 01.30 – 02.30 **Lunch**
- 02.30 – 06.30 **Laboratory Activities**

Tuesday 19

- 8.30 – 9.00 **Dr. Maria Grazia Mola** - *Analysis of Cell Volume Regulation and Calcium Signaling in Astrocytes: Fluorescence-based biophysical approaches*
- 9.00 – 10.30 **Prof. David C. Spray** - *Glial, neuronal and glia-neuronal gap junctions: What they are, how they work and how dysfunction*



causes disease

10.30 – 11.00

Coffee Break

11.00 – 12.30

Prof. Eliana Scemes - *Purinergic signaling in the nervous system: Role of Pannexins and P2 receptors in physiology and pathology*

12.30 – 01.30

Prof. Giuseppe Calamita - *Biophysical assessment of the water and anaelectrolytes permeability of biological and artificial membranes by stopped-flow light scattering*

01.30 – 02.30

Lunch

02.30 – 06.30

Laboratory Activities

Wednesday 20

08.30 – 9.15

Dr. Andrea Gerbino - *Targeting of organic biosensors to organelles: strategies and available sensors*

9.15 – 10.30

Prof. Aldebaran Hofer - *Fundamentals of second messenger signaling*

10.30 – 11.00

Coffee Break

11.30 – 12.45

Dr. Konstantinos Lefkimmiatis - *Phosphodiesterases and Phosphatases in shaping cAMP signalling: positive roles for negative regulators*

12.45 – 01.30

Prof. Grazia Tamma - *FRET visualization of second messengers in epithelial cells*

01.30 – 02.30

Lunch

02.30 – 06.30

Laboratory Activities



MASMEC

Thursday 21

- 8.30 – 9.15 **Prof. Monica Carmosino** - *Electrophysiology of cardiac channelopathies*
- 9.15 – 10.30 **Prof. Aldebaran Hofer** - *Cyclic AMP signals in subcellular compartments*
- 10.30 – 11.00 **Coffee Break**
- 11.00 – 12.00 **Dr. Valentina Benfenati** - *Glial interface: materials and device to study and modulate astroglial physiology and biophysics*
- 12.00 – 01.00 **Prof. Giovanna Valenti**- *Fluorescence dequenching to monitor membrane merging and interactions of signaling proteins*
- 01.00 – 01.30 **Dr. Konstantinos Lefkimmiatis** - *Die another way, new forms of non-apoptotic programmed cell death* **Lunch**
- 01.30 – 02.30 **Lunch**
- 02.30 – 06.30 **Laboratory Activities**
- 08.00 PM **SOCIAL DINNER**

Friday 22

- 08.30 – 9.30 **Presentation of MASMEC SpA**
- 9.30 – 10.30 **Introduction to automation in molecular diagnostic laboratories**
- 10.30 – 11.00 **Coffee Break**
- 11.00 – 01.30 **Automatic extraction of nucleic acids from different biological samples**



01.30 – 02.30

Lunch

02.30 – 06.30

Laboratory experience on high-throughput platforms

The theoretical-applicative activities will involve:

- **Dr. Pietro Larizza** (Research and Development Manager, MASMEC SpA)
- **Dr. Maria Teresa Mancini** (MASMEC SpA)
- **Dr. Vincenzo Costantino** (MASMEC SpA)
- **Dr. Sabrina Calamita** (MASMEC SpA).