

## DAY 01 - JUNE, 12<sup>TH</sup>

14:00 **FABIO BISCARINI**  
Introduction to the workshop

14:15 **LUCIANO FADIGA**  
Questions from Neuroscience

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### NEUROMORPHIC LOGIC 1 - DOMINIQUE VUILLAUME

14:30 **GIACOMO INDIVERI**  
How and why neuromorphic analog circuits can make Organic devices a winning technology

15:00 **ALBERTO SALLEO**  
Tailoring the performance of polymer-based artificial synapses

15:30 **PASCHALIS GKOUPIDENIS**  
Biological plausibility in Organic Neuromorphic devices: from global phenomena to synchronization functions

16:00 Coffee Break w/ Poster Session

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### NEUROMORPHIC LOGIC 2 - ALBERTO SALLEO

16:30 **LUCA LARCHER**  
Multiscale Modeling of emerging devices for neuromorphic computing: from materials to systems

17:00 **ROBERT NAWROCKI**  
Polymer Neuromorphic circuitry based on polymer memristive devices and polymer transistors

17:30 **DOMINIQUE VUILLAUME**  
Two approaches with molecules and Organic Materials for reservoir computing

18:00 **ROUND TABLE DISCUSSION W/ WINE**  
Moderators: Fabio Biscarini, Luciano Fadiga

## DAY 02 - JUNE, 13<sup>TH</sup>

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### MATERIALS FOR DEVICES AND LOGIC 1 - ELENA AGINA

09:00 **OLLI IKKALA**  
Programming materials with classical conditioning algorithm

09:30 **YUANYUAN SHI**  
Electronic synapses made of layered two-dimensional materials

10:00 **MAXIM SHKUNOV**  
Towards full color artificial retina with conjugated polymers

10:30 Coffee Break w/ Poster Session

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### ORGANIC DEVICES 1 - EMIL LIST-KRATOCHVIL

11:00 **YOERI VAN DE BURGT**  
Chemical doping and stability in conductive polymers for Neuromorphic Devices

11:30 **RITA CUCCHIARA**  
Saliency and attention in visual intelligence

12:00 **JENNIFER GERASIMOV**  
Neuromorphic Circuits based on evolvable Organic Electrochemical Transistors

12:30 Lunch

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### NEURAL INTERFACES 1 - KARL LEO

14:00 **THOMAS STIEGLITZ**  
Neuro (-morphic) implants: requirements for substrates, packages and systems

14:30 **FRANCESCA SANTORO**  
Biohybrid Neural Interfaces

15:00 **MASSIMO DE VITTORIO**  
Implantable probes for brain activity readout and control

15:30 **TAE-WOO LEE**  
Flexible/stretchable organic artificial nerves

16:00 Coffee Break w/ Poster Session

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### NEURAL INTERFACES 2 - THOMAS STIEGLITZ

16:30 **SEAN ERIC SHAHEEN**  
Device physics and fast operation of Organic Electrochemical Transistors

17:00 **FRANCESCO DE ANGELIS**  
3D plasmonic nanostructures for hybrid neural interfaces

17:30 **KARL LEO**  
Organic contacts for retinal implants

17:45 **WRAP-UP DISCUSSION**  
Moderators: Yoeri van de Burgt, Robert Nawrocki

19:00 **SOCIAL EVENT**  
Guided Tour of Ferrara on foot with professional English-speaking guide

20:30 **SOCIAL BANQUET**  
Restaurant "Cusina e Butega"

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## DAY 03 - JUNE, 14<sup>TH</sup>

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### MATERIALS FOR DEVICES AND LOGIC 2 - OLLI IKKALA

09:00 **SERGEI PONOMARENKO**  
Semiconducting materials for Neuromorphic Organic Devices

09:30 **MICHELE BIANCHI**  
STP response of PEDOT:PSS devices

09:45 **STEFANO CARLI**  
Role of polyanion on STP response of PEDOT

10:00 **VIKTOR EROKHIN**  
Polymer-based memristive devices for neuromorphic applications

10:30 Coffee Break

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### ORGANIC DEVICES 2 - JENNIFER GERASIMOV

11:00 **HENRIQUE L. GOMES**  
Communication between Organic-based devices and multi-cellular bio-electronic oscillation

11:30 **MARTINA GIORDANI**  
Organic Neuromorphic biosensors for neurotransmitters

11:45 **MICHELE DI LAURO**  
Mechanism of STP in electrolyte-gated organic transistors

12:00 **ROUND TABLE DISCUSSION**  
Moderators: Fabio Biscarini, Luciano Fadiga

12:30 **WRAP-UP & NEXT MEETING**

12:45 **LUNCH & FAREWELL**