



International Workshop on “Advances in flexible (bio)electronics”

September 14th, 2026

Faculty of Engineering @NOI Techpark, Bolzano, Italy

Chairpersons: Paolo Lugli and Luisa Petti

The workshop aims at presenting the activities carried out within the **Sensing Technology Laboratory (STL)** of the **Faculty of Engineering** at the **Free University of Bozen-Bolzano** over the last ten years, highlighting the contribution of **EFRE-FESR** projects to the development of research infrastructures.

Local, national and international collaborations in the field of micro- and nanoelectronics will be outlined, with particular focus on sensing technologies, sustainable solutions enabled by printing technologies, and interdisciplinary research involving physics, chemistry, biology, neuroscience and materials science.

The international workshop will feature invited talks by researchers and stakeholders, together with a poster session dedicated to the activities of STL and to the **Micro-Char LAB** infrastructure enabled by **EFRE-FESR** funds. The event will also bring together friends and colleagues of Paolo Lugli on the occasion of his retirement. The workshop will be held at the Faculty of Engineering B1 building (via Bruno Buozzi 1) at NOI Techpark in Bolzano. If you plan to participate, please register here: [link](#).

Confirmed invited speakers:

Università di Bari	Luisa Torsi
Università di Modena e Reggio Emilia	Fabio Biscarini
Universität der Bundeswehr München	Georg Duesberg
Istituto Italiano di Tecnologia	Mario Caironi
Università di Padova	Stefano Bonaldo
Consiglio Nazionale delle Ricerche	Melanie Timpel
Technische Universität München	Bernard Wolfrum
Università degli studi di Roma Tor Vergata	Thomas Brown
Fondazione Bruno Kessler	Leandro Lorenzelli
Technische Universität München	Gordon Cheng
Universidad de Granada	Almudena Rivadeneyra
Politecnico di Torino	Daniilo De Marchi
Technische Universität Dresden	Gianauelio Cuniberti
Fondazione Bruno Kessler	Andrea Gaiardo
Eurac Research	Roberto Mendicino
Laimburg Research Center	Walter Guerra
Applied Materials	Luca Larcher
Empatica Srl	Benoît Tucoulat
Microgate Srl	Alessandra Scarton
Microtec Srl	Matteo Caffini
Sensit Technologies Srl	Guglielmo Trentini
Loacker Ag	Petra Massoner
Provincia Autonoma Bolzano	Franz Schöpf
NOI Techpark	Vincent Mauroit

Tentative program:

09:00-09:30	tbc	Welcome and institutional adresses
09:30-09:45	Paolo Lugli	Introduction and overview
09:45-10:00	Luisa Torsi	From ensemble binding to single-molecule statistics in large area biosensing devices
10:00-10:15	Fabio Biscarini	Electrolyte gated organic transistors as sensors of biomarkers
10:15-10:30	Georg Duesberg	Graphene-based biosensors at UniBw: toward point-of-care diagnostics
10:30-10:45	Mario Caironi	From in-vitro to edible biosensors
10:45-11:00	Stefano Bonaldo	Modeling and multiphysics simulations of the electrical response of electrochemical sensors
11:00-11:15	Melanie Timpel	Gate-modulated charge transfer at the gas–solid interface of flexible carbon-nanotube ammonia sensors probed by scanning photoemission microscopy
11:15-11:30	Bernard Wolfrum	3D and shape-changing bioelectronic interfaces
11:30-11:45	Thomas Brown	Biohybrid liquid/polymer image sensor array processes light like cones and rods of a retina
11:45-12:00	Leandro Lorenzelli	Beyond the flatland: 3D microelectrode arrays for in vitro electrophysiology
Lunch		
14:00-14:15	Gordon Cheng	A sense of touch
14:15-14:30	Almudena Rivadeneyra	Alternative materials in environmental sensing solutions
14:30-14:45	Danilo De Marchi	Wearable plant sensors for climate smart agriculture
14:45-15:00	Gianaurelio Cuniberti	Nanoelectronics for digital olfaction
15:00-15:15	Andrea Gaiardo	Seven years of FBK–STL collaboration on low-cost gas sensors: tailored innovations for environmental monitoring
15:15-15:30	Roberto Mendicino	Embedded intelligent systems: from rapid prototyping to smart pre-industrial devices
15:30-15:45	Walter Guerra	Laimburg integrated digital orchard - the field lab of the future
Coffee break		
16:15-16:30	Luca Larcher	Semiconductor inflections in the AI era
16:30-16:45	Benoît Tucoulat	From vitals to molecules: why sweat is wearables' next frontier
16:45-17:00	Alessandra Scarton	From sensors to movement: electronics for sports and rehabilitation
17:00-17:15	Matteo Caffini	Seeing beyond the surface: MiCROTEC's journey in wood and food inspection technologies
17:15-17:30	Guglielmo Trentini	From first principles to field performance - laser spectroscopy for gas detection
17:30-17:45	Petra Massoner	Industry and research: why collaboration matters – and what it takes
17:45-18:00	Franz Schöpf	The research and development initiatives of the autonomous province of Bozen-Bolzano
18:00-18:15	Vincent Mauroit	NOI Techpark – an innovation ecosystem turning research excellence into economic impact
18:15-18:30	Luisa Petti	Opportunities offered by the "Material and device Micro-Characterization LABoratory"
Coffee break		
18:30-19:30		Poster session