

COMMUNICATIONS

Oral communications will last 12 minutes, followed by 3 minutes of discussion.

SCIENTIFIC AWARDS

Scientific Awards will be presented during the conference:

- “Marco Mascini” Award
- «Young Researcher» Award
- SIOF Thesis and PhD Awards

SCIENTIFIC COMMITTEE (in alphabetical order)

Francesco Baldini, CNR-IFAC, Sesto Fiorentino (FI)
Raffaella Biesuz, Università di Pavia
Stefano Casalini, Università di Padova
Andrea Cusano, Università del Sannio, Benevento
Luca De Stefano, CNR-ISASI, Napoli
Ambra Giannetti, CNR-IFAC, Sesto Fiorentino (FI)
Marco Giannetto, Università di Parma
Pietro Gucciardi, CNR-IPCF, Messina
Maria Grazia Manera, CNR-IMM, Lecce
Elisabetta Mazzotta, Università del Salento
Ilaria Rea, CNR-ISASI, Napoli
Roberto Rella, CNR-IMM, Lecce
Simona Scarano, Università di Firenze
Giovanni Valenti, Università di Bologna
Chiara Zanardi, Università Ca’ Foscari Venezia

ORGANISING COMMITTEE (University of Bologna)

Department of Chemistry “Giacomo Ciamician”

Luca Prodi
Stefania Rapino
Elisa Michelini
Mara Mirasoli
Giovanni Valenti
Maria Maddalena Calabretta
Donato Calabria

Department of Industrial Chemistry “Toso Montanari”

Erika Scavetta
Andreas Stephan Lesch
Isacco Gualandi



GS 2025

Interdivisional Sensors Group Workshop

“Sensors and biosensors as strategic tools for health, food safety, and environmental monitoring”

15-17th December 2025



CNR, Bologna

Via Piero Gobetti, 101, Bologna

Monday 15th December

12:00-13:00 SIOF Annual Meeting

13:00-14:20 Registration

14:20-14:30 Opening Ceremony

14:30-15:15 “Marco Mascini” Award: Prof. A. Roda

Biosensors in the field: still a dream or reality

15:15-15:30 **O1 - Noemi Bellassai**

Non-invasive pre-implantation genetic testing of cell-free DNA for monogenic diseases using superparamagnetic particle-based plasmonic assay

15:30-15:45 **O2 - Simone Ventisette**

Epitope-Imprinted Polynorepinephrine Nanoparticles for Advanced Affinity Assays

15:45-16:00 **O3 - Blanca Cassano**

Polydopamine-based One-Pot Immobilization of PQQ-GDH on Graphite Electrodes for Reliable Glucose Sensing

16:00-16:15 **O4 - Stefano Zampolli**

Applications of MEMS-based gas sensing systems

16:00-16:30 **O5 - Tatsiana Pobat**

MicroNIR/Chemometric Platform for Rapid Trihalomethanes Screening in Water

16:30-16:50 Tea Break

16:50-17:05 **O6 - Alessio Bruttomesso**

Advanced Technology from Lens to System

17:05-17:20 **O7 - Valentina Marassi**

FFF as a microfluidic platform for nanozyme-based biosensors: ultra-small pyramidal Pt nanoparticles for robust and ultra-sensitive chemiluminescent assays

17:20-17:35 **O8 - Agata Checco**

Development of a multiparametric electrochemical sensor for the monitoring of Nickel, Copper and Zinc in wastewater and surface water

17:35-17:50 **O9 - Erica Belforte**

Activity based (bio)sensor for the monitoring of MutYH DNA glycosylase

17:50-18:05 **O10 - Alexandru Dron**

2D Metal-Covalent Organic Framework as a versatile water-based ink for the development of electrochemical sensors

18:05-18:20 **O11 - Stefano Gianvittorio**

Electrochemical (bio)sensing platform fabrication by coupling inkjet- and 3D printing

18:20-18:35 **O12 - Luca Sartorelli**

Electrochemical sensing of glucose using a flexible fully ink-jet printed wearable platform

18:35 Cocktail party in UNIBO

§

Tuesday 16th December

09:00-09:12 **Aw1 - Giulia Crotti**

Modelling and design of nonlinear metasurfaces for the control of light by light

09:12-09:24 **Aw2 - Maria Eleonora Temperini**

A new IR nanospectroscopy platform to investigate the influence of static electric fields on molecular systems

09:24-09:36 **Aw3 - Gabriele Calusi**

Optical Mode Level Repulsion in Hyperuniform disordered systems

09:36-09:48 **Aw4 - Carlo Anelli**

Development of an optical sensor based on absorption of infrared radiation for detection of urea in aqueous solutions

9:48-10:00 **Aw5 - Adolfo Mazzotti**

Electrical and optoelectronic properties of two-dimensional BP/MoS₂ heterojunctions

10:00-10:15 **O13 - Alessandra Cutaia**

Molecularly imprinted polypyrrole-based POF dual sensor for dopamine detection exploiting plasmonic and voltammetric methods

10:15-10:30 **O14 - Enrico Cozzani**

The “ODOR-GC” Project: detection of odorous molecules by means of a compact and MEMSbased gas-chromatographic system

10:30-10:45 **O15 - Riccardo Desiderio**

Development of novel biosensing tools based on gold nanoparticle/luciferase nanotags

10:45-11:00 **O16 - Alessandro Esposito**
A Versatile and ultrasensitive SERS-Based Biosensing Platform for oligonucleotides detection in Biomedicine

11:00-11:30 Coffee Break

11:30-11:45 **O17 - Ambra Fioravanti**
Development of innovative gas sensors for H₂ leak in production, storage and use sites

11:45-12:00 **O18 - Ilaria Rea**
Plasmonic-assisted biosilica nanoplateforms enable intracellular SERS sensing and in vivo label-free Raman imaging

12:00-12:15 **O19 - Simone Fortunati**
Chemically-modified gold screen-printed electrodes-based voltammetry coupled with machine learning for rapid screening of Alternaria toxins in food samples

12:15-12:30 **O20 - Giulia Elli**
Electrolyte-Gated Field-Effect Transistors-Based Sensor for Nanoplastics Detection

12:30-12:45 **O21 - Alfonso Sierra Parilla**
Biochar as a functional, sustainable nanomaterial for 2nd generation biosensor development: Lactate as a case study

12:45-13:00 **O22 - Marco Malferrari**
Micrometric Electrochemical Sensors for the Investigation of Cellular Differentiation and Photodynamic Therapy

13:00-14:30 Lunch & Poster Session

14:30-15:00 "Young Resercher" Award: Dr. A. Scroccarello

From in-solution plasmonic sensing to nanostructured sensing film-based analytical devices: the path taken

15:00-15:15 **O23 - Matteo Sensi**
Electrolyte-Gated Transistors Biosensors for Healthcare Applications

15:15-15:30 **O24 - Valentina Pifferi**
Bimodal and enantiomeric (photo)electrochemical analysis of Tryptophan by MWCNTs and BT2T4 modified electrode

15:30-15:45 **O25 - Muhammad I. H. L. Zein**
Guide RNA Design Targeting the Mitochondrial D-loop Region of Sus scrofa and Its Application in CRISPR/Cas12a Electrochemical Biosensing for Food Authentication

15:45-16:00 **O26 - M. Grazia Donato**
Sensing by Optical and Acoustic trapping

16:00-16:15 **O27 - Verdiana Marchianó**
Free-Standing Polydopamine Hydrogels as Electrodes for Edible Enzymatic Glucose Biosensors

16:00-16:30 **O28 - Chiara Vincenzi**
Design and Preliminary Evaluation of an Electrochemical Biosensor for Anticancer Drug Screening Applications

16:30-16:50 Tea Break

16:50-17:05 **O29 - Adriano Colombelli**
Real-Time Label-Free Cytokine Detection with Gold Nanoprism Arrays

17:05-17:20 **O30 - Sarassunta Ucci**
Integration of Lab-on-Tip Optical Fiber Biosensors into Microfluidic Systems

17:20-17:35 **O31 - Francesca Bruno**
Systematic Study and Optimization of Multiple Gold Electrodeposition Procedures on 3D-Printed Electrodes for Electrochemical Sensing

17:35-17:50 **O32 - Federico M. Vivaldi**
Solid state electrochemical sensor for the detection of hydrogen

17:50-18:05 **O33 - Elisabetta Primiceri**
Development of innovative MIP based sensors for liquid biopsy

18:05-18:20 **O34 - Giada D'Altri**
Electrochromic analog control based on Organic Electrochemical Transistors and driven by dopamine sensing at the gate electrode

18:20-18:35 **O35 - Lisa R. Magnaghi**
From Lab to Field: Technology Transfer of Sensor Technologies from Pavia - Smart Labels for Food Quality Monitoring

19:30 Social Dinner - A Balùs Restaurant

§

Wednesday 17th December

09:00-09:15 **O36 - Giulia Siciliano**
Highly Sensitive CNTs-modified MIP-based electrochemical sensor for Selective Cyromazine Detection

09:15-09:30 **O37 - Paolo Bollella**
Allosteric Modulation Towards Sensitive Enzyme-based Amperometric Biosensors

09:30-09:45 **O38 - Francesco Baldini**
Label-free optical detection of binding protein FKBP12

09:45-10:00 **O39 - Mattia Carbone**
Colorimetric smart sensor for fish freshness evaluation

10:00-10:15 **O40 - Nicholas Kassouf**
Optimizing chemiluminescence reaction catalyzed by a two-dimensional Cu-based Metal-Organic Framework by design of experiment

10:15-10:30 **O41 - Federica Mariani**
Multisensing Electronic Platform for Real-Time Wound Healing Monitoring

10:30-10:45 **O42 - Serena Chiriaco**
Lab-on-chip technologies for extracellular vesicle enrichment and detection

10:45-11:30 Coffee break & poster session

11:30-11:45 **O43 - Gabriele Giagu**
Phage-powered electrochemiluminescence immunosensors for virus quantification

11:45-12:00 **O44 - Elena Sossich**
Peptide-Based Biosensor for Early Detection of Multiple Sclerosis via Activated VLA-4⁺ Cells

12:00-12:15 **O45 - Dmitry S. Muratov**
Fast and flexible resistive humidity sensors on quasi-1D Zr_{1-x}Ti_xS₃ nanowires

12:15-12:30 **O46 - Maria Vittoria Balli**
Ruthenium complexes as electrochemiluminescent labels for advancing PCR-free nucleic acids detection

12:30-12:45 **O47 - Alessia Foscari**
Extracellular vesicles detection through electrochemical devices: a new conservative approach to liquid biopsy

12:45-13:00 **O48 - Myriam Alfonsini**
Engineering Intrinsically Disordered Aptamers: A Combined Gaussian Accelerated MD and Experimental Strategy

13:00 Closing Remarks

UNDER THE PATRONAGE OF



SPONSORED BY

