School on:

"Surface Science and Applications"

25-27 November 2024
L'Aquila, Italy

Workshop on:

"Advanced Materials for the Energy Transition"

28-29 November 2024
L'Aquila, Italy

Programme

LEARNING OBJECTIVES

This in-person meetings aim at providing a forum on new trends in materials science and engineering from the Italian community and beyond. The scope is to gather engineers, physicists, chemists, and materials scientists working on innovative materials and their applications. The scientific program will feature selected talks related to topics covering advanced materials and their applications in surface science and energy transition.

Throughout this event, we will cover, among others, the following topics:

Introduction to Surface Science;
New trends in surface science and coatings;
New trends in nanotechnology, nanostructures, and nanoscience;
Characterization Techniques;
Fabrication and Processing Techniques;
Application-Driven Modules.

Attendees will have the opportunity to participate in Hands-On Training Practical sessions.

SCIENTIFIC COMMITTEE

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Yong-Wei Zhang, A*STAR, *Singapore*

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Stefano Zenone, University of L'Aquila
Rita Di Massimo, University of L'Aquila

Monday, 25 November 2024

12.00 – 13.30 Welcome lunch

OPENING

13.30 – 14.30 **Introduction to Surface Science**
This section would lay the groundwork for understanding the physical and chemical phenomena that occur at surfaces and interfaces. It would include lectures on the history, scope, and fundamental principles of surface science.
Antonio Politano

SESSION I Characterization Techniques

The following modules would focus on the various techniques used in surface science, explaining their principles, capabilities, and limitations.

14.30 – 15.30 XPS (X-ray Photoelectron Spectroscopy)
Detailed study on electronic structure and elemental composition.
Gianluca D'Olimpio

15.30 – 16.30 ARPES (Angle-Resolved Photoemission Spectroscopy)
Insights into the electronic band structure of materials.
Federico Bisti

16.30 – 16.45 *Coffee Break*

16.45 – 17.45 STM (Scanning Tunneling Microscopy)
Atomic-scale imaging and manipulation.
Bogdana Borca

17.45 – 18.45 EELS (Electron Energy Loss Spectroscopy)
Analysis of vibrational and electronic excitations.
Antonio Politano

Tuesday, 26 November 2024

08.45 – 09.45 AFM (Atomic Force Microscopy)
Nanoscale topography and property mapping.
Gianluca D'Olimpio

09.45 – 10.45 HAS (Helium Atom Scattering) and Molecular Beams
Surface structure and dynamics studies.
Daniel Farias

10.45 – 11.15 *Coffee break*

SESSION II Fabrication and Processing Techniques

An exploration of methods used to prepare and manipulate surfaces and nanostructures.

11.15 – 12.15 Solution Processing
Techniques for surface modification and functionalization.
Lorenzo Caputi

12.15 – 13.15 Nanofabrication
Creating nanostructures for various applications.
Doron Naveh

13.15 – 14.30 *Light Lunch*

SESSION III Application-Driven Modules

These sections would cover the practical applications of surface science in various fields.

14.30 – 15.30 Catalysis with Synchrotron Light
Use of synchrotron-based techniques in catalysis research.
Andrea Lazzarini

15.30 – 16.30 Electrocatalysis
Processes at the electrode-electrolyte interface for energy applications.
Maya Bar Sadan

16.30 – 17.30 Photoelectrocatalysis
Harnessing light to drive catalytic reactions.
Danil W. Boukhvalov

Wednesday, 27 November 2024

09.00 – 10.00 Gas Sensing
Surface interactions for detection of gases.
Eduard Llobet

10.00 – 11.00 Surface Plasmons
Exploitation of electronic excitations at surfaces for sensing and photonic devices.
Carlo Rizza

11.00 – 11.20 Coffee break

11.20 – 12.20 Thermoplasmonic Solar Desalination
Utilizing solar energy for water desalination through surface plasmon resonance.
Sergio Santoro

12.20 – 12.40 **LECTURE**
Interdisciplinary Approaches and Future Directions
A module to explore how surface science can be integrated with other disciplines and what future technologies and applications are emerging from current research.
Antonio Politano, Lorenzo Caputi

12.40 – 13.40 Light Lunch

PRACTICAL SESSION AT UNIVAQ LABORATORIES

14.00 – 19.00 Hands-On Training
Practical sessions where participants can get experience with the discussed techniques and applications.

Workshop on:
Advanced Materials for the Energy Transition

Thursday, 28 November 2024

08.40 – 09.00	Opening and Career Achievement Award
	Advanced Materials for Catalysis
09.00 – 11.00	Gas sensing technologies for enviromental monitoring and industrial applications Keynote Speeches by: **Eduard Llobet,** Rovira i Virgili University And Selected presentations
09.40 – 11.00	Selected presentations
11.00 – 11.30	*Coffee break*
11.30 – 13.30	Keynote Speeches by: **Daniel Farias,** Universidad Autónoma de Madrid **Maya Bar-Sadan,** Ben-Gurion University of the Negev **Danil W. Boukhvalov,** Nanjing Forestry University **Gianluca D'Olimpio,** University of L'Aquila And Selected presentations
13.30 – 14.40	*Light Lunch*
14.40 – 15.30	**Poster Session** Advanced Materials for Water Treatment
15.30 – 15.50	**Sergio Santoro,** University of Calabria
15.50 – 16.30	Selected presentations
16.30 – 16.50	*Coffee break*
16.50 – 18.30	Selected presentations

Friday, 29 November 2024

08.30 – 08.40	**Opening Day 2** Advanced Materials for Energy Storage
	Keynote Speeches by:
08.40 – 09.40	**Doron Naveh,** Bar-Ilan University
	Lorenzo Caputi, University of Calabria
09.40 – 11.00	Selected presentations
11.00 – 11.30	*Coffee break*
11.30 – 13.30	Selected presentations
13.30 – 14.30	*Light Lunch*
14.40 – 15.00	Best Poster Award
15.00 – 15.30	Closing and Award to Best presentation and Emerging Young Researcher

PARTNERS

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INFORMATION

VENUE

Hotel Canadian • Strada Statale, 17 – 67100 Località Casermette, L'Aquila

REGISTRATION

Registration for the event should be done at the following link:
https://susameet.com/
For further assistance, please contact the organizing secretariat:
susameet2024@centercongressi.com

REGISTRATION FEES (22% VAT included)

School Registration*	€ 550,00
School Accommodation Package**	€ 270,00
Workshop Registration***	€ 550,00
Workshop Accommodation Package****	€ 220,00
School and Workshop registration Bundle*****	€ 1000,00
Full Event Accommodation******	€ 490,00
Social Dinner on November 28th	€ 70,00

*Includes: access to all School sessions, materials, 3 coffee breaks, and 3 lunches.
**Includes: accommodation for the duration of the School IN 25/11 OUT 27/11 and 2 dinners.
***Includes: access to all Workshop sessions, materials, 3 coffee breaks, and 2 lunches.
****Includes: accommodation for the duration of the Workshop IN 27/11 OUT 29/11 and 1 dinner.
*****Includes: access to all School sessions, materials, 6 coffee breaks, 5 lunches.
******Includes: accommodation for the duration of the School and Workshop and 3 dinners.

ABSTRACT SUBMISSION

Contributions should address scientific and technological advancements in sectors relevant for materials science and engineering, including:

Advanced materials for sensing technologies
Advanced materials for water treatment and environmental sustainability
Advanced materials for energy conversion and storage
New trends in surface science and coatings
New trends in nanotechnology, nanostructures and nanoscience

To submit an abstract, participants must first register for the congress.

Check out the following link for more information on submitting an abstract: ***https://susameet.com/abstract-submission/***

center comunicazione e congressi
Albo Naz. AGENAS n.726
Segreteria organizzativa e Provider ECM
Via G. Quagliariello, 27 • 80131 Napoli • 081.19578490
info@centercongressi.com • www.centercongressi.com