Second call for

Winter School on
Metrology and Nanomaterials for Clean Energy
28th January – 2nd February 2024

Topics

The European Union aims to produce over 32% of its energy needs from renewable sources by 2030 to reduce carbon-dioxide emissions. The introduction of the Energy Union strategy, supported by directives and regulations that address all aspects of the energy supply chain, and measures to reduce energy consumption at point of use, has made Europe a world leader in this field.

The metrological research is supporting the reduction of greenhouse gasses, and securing sustainable energy systems whilst increasing the competitiveness of Europe's industries. This school outlines the key technical achievements and details the new measurement capabilities developed as a result of the collaborations within these energy themed projects.

The school is organized by the European Metrology Network Clean Energy, and the Istituto Nazionale di Ricerca Metrologica (INRiM, Italy).

It is a great pleasure to welcome you to the Winter School on "Metrology and Nanomaterials for Clean Energy". The school takes advantage from the free participation of prominent members of different scientific communities, Energy, Materials, Surface Science, Nanofabrication, Metrology and pre-standardisation, giving lectures on the state-of-the-art in their respective fields.

The purpose of the school is to provide a friendly and stimulating environment where experts, students and young researchers are in close contact discussing about science and sharing mountain and ski experiences. We hope you enjoy your stay in Claviere!

The Organising Committee

G. Albo, N. De Leo, L. Boarino, INRiM, Italy.

Senior Advisory Committee

A. G. Albo, L. Boarino, N. De Leo (INRiM, Italy), F. Castro (NPL, UK), N. Gambacorti (CEA-Leti, France), W. Vandervoorst (KU Leuven).

School format

The school format provides a forum for discussion and debate.

Winter School on Metrology and Materials for Clean Energy

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
	28/01/2024	29/01/2024	30/01/2024	31/01/2024	01/02/2024	02/02/2024
8:00		Breakfast	Breakfast	Breakfast	Breakfast	Breakfast
9:00		A. G. Albo, INRiM, IT: Welcome and An analysis of closed-loop combustion systems when integrated with electrolysis and methanation units	K. Khaled, Bruker, FR: Scanning Probe Microscopy for Energy Materials	D. Ferrero, PoliTo: materials for electrolyzers and CO2 process catalysis	I. Gilmore, NPL, UK: Surface science for Clean Energy	C. Lobascio, Thales Alenia Space, IT: Materials in a challenging environment: space!
10:00		J. Hofmann, METAS, CH: In situ operando SMM of photocatalytic materials	A. Sacco, IIT Torino, IT: Electrochemical valorisation of CO2	B. Pauw, BAM, D: The Dark Side of Science	W. Vandervoorst, KU Leuven, BE, SIMS and APT for materials and devices at IMEC	C. Lobascio, Thales Alenia Space, IT: Team working
11:00		Scientific discussions	Scientific discussions	Scientific discussions	Scientific discussions	End of the School
12:30	Arrival	Lunch	Lunch	Lunch	Lunch	Lunch
14:00		Free Time	Free Time	Free Time	Free Time	
16:30		Coffee break	Coffee break	Coffee break	Coffee break	
17:00		A. Lamberti, PoliTO, IT: Advanced nanomaterials for sustainable energy harvesting and storage devices and their integration	B. Pauw, BAM, D: Glimpses of the future: systematic investigations of 1200 MOFs using a highly automated, full-stack materials research laboratory	E. Chiavazzo, PoliTO: Challenges and opportunities in describing multi-scale phenomena in materials and devices for energy applications	S. Bobbo, CNR-ITC, Padova, IT: Heat pumps in the energy transition: possible configurations and performance assessment	Departure
18:00	Welcome & Dinner	L. Pattelli, INRiM, IT: Radiative Cooling: the EPM project PaRaMetriC	M. Perego, CNR IMM, IT: Nanofabrication by DSA and advanced doping technologies	F. Ferrarese-Lupi, INRiM, IT: the EPM project OpMetBat	L. Fedele, CNR-ITC, Padova, IT: Primary and secondary working fluids in HVAC&R applications. Possible solutions and thermophysical properties	
19:00		Scientific discussions	Scientific discussions	Scientific discussions	Scientific discussions	
19:30		Dinner	Dinner	Dinner	Social Dinner	
21:00		Poster presentations	Poster presentations	Poster presentations		
22:00						

Preliminary program format of the school

We also encourage school participants to briefly present their research activity: as a guide, typically 5 slides taking no more than 15 minutes may be appropriate. An informal evening reception will be held on Sunday 28th January from 18:00.

Confirmed speakers:

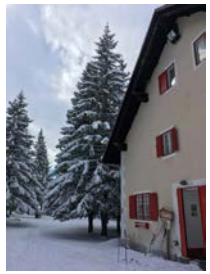
1 Johannes Hofmann, METAS, SUI
3 Andrea Lamberti, Politecnico di Torino, IT
4 Brian Pauw, BAM, D
5 Ian Gilmore, NPL, Teddington, UK
6 Kaja Khaled, Bruker, FR
7 Cesare Lobascio, Thales Alenia Space, torino, IT
8 Michele Perego, CNR IMM, Agrate, IT
9 Lorenzo Pattelli, INRiM, Sesto Fiorentino, IT
10 Federico Ferrarese Lupi, INRiM Torino, IT
11 Sergio Bobbo, CNR-ITC, Padova, IT
12 Laura Fedele, CNR-ITC, Padova, IT
13 Eliodoro Chiavazzo, Politecnico di Torino, IT
14 Domenico Ferrero, Politecnico di Torino, IT
15 Adriano Sacco, IIT Torino, IT
16 Wilfried Vandervoorst, KU Leuven, BE

Refuge "La Capanna" Claviere, Turin, Italy

The lodge is on the ski tracks of Claviere, on the 2006 Turin Winter Olympic Site. You can find more information on the school, the program and the venue at the following link: https://amdgroup.inrim.it/events/winter-school-on-metrology-nanomaterials-for-clean-energy

How to reach Claviere (1h 15 min from Torino)

From Turin Porta Susa railway station, shuttle buses will be available on the 28th of January (16:30 CET) and on the 2nd of February 2024 (13:30 CET) from Claviere to Porta Susa Station.

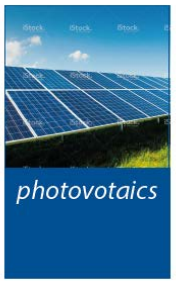


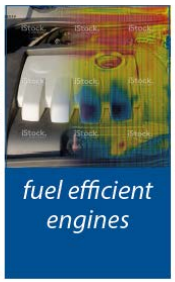
Registration

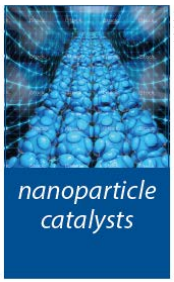
The registration fee is 400 € and includes refuge accommodation in shared rooms & bathrooms from the night of the 28th of January to the 2nd of February 2024, full board including breakfast, lunch and dinner (beverages excluded), blankets and sheets and motor sledge for carrying luggage. The number of attendees is limited to 40, subject to availability.

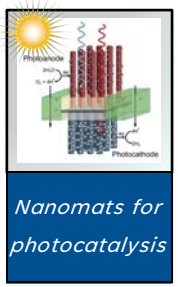
Registration deadline: 15th of January 2024

The registration fee of 400 € both for participants and accompanying persons, the registration page is (https://amdgroup.inrim.it/events/winter-school-on-metrology-nanomaterials-for-clean-energy/registration), the payment link will be active in the next few days and will allow to pay by credit card after filling a short registration form.









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