

I Reunión Red de Investigación en Perovskitas de Haluro y sus Aplicaciones Tecnológicas (Red PEROVSKITAS)

13 December 2023 - 11:30h/18:30h

Red PEROVSKITAS will constitute a thematic network which brings together a wide diversity of Spanish research groups focused on research of halide perovskite materials and their technological applications. Halide perovskites is a broad family of materials that has revolutionized in the last decade first the photovoltaic field and progressively other optoelectronic applications as solar cells, LEDs, laser, photodetectors, just to mention a few applications.

 **Instituto de Ciencia Molecular (ICMOL) - First floor, Valencia**

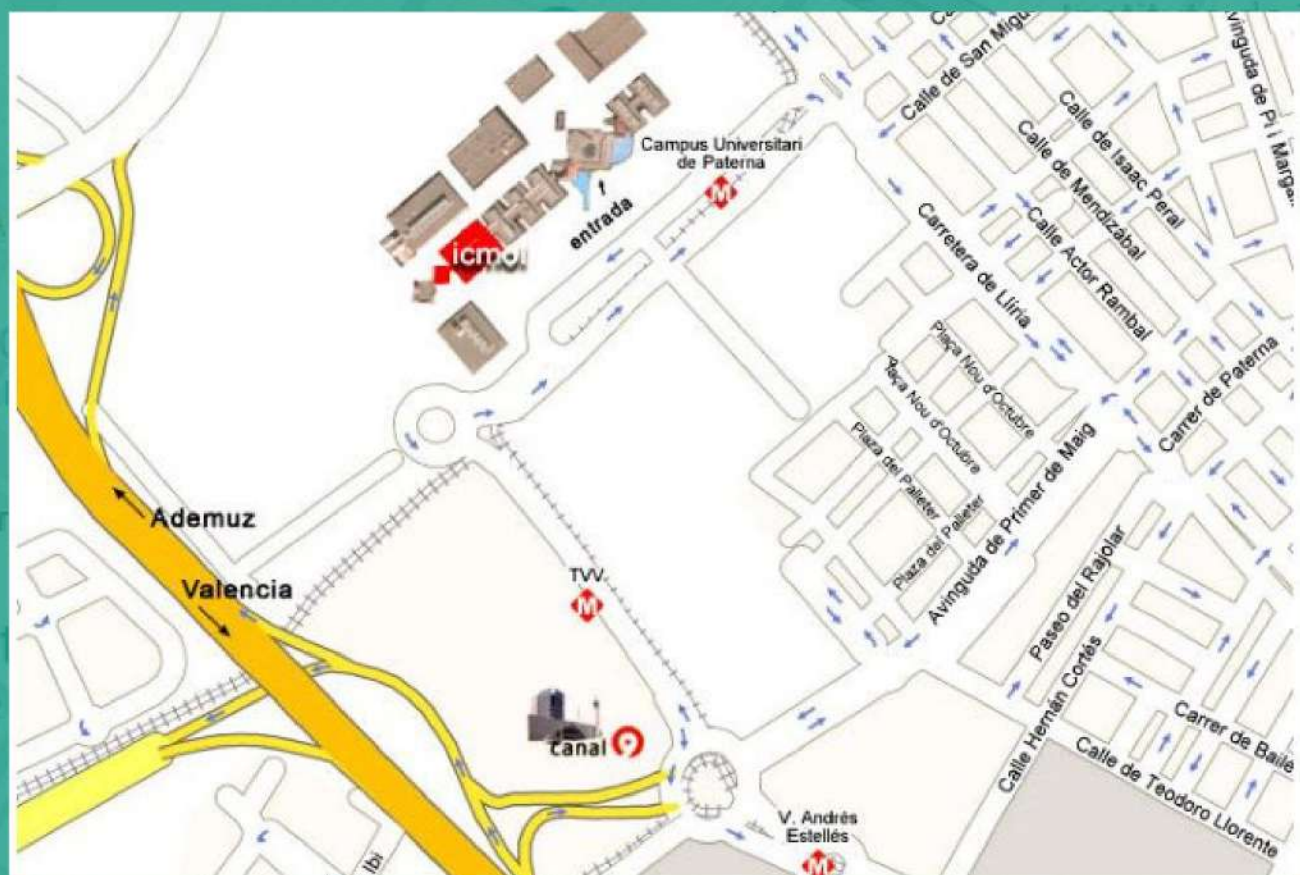


Program

11:30-12:00	Welcome Coffee	
12:00-12:10	Introduction	Prof. Iván Mora Seró
12:10-12:20	UV/ MOED (ICMOL)	Prof. Hendrik Bolink
12:20-12:30	UJI/INAM/GAS	Prof. Iván Mora Seró
12:30-12:40	UJI/INAM/AMSY	Prof. Juan Bisquert Mascarell
12:40-12:50	UV/ITQ/ABX3Lab	Dr. Pablo Pérez Boix
12:50-13:00	URJC/OOG-LABCADIO	Prof. Carmen Coya Párraga
13:00-13:10	NMPE /ICN2	Prof. Monica Lira-Cantu
13:10-13:20	Polymat/HME	Prof. Juan Luis Delgado Cruz
13:20-13:30	CSIC Sevilla/ MOM	Dr. Juan Francisco Galisteo López
13:30-15:00	Lunch at ICMOL Cantina	
15:00-15:10	UZ/ NFP	Dr. Emilio José Juárez Pérez
15:10-15:20	Uvigo/ MCPG	Dr. Lakshminarayana Polavarapu
15:20-15:30	URJC/ DELFO	Dra. Beatriz Romero Herrero
15:30-15:40	CSIC Sevilla/ ICMS-CSIC-US	Dr. Juan Ramón Sánchez
15:40-16:10	Q&A round table	
16:10-16:30	Students presentations	5min/student
16:30-17:00	Coffee break	
17:00-18:00	Students presentations	5min/student
18:00-18:30	Final results and clousure "colloquium"	

Place

Instituto de Ciencia Molecular (ICMOL) - First floor



C/ Catedràtic José Beltran, 2. 46980 Paterna (València).

La reunió tindrà lloc en el saló de actes, que està en el primer pis del edifici, subint a mà esquerra

How to get to the Instituto de Ciencia Molecular (ICMOL) of the Universidad de Valencia.

Please use the map below (prepare a print out, not many taxi drivers speak English) Mention to the taxi driver that the ICMOL is in the campus of Burjasot next to the local TV station “A punt” previously known as Canal 9. The entrances at the left side of the building (red diamond on the left of the picture) so do not take the central entrance (“entrada”) that is not in use. Access the first floor.

Accommodation:

NH Valencia Center Hotel



For those who have requested the reservation through our agency, Equus, upon arrival at reception, you simply need to provide your documentation. The rooms are reserved under the researchers name.

All information regarding the hotel can be found at the following link:

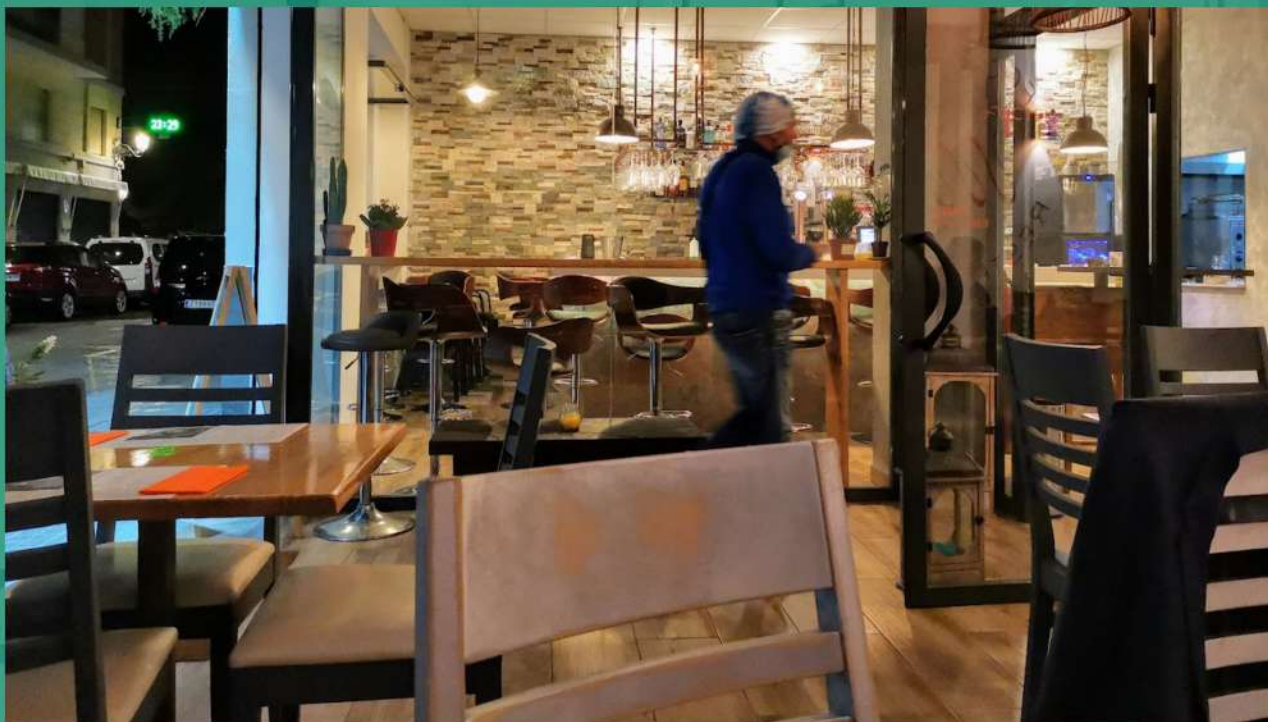
<https://www.nh-hotels.com/es/hotel/nh-valencia-center>

Dinner

(Attendance confirmation required)

At 9 p.m., dinner will take place at:

Foc i Fum Valencia <https://focifumvalencia.com>



Menu:

One drink per person (soft drinks, beer, water)

1 bottle of wine for every 3 people (Rubus (Red) Finca Enguera (White))

Starters to share for every 4 people

-Russian Salad with Italian grissini

-Leek in live flame with romesco sauce

-Sardines in vinegar with white garlic broth

Mains to share for every 4 pax

-Grilled octopus with parmentier

-Grilled flank steak with chimichurri (sauce always served separately)

Dessert: for every 3 pax

-Grilled French toast with vanilla ice cream

Bread included in the meal

*The menu will be adjusted for those with dietary restrictions.

Price: 37€

PARTICIPATING RESEARCH GROUPS

1. a) Name and surname of the Network participant representing the group: **Iván Mora Seró**

b) Name of the entity to which it belongs: **Universitat Jaume I**

c) Name of the group he/she represents: **Institute of Advanced Materials**

The Institute of Advanced Materials (INAM) is an interdisciplinary research center focusing on science and technology in the fields of physics, chemistry, and related fields, applied to advanced materials. INAM researchers are studying halide perovskite since 2012 focusing on the understanding of the physical properties of materials and devices, as well as the development of solar cells, LEDs, lasers, memristors and scintillators based on these materials.

2. a) Name and surname of the Network participant representing the group: **Pablo Perez Boix**

b) Name of the entity to which it belongs: **Universitat de València**

c) Name of the group he/she represents: **ABX3Lab**

ABX3Lab is a multidisciplinary group dedicated to exploring the physical processes that limit the performance of new materials and optoelectronic devices, in order to develop the sustainable technologies of the future. It is formed by more than 14 researchers in different phases of their careers. Its research uses advanced optoelectronics, which gives access to charge generation, recombination, and transport processes, characterizing the energetics and kinetics, to design materials and devices tailored to the application. The group primarily works with halide perovskites and their devices such as solar cells, LEDs, or H₂ generation systems.

3. a) Name and surname of the Network participant representing the group: **Carmen Coya Párraga**

b) Name of the entity to which it belongs: **Universidad Rey Juan Carlos de Madrid**

c) Name of the group he/she represents: **OOG-Organic Optoelectronics Research Group**

OGG is formed by the staff of the Electronics area of URJC and runs the LABCADIO facilities (network of laboratories of Madrid (Redlab 351)). Our research includes the study of G-based hybrid materials and organic-inorganic hybrids (i.e. halide perovskites) for optoelectronic devices with the aim of controlling and tuning their properties and stability either by doping or by adding strategic materials such as small molecules or 2D materials.



PARTICIPATING RESEARCH GROUPS

4. a) Name and surname of the Network participant representing the group.

Mónica Lira-Cantú

b) Name of the entity to which it belongs: **Instituto Catalán de Nanociencia y Nanotecnología (ICN2)**

c) Name of the group he/she represents: **Nanostructured Materials for Photovoltaic Energy (NMPE)**

The NMPE group led by Prof. Monica Lira-Cantú focuses on the synthesis of novel nanomaterials and the control of their optoelectronic properties through their manipulation at molecular level, with the aim of developing highly stable and highly efficient perovskite solar cells. The group is expert on the application of these nanomaterials in third generation solar cells: organic (OPV), Grätzel type (DSSC), all-oxide (AOSC) and perovskite halide (PSCs).

5. a) Name and surname of the Network participant representing the group: **Juan Luis Delgado Cruz**

b) Name of the entity to which it belongs: **Basque Center for Macromolecular Design and Engineering POLYMAT**

c) Name of the group he/she represents: **Hybrid Materials for Energy (HME)**

The activities in the HME group are oriented towards the achievement of highly efficient optoelectronic devices based on perovskites. Concerning solar cells, our research activities have been concentrated on the incorporation of Polymeric or Oligomeric Organic Materials as HTMs/ETMs/additives in Perovskite Solar Cells to improve its efficiency or stability.

6. a) Name and surname of the Network participant representing the group: **Juan Francisco Galisteo López**

b) Name of the entity to which it belongs: **Consejo superior de Investigaciones Científicas (CSIC) Instituto de Ciencia de Materiales de Sevilla**

c) Name of the group he/she represents: **Multifunctional optical materials group (advanced optical characterization laboratory)**

The Multifunctional Optical Materials group of the Instituto de Ciencia de Materiales de Sevilla (ICMS-CSIC) focusses its research on the development of novel photonic materials to tailor light absorption/emission as well as their application in optoelectronic devices (photovoltaics, light emitters, etc.). The group comprises an international team of researchers with different profiles (chemistry, physics and materials engineering).

The group covers all aspects of the research topic spanning theoretical modelling, synthesis and advanced optical characterization of nanostructured materials as well as their integration in optoelectronic devices.

PARTICIPATING RESEARCH GROUPS

7. a) Name and surname of the Network participant representing the group: **Eugenia Martínez-Ferrero**

b) Name of the entity to which it belongs: **Institut Català d'Investigació Química (ICIQ)**

c) Name of the group he/she represents: **Group of Emilio Palomares Entity**

The group of Prof. Palomares works on the design, synthesis and characterization of molecules and materials with optical and electrical properties. Through these materials, the group prepares electronic devices, including solar cells, light emitting diodes and (photo) electrocatalyzers. The understanding of the device behavior is completed by characterization of the charge transfer reactions using advanced photo-induced transient and steady-state spectroscopy under operating conditions. The group has reported their research in organic, perovskite and dye sensitized solar cells and light emitting diodes based in nanocrystals with special emphasis in the application and study of the selective contacts. In this sense, the use of self-assembled selective contacts in perovskite devices has allowed the increase in stability and efficiency through a novel approach combining increased charge collection and the surface passivation of the defects in the perovskite.

8. a) Name and surname of the Network participant representing the group: **Emilio J. Juárez-Pérez**

b) Name of the entity to which it belongs: **Instituto de Nanociencia y Materiales de Aragón (INMA) CSIC Universidad de Zaragoza**

c) Name of the group he/she represents: **Nanostructured Films & Particles Research Group (NFP)**

The Nanostructured Films & Particles Research Group (NFP) of the Instituto de Nanociencia y Materiales de Aragón (INMA) CSIC-Universidad de Zaragoza has an important research line in nanomaterials for solar energy harvesting. The group focus efforts on the development of new materials for photovoltaic based on perovskite and non-perovskite nanocrystals combinations. The group skills are light absorber synthesis, wet and dry deposition of thin-films, emerging solar cell design fabrication and chemical/operational stability characterization. The group has access to outstanding facilities and instrumentation for characterization of materials at institutional level.

9. a) Name and surname of the Network participant representing the group: **Paul Pistor**

b) Name of the entity to which it belongs: **Universidad Pablo de Olavide (UPO)**

c) Name of the group he/she represents (name in the same way as in the application form) **Nanostructured Solar Cells Group**

The Nanostructured Solar Cells Group has been working in the last 15 years on the fundamental characterization of devices for solar conversion: dye sensitized solar cells and perovskite solar cells. It has ample expertise on the numerical simulation of device physics and are also renowned for their work impedance spectroscopy characterization and other small-perturbation optoelectronic techniques for solar cells focusing especially on perovskite solar cells. The group is presently coordinating the SOLAR-ERA.NET consortium SCALEUP focused on advanced modelling and up-scaling of perovskite solar cells.

PARTICIPATING RESEARCH GROUPS

10. a) Name and surname of the Network participant representing the group.

Lakshminarayana Polavarapu

b) Name of the entity to which it belongs **Universidade de Vigo**

c) Name of the group he/she represents (name in the same way as in the application form) **Materials Chemistry and Physics group (MCPG)**

The Materials Chemistry and Physics group research is focused on the development of colloidal synthesis methods for colloidal halide perovskite nanocrystals (NCs) of different morphologies and chemical compositions, exploration of their optical properties by linear and nonlinear optical spectroscopy techniques, and investigation of their application in LEDs and solar cells. Special emphasis has been paid to the phase stability of NCs by encapsulating them into different inert shells. Furthermore, the group is exploring the perovskite NCs as chiral light emitters by functionalizing them with chiral ligands.

11. a) Name and surname of the Network participant representing the group:

Hendrik (Henk) Bolink

b) Name of the entity to which it belongs: **Universidad de Valencia**

c) Name of the group he/she represents: **Molecular and Optoelectronic Devices (MOED)**

The Optoelectronic Molecular Devices Group (www.moed.es) focuses on the development of optoelectronic devices such as LEDs and photovoltaic devices. The group is a pioneer in perovskite based semiconductors and was the first to demonstrate room temperature visible electroluminescence from a perovskite based LED. Using vacuum processing the group has been at the forefront of perovskite based PV with collaborative contracts with the leading European Perovskite PV companies.

12. a) Name and surname of the Network participant representing the group: **Beatriz Romero Herrero**

b) Name of the entity to which it belongs: **Universidad Rey Juan Carlos**

c) Name of the group he/she represents: **Grupo de dispositivos electrónicos y fotónicos orgánicos (DELFO)**

DELFO group at Universidad Rey Juan Carlos has been working on organic and perovskite photovoltaic devices since 2010. Its main research lines include efficiency and stability optimization of solar cells, temperature and impedance spectroscopy characterization, and optical and electrical simulation (SILVACO TCAD and COMSOL). Currently, the group is composed of 1 full professor 3 associate professors, 3 assistant professors, 3 PhD student, 1 post-graduate student and 1 laboratory technician. The group carries out its research activity in CANDELAB facilities (www.candelab.es), laboratory that belongs to the Madrid laboratories Network (RedLab 443).

PARTICIPATING RESEARCH GROUPS

13. a) Name and surname of the Network participant representing the group: **Ángel Barranco Quero**

b) Name of the entity to which it belongs: **Materials Science Institute of Sevilla, (ICMS-CSIC-US)**

c) Name of the group he/she represents: **Nanotechnology on Surfaces and Plasma (ICMS-CSIC-US)**

The mission of our research group Nanotechnology on Surfaces and Plasma is to provide high-quality research in the field of surface nanotechnology and transfer the acquired knowledge to the industry and other social stakeholders. The purpose of developing new thin films and supported nanostructures for advanced functional applications in fields such as photonics, energy harvesting, sensing, wetting, biosurfaces, and other responsive systems. We have activity in development and optimization of devices integrating functional nanostructured films: photonic devices, environmental energy harvesters, solar cells, and sensors and actuators.