

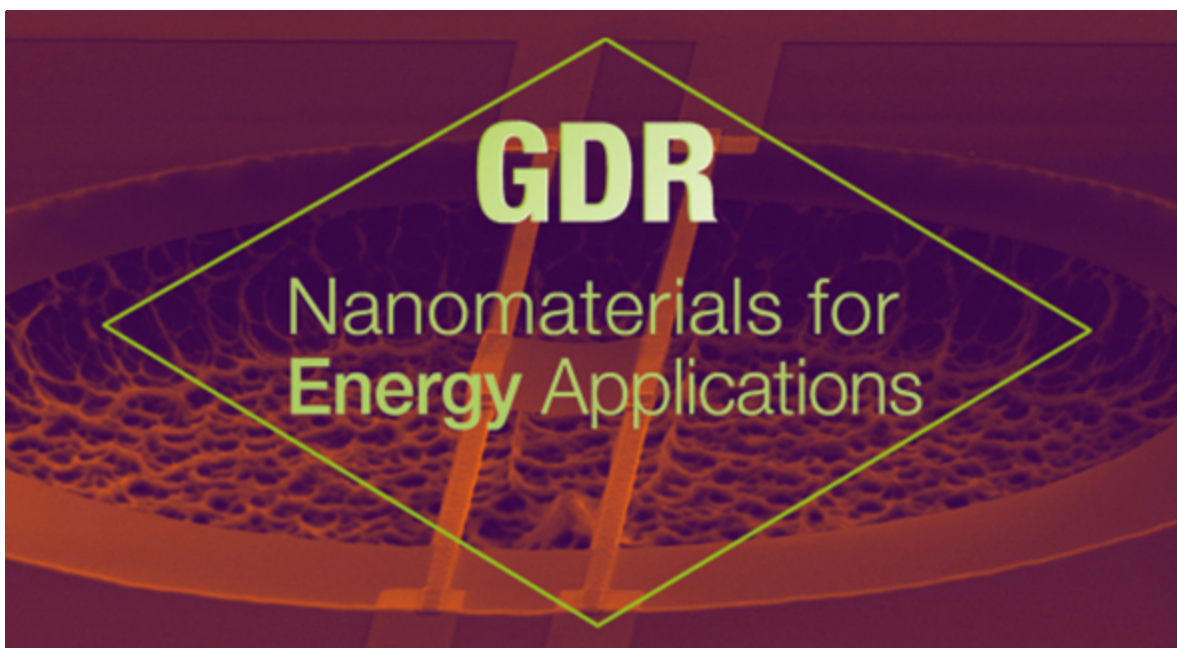
1st GDR-NAME Newsletter

January, 2021



N A M E

GDR Nanomaterials for Energy Applications



EDITO

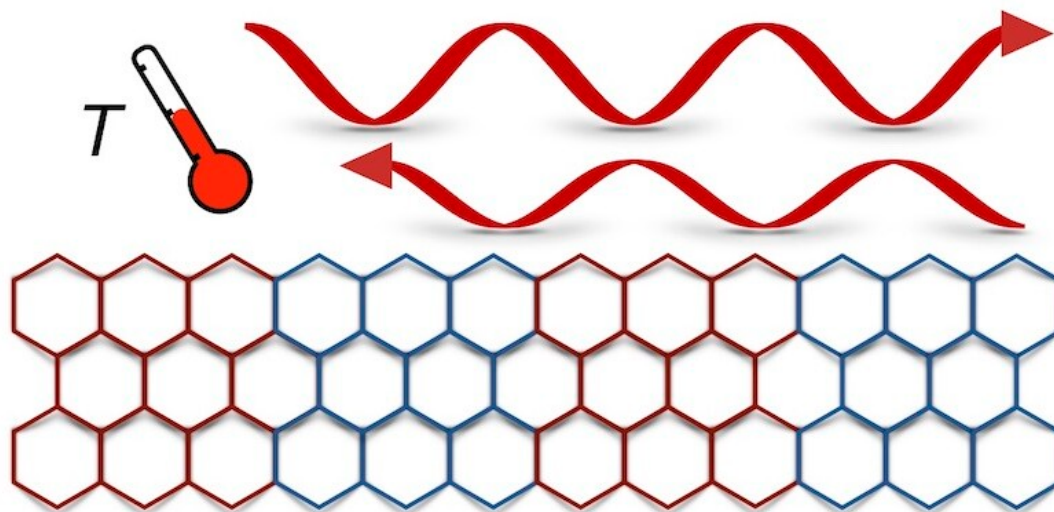
The research group Nanomaterials for Energy Applications NAME (GDR2086) has started one year ago 01/01/20! We would like to thank all of you for your membership and your willing to participate actively. Unfortunately, due to the sanitary crisis its first year has been perturbed and the plenary planned meeting could not be organized (June and November 2020). The first restricted in number of participants meeting has been organized virtually at the end of November 2020.

2021 is in front of us with a series of meetings to come like the plenary session of the GDR in may or more focused conferences and workshops. One of the actions of the GDR is a monthly news-letter and this is the first one. It will contain Breaking News, Calls related to the GDR, Announcement and Scientific News. If you want to share with the consortium your break-through research, please prepare a visual abstract and contact one of the member of the directory board. The news-



all a tremendous 2021 year full of beautiful science, research and projects. We hope to see you soon for exciting scientific exchanges on Nanomaterials for Energy Applications!

IMAGE OF THE MONTH



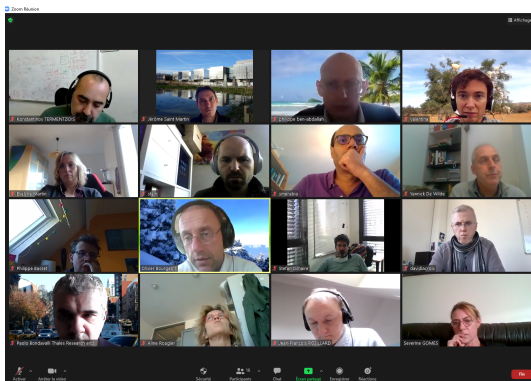
The temperonic crystal !

Thanks to a collaboration between the CNR-INO of Brescia (Italy), the Università Cattolica del Sacro Cuore (Italy) and the Institut Lumière Matière-Université Claude Bernard Lyon 1 & CNRS, we have discovered that materials can be designed at the nanoscale to create a temperonic crystal, which behaves like an "artificial network" for temperature waves. In particular, we have considered the paradigmatic example of a structure made up of a layer of graphene on a substrate whose physical properties are periodically modulated. The new temperonic crystal concept extends the concept of superlattices to the area of temperature and heat transfer and enables consistent control of ultra-fast temperature pulses. This discovery paves the way for the design of a new generation of thermal nanodevices based on wave effects, such as temperature filters, waveguides and cavities. The article has just been published on Physical Review Letters, follow the link for more details !

[Link](#)

BREAKING NEWS

IDTechEx



1st Virtual meeting of the GDR

The first virtual meeting of the **GDR NAME** has been organized on 26-27 November 2020, with audience being reduced to the scientific committee (24 persons) due to the Covid19 situation. The future actions of the GDR have been debated. One important action has been started: the animation of 6 ateliers with aim to edit a White Paper on Nanomaterials for Energy Applications. The organizing committee of this paper has been settled; first meetings of each working group will start in February!

Acquisition by the GDR NAME of a report on Thermal Management for 5G

IDTechEx conducts detailed examinations of emerging technologies based on extensive primary research carried out by our technical analysts around the world. This reports on **thermal issues** related to the deployment of the 5G deals with the thermal interface materials, die attach materials, metal sintering, active antenna array, semiconductor technologies, etc... Please contact the members of the directory if you need more informations. The contents of the report are available here:

<https://www.idtechex.com/en/research-report/thermal-management-for-5g/757>

2019 Best PhD Thesis Award



Congratulations to Claudia de Melo Sánchez !!

contact: claudia.de-melo@univ-lorraine.fr

Her thesis work conducted at Université de Lorraine, and focuses on the selective deposition process and the fabrication of functional devices based on non-toxic and inexpensive materials such as Cu₂O, ZnO and Cu. A new approach to perform selective deposition by ALD (deposition by layer atomic) on ZnO films synthesized by sputtering has been developed. Their conductivity and density of point defects were adjusted by intrinsic or extrinsic doping.

LINK

GDR-NAME CALLS

Interlaboratory scientific exchanges, Thematic schools



N A M E

GDR Nanomaterials for Energy Applications

**ELABORATION
MEASUREMENTS & METROLOGY
SIMULATIONS & THEORY
APPLICATIONS**

**Thematic school for 2022, call
is open now till the 15/03/21**

The GDR has 4 axis, and we wish to have 4 thematic schools during the next 4 years, one for each axis. We planned already a school concerning Simulations. If you wish to make a proposal for 2022 or 2023, please contact the GDR office.

For the calls check the GDR Website for more information

**Interlaboratory projects,
deadline the 01/03/21**

The purpose of this call for the laboratories members of the GDR is to finance scientific exchanges between the members. A budget of 1000 € to 1500 € will be granted to participate in a student or researcher exchange either to initiate a collaboration or to support already existing collaborations.

ANNOUNCEMENTS

Events, Conferences, workshop etc...!!!



C'NANO meeting, 9-11/03/21, Toulouse

For the fourth consecutive year, the French national Competency Cluster in Nanoscience of CNRS, C'Nano, organizes its annual international meeting in nanoscience.

C'Nano 2020 The Nanoscience meeting aims at gathering the scientific communities in nanoscience and nanotechnology, and will take place in Occitanie region (France) at the Pierre Baudis Congress Center in Toulouse from March 9th to 11th, 2021.

[LINK](#)



GDR-NAME Plenary Meeting, 19-21/05/21, Paris

The Plenary Meeting will be held at ESIEE from the 19th to the 21st of May, 2021 at Noisy-le-Grand, please reserve the date now ! Scientific presentation, restitution of the working group on the White Book, laboratory presentation and much more, good food, good wine ...new contacts guaranteed !

[LINK](#)



Materials Research Society MRS 2021 virtual spring meeting, 18-23/04/21, late abstract deadline 01/02/21

Among a plethora of Symposia, the NM08 Symposium will be held on nanoscale thermal transport.

"Nanoscale Heat Transport - Fundamentals"

Understanding and controlling the interactions between energy carrying particles and nanostructural features brings new opportunities for manipulation of thermal transport processes and thermal physical properties. Due to the continuous progress in nanofabrication technologies, modern nanoscale materials and devices have characteristic length scales of the order of relevant energy carriers such as phonons...

[LINK](#)



JNRSE 2021

CEA Grenoble, 2-3 June 2021

10th National Days on Energy Harvesting and Storage



10th National Days on Energy Harvesting and Storage, 2-3/06/21, Grenoble, abstract deadline 18/04/21

The 10th edition of the « Journées Nationales sur la Récupération et le Stockage d'Energie » (JNRSE – « National Days on Energy Harvesting and Storage ») will take place on 2-3 June 2021 in Grenoble, France, organized by the CEA Grenoble and TIMA.

[LINK](#)



2021 CLEO (Conference on Lasers and Electro-Optics), 20-24/05/21, Munich, abstract deadline 29/01/21

During the 2021 CLEO, there will be a special Session intitled "Nanophononics and nanoscale thermal transport" cochaired by S. Volz

[LINK](#)

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vous pouvez les contacter [ici](#)