SOCIETE FRANÇAISE DE THERMIQUE

Groupe « Micro and Nanothermal »

Journée thématique organisée par :
Fransesco BANFI (ILM), Paolo MAIOLI (ILM), Konstantinos TERMENTZIDIS (CETHIL)

9 Septembre 2022

Accueil à partir de 9h à
Espace Hamelin, 17 rue Hamelin, Paris 16 (métro Boissière ou Iéna)

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Beyond Fourier

Understanding heat transfer at the nanoscale remains one of the greatest intellectual challenges in the field of thermal dynamics, by far the most relevant under an applicative standpoint. When thermal dynamics is confined in short time and length scales and/or at low temperatures, non-diffusive heat transport regimes set in, ranging from ballistic to hydrodynamic. Depending on the system, different heat carriers may be involved such as electrons, phonons, spins just to mention few of them. Within these regimes, the validity of Fourier's law, the milestone constitutive relation describing diffusive heat transport, fails, thus calling for novel heat transfer characterization techniques and intepretative schemes. Under an applicative stand point, managing Non-Fourier heat transport is a key-factor for micro- and nano-devices operations and their further downscaling.

During this thematic day, we will focus on recent developments in the general topic of non-Fouirer heat transfer at the nanoscale. The scope is to bring together different views on this emerging topic, merging experimental investigations and theoretical studies. This meeting is an opportunity for the community to share ideas and foster new collaborations. Young researchers are especially welcome to present their work, either in the form of oral or poster presentations.

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Désire s'inscrire à la **journée d'étude SFT du 9septembre 2022** en tant que : (cocher la case correspondante)

☐ Conférencier : 40€
☐ Membre SFT à titre individuel : 80€
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(Le prix signalé inclut le repas de midi qui est organisé sur place, les pauses et l'accès aux documents)

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Programme de la journée

Le programme de la journée sera diffusé sur le site web de la SFT dès qu'il sera disponible.

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AIMS and CONTENTS

We cordially invite all experts, users, scientists, young researchers and students being active or interested in the field of quantitative thermography to attend the 16th Quantitative Infrared Thermography Conference (QIRT'2022). The conference will take place in Paris, at FIAP Jean Monet, close to historical centres and public transportation systems.
This year, the conference is organised by the University Gustave Eiffel (UGE), University Paris-Est Créteil (UPEC) and the National Institute for Research in Digital Science and Technology (Inria). The organisers are strongly supported by the Steering Committee of the QIRT community, by the International Scientific Committee and by the Local Organising Committee. The conference will be complemented by QIRT Short Courses, by an exhibition where the newest infrared thermography equipment will be presented and by a social program.
We are looking forward to your interesting and innovative contributions, which will contribute to scientific and technical presentations, posters and fruitful discussions.

On behalf of the Local Organizing Committee

Dr. Jean Dumoulin & Dr. Laurent Mevel & Pr. Laurent Ibos

16th Quantitative InfraRed Thermography conference
QIRT'2022 *4th – 8th July 2022 in Paris, France*

Exhibition

A vendor exhibition will complement the technical presentations.
The price for 1 standard booth of 6 m² (incl. 1 table, 2 chairs, standard plug, W-LAN, 1 poster wall (on request)) is **1,500 € plus Value Added Tax (VAT).**
For each booth one conference ticket with full conference participation will be provided.
The number of booths is limited. They will be assigned on a first come, first serve basis.
Book your booth by 15 May 2022
via https://qirt2022.sciencesconf.org/ .

STRUCTURE

Scope

The biannual Quantitative InfraRed Thermography (QIRT) Conference is a meeting of the scientific and industrial community interested and actively working in research, application and technology related to infrared thermography.
All conference topics are intended to quantitative results comprising temperature values as well as further parameters on the tested materials and structures. The latter ones are usually obtained through active thermography, *e.g.* by exploiting nonstationary heat transfer processes activated by additional heat sources or by considering wavelength dependent effects.
Passive and active thermography methods and technologies are spread now along a multitude of areas of applications, which all profit from each other.

Topics

- State-of-the-art and evolution in the field of infrared scanners and imaging systems allowing quantitative measurements, and related data acquisition and processing systems
- Calibration and characterisation of infrared cameras and related topics like certification, standardisation, validation, emissivity determination, absorption in media, translucent media, spurious radiations, three dimensionality of observed objects
- Characterisation of optical and further heat sources for active thermography
- Analytical and numerical modeling, data reduction, signal and image processing, artificial intelligence related to infrared thermography
- Application of infrared thermography to radiometry, thermometry, and physical parameters identification and quantification, in all fields: fluid mechanics, solid mechanics, structures and material sciences, non-destructive evaluations, electromagnetism, medicine and biomedical sciences, remote sensing, environment monitoring, industrial processes, multiscale, multispectral and other.

Key Dates for authors

Deadline for abstract submission: 31 December 2021
Acceptance notification: February 2022
Deadline for booth reservation: 15 May 2022
Deadline for full paper submission: 31 May 2022
Deadline for author on-line registration : 15th June 2022

CALL FOR PAPERS

Submission Guidelines

You are invited to submit abstracts in accordance with the following guidelines:
- ✓ Authors may register more than one paper.
- ✓ English being the conference language, the contributions must be submitted in English. Translation into other languages will not be provided.
- ✓ All contributions must be submitted online at: https://qirt2022.sciencesconf.org/ by **31 December 2021**.

Please submit a short abstract of 100 words within a two page extended abstract formatted according to the template which can be found on the conference website.
- ✓ Authors will be informed about the acceptance of their contributions in February 2022.
- ✓ Authors whose paper was accepted must register and pay the registration fee before 15th June 2022.

The registration is binding.
- ✓ Registrations of papers will only be considered if they are submitted together with all relevant data and the abstract.
- ✓ The full paper (in English) must be received by QIRT'2022 organizers as an electronic file by 31 May 2022.

Publication of Best Papers

After the conference, all papers will be evaluated by the QIRT Committees and the best papers will be published in the QIRT Journal.
These papers should not already be published in any conference proceedings or journals and the work should be original and new. A peer review process by independent, anonymous expert referees will be performed.

Student Award

The best student paper will be honoured with the Student Award. During abstract submission you can choose if your abstract is suitable for the student award.
The presenting student must be enroled at a university and the presented work must be developed within their bachelor, master or doctoral thesis. Only one submission per student candidate is accepted into the competition.

Grinzato Award

The scientific paper will be honoured by the Grinzato Award. The nominees for the Grinzato Award will be announced by the steering committee according to the rating of the submitted abstracts.

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