

Advanced Autumn School
**Thermal Measurements
&
Inverse Techniques**
- 8th Edition -
Sept 24th – Sept. 29th, 2023
Ile d'Oléron, France



Provisional Registration Fees[†] (double/single room), to be confirmed:

PhD student, Postdocs _____ 600€*/ 700€
Academic, CNRS employee _____ 950 €*/ 1050€
Other _____ 1350€*/ 1450€

[†]The price includes accommodation, meals, proceedings, etc.

* Early bird until 30 June 2023

If you are considering attending the school, you are requested to follow the registration procedure explained on the web site, from Nov. 2022 onwards.

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<https://metti8.sciencesconf.org>



After final registration, participants will be asked to complete the travel schedule and tutorial registration form. All the forms, travel details, registration and tutorial selection can be downloaded from the school web-site.

• **Venue**

The school will be held in the 'La Vieille Perrotine village' on the beautiful island Oléron, the second largest island of Metropolitan France.

• **Accommodation**

Double and single room accommodations as well as meals are provided within the Vieille Perrotine village.

Access : <https://www.oleron-island.com/comment-venir>

By train + Bus: several daily connections (from Paris, Nantes, Bordeaux) to (Surgères, Rochefort, Saintes) then Bus (lines 6, 6E and 7), to *Dolus d'Oléron*.

<https://transports.nouvelle-aquitaine.fr/fr>

By road: From *Bordeaux*: Follow the A10 motorway - Exit 25 at Saintes, direction Ile d'Oléron. From *Nantes*: Follow the motorway-Exit La Rochelle, then follow Marans/La Rochelle/Rochefort/île d'Oléron. From *Paris*: Follow the A10 motorway-Exit La Rochelle/Rochefort, then follow Surgères/Rochefort/île d'Oléron.

second announcement



International Center for Heat and Mass Transfer

Metti⁸

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Scope – Finding ‘causes’ from measured ‘consequences’ using a mathematical model linking the two is an inverse problem. This is met in different areas of physical sciences, especially in Heat Transfer. Techniques for solving inverse problems as well as their applications may seem quite obscure for newcomers to the field. Experimentalists desiring to go beyond traditional data processing techniques for estimating the parameters of a model with the maximum accuracy feel often ill prepared in front of inverse techniques. In order to avoid biases at different levels of this kind of involved task, it seems compulsory that specialists of measurement inversion techniques, modelling techniques and experimental techniques share a wide common culture and language. These exchanges are necessary to take into account the difficulties associated to all these fields. It is in this state of mind that this school is proposed. The METTI Group (Thermal Measurements and Inverse Techniques), which is a division of the French Heat Transfer Society (SFT), has already run or co-organized seven similar schools, in the Alps (Aussois, 1995 and 2005), in the Pyrenees (Bolquère-Odeillo, 1999), in Brasil (Rio de Janeiro, 2009), in Bretagne (Roscoff, 2011^a), in Pays Basque (Biarritz, 2015^b) and in Porquerolles island (Porquerolles 2019^c). For this eighth edition the school is again open to participants from the European Community with the support of the Eurotherm Committee.

Attendance – About 80 to 100 attendees and instructors (PhD Students, academics, R&D engineers) from different countries.

Metti committee – J. C. Batsale, J. L. Battaglia, J. G. Bauzin, J. Berger, T. Duvaut, Y. Favennec, J. L. Gardarein, B. Garnier, N. Horny, L. Ibos, F. Lanzetta, N. Laraqi, P. Le Masson, C. Le Niliot, D. Maillet, J. Meulemans, H. Orlande, L. Pérez, T. Pierre, O. Quéméner, B. Rémy, F. Rigollet, C. Rodiet, S. Rouchier, P. Salagnac, Y. Rouizi



Program

Lectures

Lectures will be given from 9:00 to 12:00 every morning from Monday to Friday on the following courses: generalities on inverse problems, linear and nonlinear estimation, contact and non-contact thermal sensors, measurement noise, large scale optimization, regularization, function estimation, signal processing, model reduction or identification, etc.

Tutorials

Tutorials will be held in the “*La vieille Perrotine Centre*” between 17:00 and 20:00 from Monday to Thursday. They will include an experimental and/or a numerical part. The detailed abstracts of the tutorials will be presented on the school website. Each participant will be able to attend between 6 and 8 tutorials according to the schedule.

Documents

Two course books will be distributed at the arrival of the participants.

Posters

PhD students and young academics are invited to present their studies through a poster in order to have a support for further interaction and discussion with more experienced ‘inverters’.

^a 2011 : www.sft.asso.fr/document.php?pagendx=12299

^b 2015 : www.sft.asso.fr/metti-6.html

^c 2019 : www.sft.asso.fr/actes-metti7-2019.html

Organization of the school

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