

## Registration fees

	Until May 20 <sup>th</sup> , 2021	After May 20 <sup>th</sup> , 2021
Student	800 €	1000 €
Academic	1400 €	1600 €
Industrial	1800 €	2000 €

All taxes included (20% VAT)

In order to ensure and encourage interactions, the number of attendees is **limited to 20**.

### Registration fees include

Admission, participation to courses  
& Coffee breaks, lunches  
& conference dinner

**Any questions about the training, please use:**

Phone: +33(0)2 31 45 26 11  
+33(0)2 31 45 26 28

[daniel.chateigner@ensicaen.fr](mailto:daniel.chateigner@ensicaen.fr)  
[stephanie.gascoin@ensicaen.fr](mailto:stephanie.gascoin@ensicaen.fr)

*Attendees are required to make their own accommodation and travel arrangements. A list of hotels and an access map will be sent*

## General information

### Venue

The workshop will take place in Caen, France at the Technological Institute an CRISMAT-ENSICAEN

### Access

Caen is located in Normandy, 250 km west of Paris. More details are available on the registration form.

### Organizers



LIDSEN  
**RECENT PROGRESS  
IN MATERIALS**  
Open Access Journal

# CRISMAT UMR 6508

## Organizes the

# 12<sup>th</sup>

# WORKSHOP

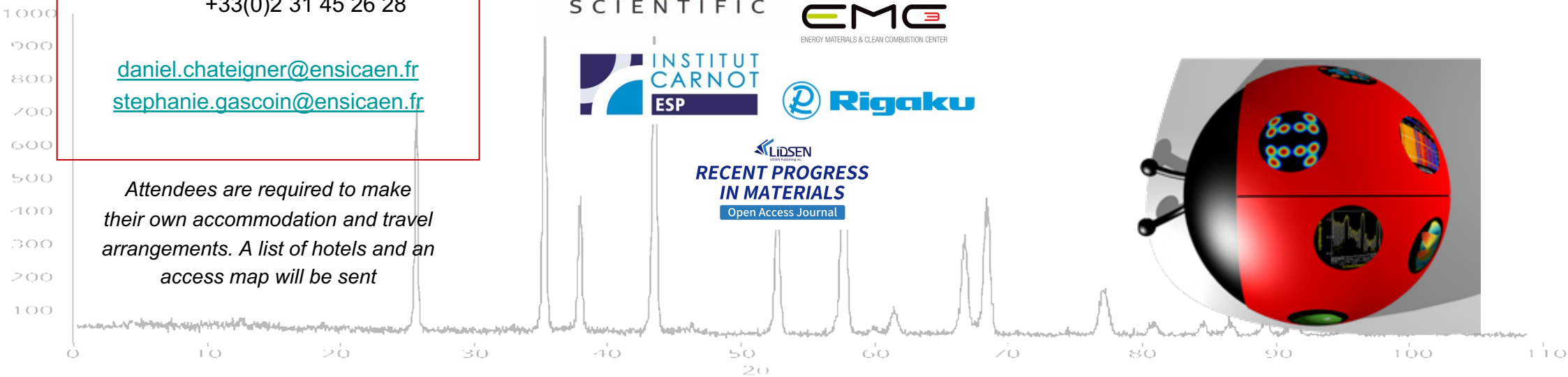
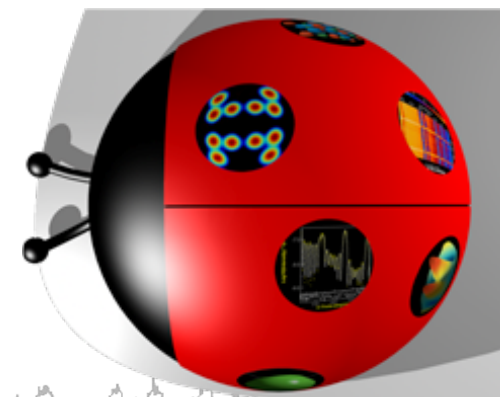
on

## Combined Analysis Using Ray Scattering

**July 4<sup>th</sup> – 8<sup>th</sup>, 2022**

**Caen (France)**

5 days training on the aspect of Combined Analysis by X-ray and Neutron Scattering using the MAUD software



## Objectives

This international school covers many aspects of the “Combined Analysis” methodology using x-Ray, neutron and electron scattering, and X-ray fluorescence applied to material science. Fundamental to technical aspects relevant to industrial and academic applications are targeted.

The combined analysis method is developed for more than 20 years. Ground on the whole pattern fitting using the Rietveld method, it incorporates texture, microstructure, phase, layering, residual stress analyses,, together with x-ray reflectivity and fluorescence and electron diffraction.

The aim is to give students, academic and non-academic researchers the necessary tools to be able to characterize their own samples using the Combined Analysis method and the software MAUD. The characterization involves obtaining information on the structure, microstructure, phase and elemental content, texture, stress in different kind of samples and structures including : thin films, bulk materials, anisotropic materials, poly-phased materials, nano-materials, etc.

The objective is to bring together participants from various fields and to provide an opportunity to discuss individual interests and experience.

## Topics

Each type of analysis will be considered individually for the proper technique and then integrated into the MAUD Combined Analysis software. Some specific examples will be studied using X-Ray and neutron experimental data.

- Diffraction techniques, overview
- Crystallographic Texture Analysis
  - Residual Stress Analysis
    - Rietveld analysis
  - Reflectivity analysis
    - Phase analysis
  - Line broadening analysis
- XRD & XRF combined analysis

## Pre-requisites

- Basic knowledge of crystallography and diffraction techniques
- Good practice in the use of computers
  - **Your laptop** for the practicals !

### MAUD

Materials Analysis Using Diffraction

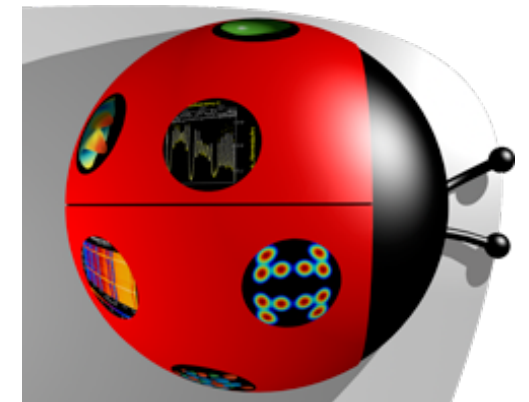
<http://maud.radiographema.eu/>

## Speakers

Daniel Chateigner, Caen (France)

Luca Lutterotti, Trento (Italia)

Henry Pillière, Ardenay (France)



## Informations Link

<http://www.ecole.ensicaen.fr/~chateign/formation/>

## Registration Links

Registration begins 14<sup>th</sup> March

French: <https://www.azur-colloque.fr/DR19/inscription/inscription/61/fr>

English : <https://www.azur-colloque.fr/DR19/inscription/inscription/61>

Registration deadline

June, 20<sup>th</sup>, 2022

