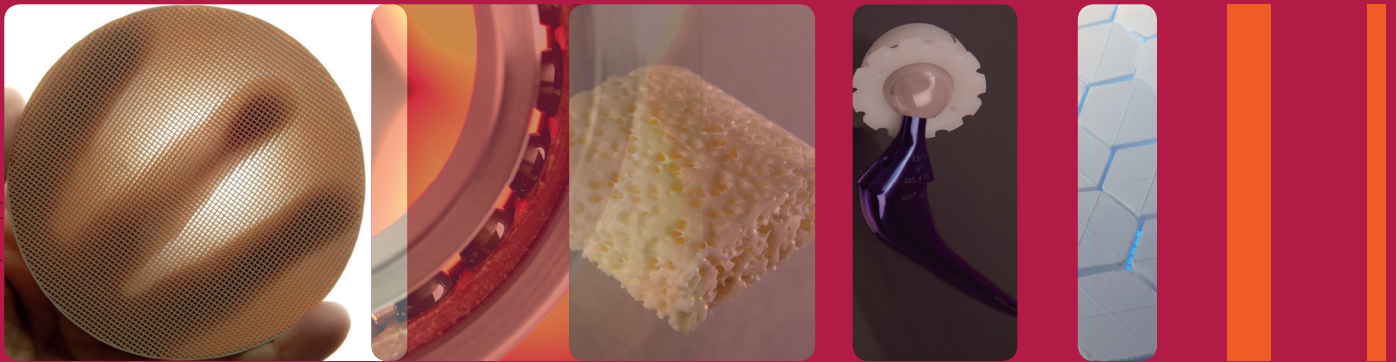


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# INTERNATIONAL SEMESTER

INDUSTRIAL CERAMICS AND PROCESSING at the University of Limoges, FRANCE

Unique in France, this speciality will prepare you with specific knowledge and skills relevant to the processing of non-metallic mineral materials. The training incorporates a comprehensive approach to powder preparation, forming and firing of ceramic bodies and is associated with process engineering.

Desired skills : Strategic industrial sectors such as automobile, aeronautics and aerospace, electronics and ICT, medical, energy, metallurgy, environment and sustainable development, design and housing, civil engineering and more. This international semester takes place in Ester Technopole, a unique place in Europe for ceramic materials.

## TRAINING INSTITUTIONS

- ENSIL-ENSCI (National Higher Engineering College)
- The Faculty of Sciences and Technologies

## RESEARCH LABORATORY

IRCER, Institute of Research for Ceramics, laboratory internationally recognized for Ceramics and Surface Treatments Processes

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Parc ESTER Technopole, a unique place in Europe for Ceramic Materials

## OPENING DOORS TO THE WORLD...

It is indispensable today for students to be open to other cultures, other ways of living and working.



### LIMOGES

Close to the center of France, 160 000 inhabitants

By plane: one hour from Paris,  
one hour and a half from London

By train or by car 3 hours from:  
Paris, Toulouse, Bordeaux, Atlantic ocean...

## MORE ABOUT THE INTERNATIONAL SEMESTER...

**WHO IS CONCERNED?** International students for their various curricula part of European (ERASMUS) and international exchange programmes.

**WHEN DOES THE PROGRAM TAKE PLACE?** Spring semester, 1st February-31st May (15 weeks of classes)

**ENGLISH IS THE COMMON LANGUAGE USED IN EVERY COURSE**

**ADMISSION FEE:** 900€ (Erasmus students and some of our partners are exempt from these costs) The real cost of the semester is 7500€ but the complementary cost is supported by the French government.

**THREE MAIN PURPOSES DEFINE THE PROGRAM CONTENT (30 ECTS)**

- Acquire and develop key skills and knowledge in the field of mineral materials and processing
- Acquire a practical experience regarding properties of use and characterization methods thanks to practical works and a personal technical project suggested by industrial partners and then refined with the teaching team
- Benefit from an international experience, initiation to French language and culture

# TRAINING

20h a week + technical project

		ECTS
GENERAL TOPICS	Initiation to French language and discovery of French culture Surface engineering and applications: overview Industrial ecology : sustainability and recycling Project Management/Test plan management Ceramic processing and applications review	5
INDUSTRIAL CERAMICS AND PROCESSING	Formulation and shaping Introduction Mineral materials and technical ceramics Wet route shaping Plastic and dry processing Glasses and functionalization	7
	Consolidation routes and sintering Drying of ceramics Conventional sintering Non conventional sintering Consolidation at moderate temperature	
	Practical work	3
PROPERTIES OF USE AND CHARACTERIZATION*	Ceramic and Film properties Thermal properties Mechanical properties Optoelectronic properties	6
	Surface, microstructural and chemical characterization Electron Microscopy Diffraction Vibrational spectroscopy Surface characterization	
	Practical work	3
TECHNICAL PROJECT*		6

\* Common units with the semester Materials and Surface Treatments engineering

## INTERNATIONAL STUDENTS OFFICE

Supports international students with: accommodation, administrative formalities (opening a bank account...), transport information, health insurance plans, discovering Limoges and its region

Administrative contact : Mrs Frédérique LUNEAU and Mrs Isabelle VIEVILLE international.ingenieur@unilim.fr

TO GET MORE INFORMATION

[www.ensil-ensci.unilim.fr](http://www.ensil-ensci.unilim.fr)  
[www.unilim.fr](http://www.unilim.fr)

EDUCATIONAL CONTACT

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Prof. Claire Peyratout : claire.peyratout@unilim.fr