

# LOCIE

**LaboratOry proCesses building Energy**

UMR 5271 - USMB / CNRS

**Faculty:** Polytech Annecy - Chambéry

**PhD School:** Sciences, Ingénierie, Environnement (SIE)

LOCIE is a joint research unit of the University Savoie Mont Blanc and the CNRS working in engineering and systems sciences. Its activities are resolutely oriented towards fields of application with high scientific, technological and societal stakes: sustainable building and energy. LOCIE is a research laboratory of the National Solar Energy Institute located on the Savoie Technolac campus.



## Research topics

### BASE: Sustainable Building: Structure and Envelope

- › Multifunctional Composite Walls: Hybrid Structures, Bio-inspired / Low Carbon Materials and Coupled Transfers
- › Structural and Energy Diagnosis: Repair and Rehabilitation

### STEP: Energy Systems and Processes

- › Systems for clean energy: valorisation of renewable energies (solar, geothermal), components and systems
- › Processes for improving indoor air quality: particle filtration, treatment of gaseous compounds, safety of processes

### SITE: Systems and Buildings Integrated in the City and Territories

- › Energy management in territories (resources, valorisation, conversion, distribution, storage, consumption, etc.)
- › Building performance guarantee and diagnosis

## KEY DATA\*

- 28** researchers and professors
- 4** administrative and technical staff
- 34** PhD students post-doctoral researchers
- 8** associate researchers

\* academic year 2022-2023



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## Skills

- › Coupled physical, chemical and mechanical transfers (flows - mass, heat, charge and radiation transfers)
- › Experimental and numerical studies
- › Systems analysis: characterisation, modelling and optimisation
- › System and building performance: characterisation and simulation of energy and mechanical performance

## Network and partnership

### Academic collaboration

- › BIG: Bio-Inspired Group (Rhône-Alpes)
- › Solar Energy Research Federation FédESol
- › Carnot Institute Energies of the Future
- › Member of various national and international GDRs (research groups): IRN CNRS / CEA / NRU Singapore «SINERGIE», «Films», «thermoelectricity
- › Chair of Cross-border Innovations in Energy Efficiency CITEE
- › EUR Solar Academy Graduate School
- › Member of RILEM
- › Member of the Orientation Committee for Applied Research in Civil Engineering of the Ministry of Ecological Transition and Solidarity
- › Active participation in various tasks of the International Energy Agency (IEA)

### International relations

- › Interreg programmes (Italy, Switzerland)
- › Hosting of foreign PhD students and researchers
- › Italy: University of Genoa, Polit. of Turin, Milan; Brazil: PUC; Algeria: University of Oran, Tébessa; Tunisia: ENIM; Morocco: Australia: UNSW ; Burkina-Faso: 2iE ; PAUSE program ; etc
- › Co-supervised theses (PUC Universities, University of Zaragoza, University of Genoa, etc.)
- › EUR Solar Academy
- › International research programmes (CAPES COFECUB with Brazil, CHP Toubkal with Morocco)



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