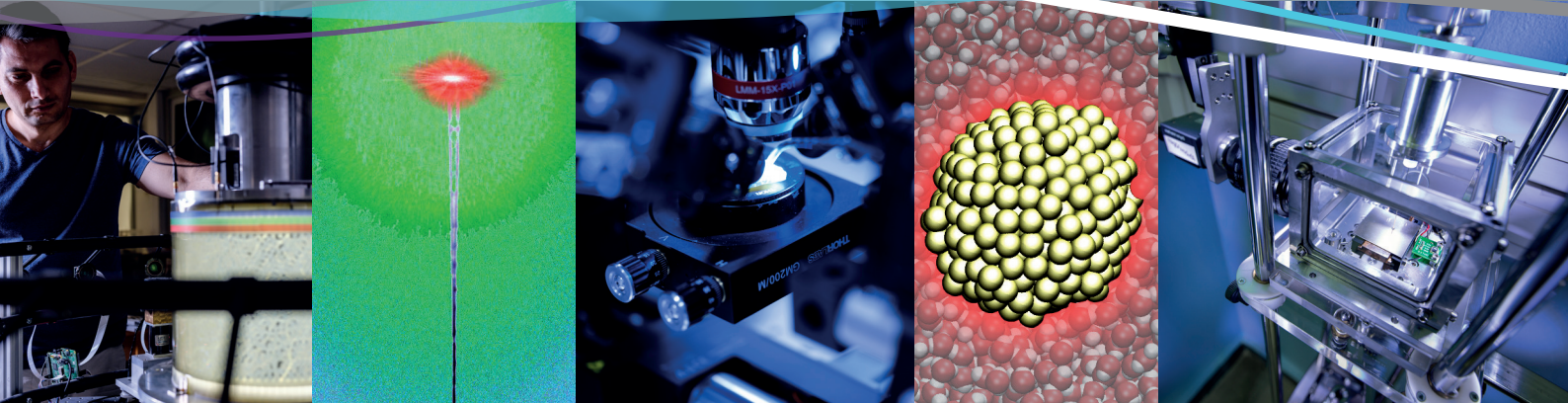


# Institute of Light and Matter

A RESEARCH  
LABORATORY  
IN THE  
LYON AREA



**iLM**  
INSTITUT LUMIÈRE MATIÈRE



Université Claude Bernard  Lyon 1



# THE INSTITUTE OF LIGHT AND MATTER IS...

- A high level research in physics and chemistry
- A continuum from fundamental research to innovation
- Light for probing and shaping matter
- The tools and know-how to develop materials and to study their optical, electronic, mechanical, acoustic, thermal, and rheological properties
- Projects at the interface with engineering, biology, health and environment
- A scientific and technological potential uniting 280 collaborators, involved in 6 lines of research

## MATERIALS, ENERGY, PHOTONICS:

Developing a fundamental and applied research in the design, the elaboration and the characterization of functional materials that possess innovating optical, magnetic, thermal, and acoustic properties.

## SOFT MATTER:

Developing a multi-scale approach, combining experiments and theory, to innovate in understanding the processes of organization and transport in complex systems: interfacial, divided, out of equilibrium, living matter...

## NANOSCIENCES:

Developing new technologies to understand, design and characterize the elementary bricks at the origin of the nanomaterials of tomorrow's technological revolution.

## OPTICS AND ULTRAFAST DYNAMICS:

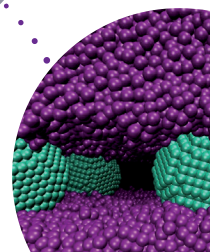
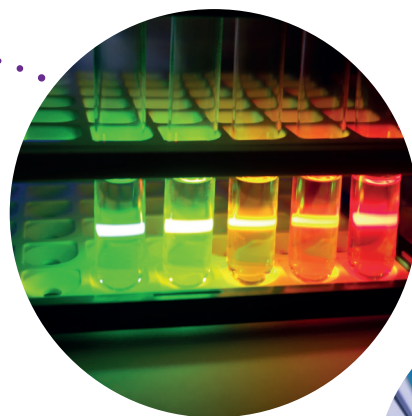
Measuring by spectroscopy the structure and the dynamics of the elementary bricks of matter, from molecules to nano-objects. Developing innovative methods, from very high temporal resolution to high spectral resolution.

## THEORY AND MODELLING:

Offering a unique spectrum of skills and theoretical tools to model matter from molecules to bulk : theory of the electronic structure, atomistic simulation, statistical physics, continuous medium models and multiscale methods

## LIVING MATTER, HEALTH AND ENVIRONMENT:

Answering societal challenges : Health, Climate, Environment. Fundamental research in physics and chemistry leads to innovations for medical or environmental applications.



## A NETWORK OF INDUSTRIAL AND ACADEMIC PARTNERS

- Startups, SMEs, and large business groups
- Research organisations and institutes
- International collaborations in 5 continents: Australia, Brazil, Canada, China, Croatia, Germany, Great Britain, Greece, India, Italy, Japan, Mexico, Poland, Russia, Switzerland, Taiwan, United States, Ukraine...
- Start-up development (Ablatom, Axint, Fibercryst, Glincs, Icohup, Mexbrain, NanoH, NhTherAguix...)
- Founding member of the Cristal Innov platform

### TOOLS AND EXPERTISES

**ilmtech**  
PASSERELLE POUR L'INNOVATION

- Synthesis and elaboration
- Characterization
- Modelization



## A MAJOR REGIONAL LANDMARK

- Member of the business poles and clusters Axelera, Minalogic, Lyon Biopole, Tenerrdis, Techtera, of the CLARA Canceropole, and of Light Cluster
- Member of the Laboratories of Excellence (Labex) iMust and Primes
- Regional Collaborations : Universities of Grenoble and Saint-Etienne, INSA ,ENS, École Centrale...
- Conférences for the " Université ouverte ", scientific workshops (Science Fair, Museums, School, Open University)
- Events organized with local authorities

### RESPONDING TO SOCIETAL CHALLENGES

Health, energy, transportation, environment, photonics

### THE ILM IN FIGURES

- A research budget of 6 M€ (20 M€ consolidated)
- 250 publications
- 6 patents
- 4 International Associated Labs
- 41 French Research Agency, 8 European contracts, 1 ERC, 2 FUI, local fundings
- 21 industrial contracts
- 8 PhD funded by industry, 2 maturation projects
- A surface of 9000 m<sup>2</sup>

Data: year 2018

WINNER  
OF THE INPI  
TROPHIES  
2017

**inpi**

## Institute of Light and Matter

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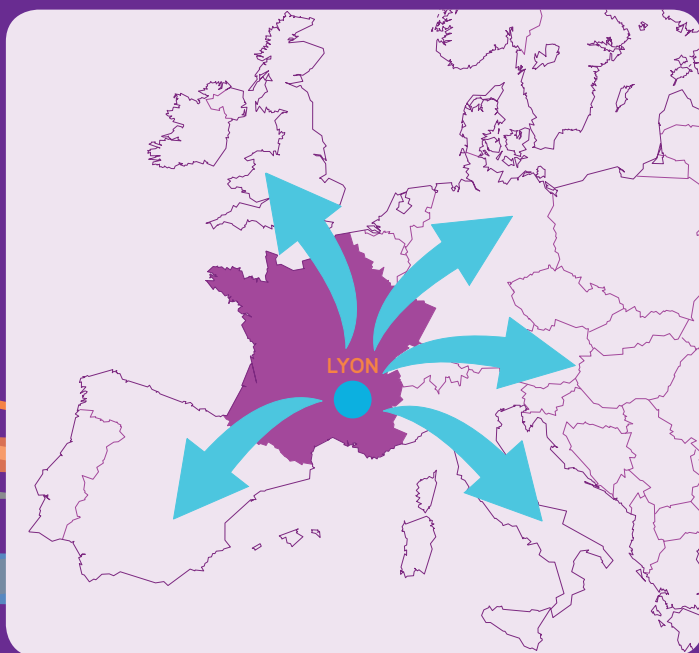
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## A LABORATORY IN THE HEART OF EUROPE



## Campus LyonTech - La Doua , Villeurbanne

