Master's in Chemistry
Light, Molecules, Matter track

lumomat
molecular materials for electronics & photonics

The LUMOMAT Master's programme is part of the high-potential field of photoscience, particularly photochemistry. In this context, its aim is to train high-level engineers and researchers capable of responding to the major challenges currently facing the energy, health, environment and information storage sectors.
The synergy of skills within the Lumomat team offers you the opportunity to develop unique expertise in the field of molecules and molecular materials. Teaching is based on a balance between lectures, practical work, tutorials and immersion in research laboratories. Workshops and projects involving close interaction with academic and industrial partners offer you the opportunity to tailor your course to your career goals.
The workshops and practical work are supported by state-of-the-art equipment available at the platforms and partner laboratories of the Lumomat University Research School (EUR), which backs this programme. The complementary skills of these teams enable mastery of the entire molecular architecture development chain: design, modelling, synthesis and application.

Why choose Lumomat?

- A stimulating (attractiveness and excellence scholarships) and innovative environment: immersive learning situations in four internationally renowned laboratories, ...
- Teaching in English and a large international network of training/research partners offering numerous career opportunities
- The opportunity to complete two paid internships (minimum 4 months in M1 and 5 months in M2) in France or abroad (mobility scholarships)
- Professional and empowering training: tutored projects, possibility of completing the M2 on a work-study basis

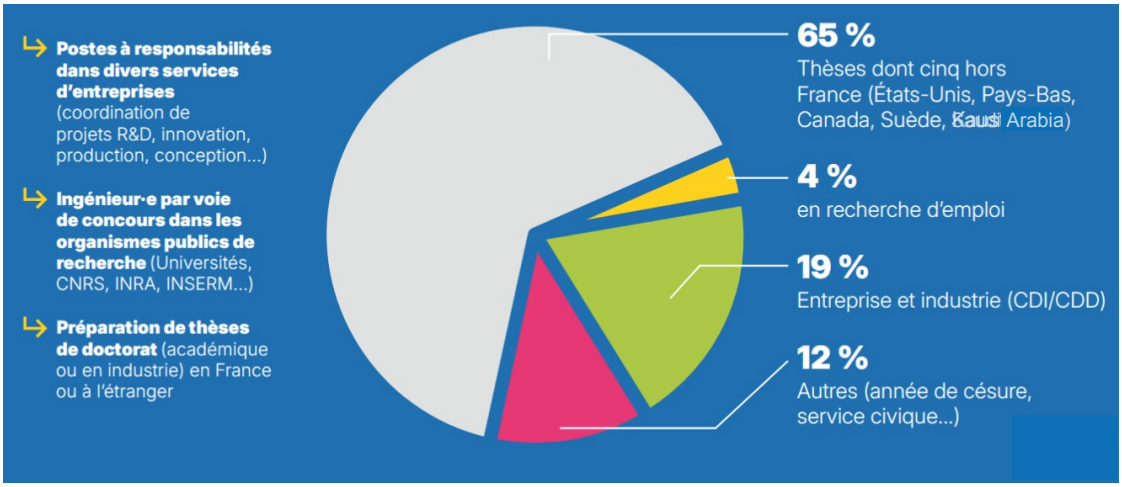
Laboratories:

CEISAM Chimie et Interdisciplinarité Synthèse, Analyse, Modélisation
IMN Institut des Matériaux de Nantes Jean Rouxel
MOLTECH Anjou
Institut des Sciences Chimiques de Rennes UMR CNRS 6226

What next?

Of the four previous graduating classes:

- **65%** of students continue their studies with **a PhD** (academic, CIFRE) **35%** opt for **professional integration** after the Master's degree.



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Your programme:

	SEMESTRE 3	SEMESTRE 4
MASTER 2 (Angers)	Formation professionnelle (norme REACH) Projet expérimental étudiant Initiation à la planification d'expériences Modélisation moléculaire et formulation Ingénierie moléculaire des systèmes pi-conjugués Chimie supramoléculaire Photo-physique et photochimie Techniques de spectroscopie et microscopies Interaction lumière-molécule pour la biologie Electrochimie des surfaces modifiées Matériaux moléculaires et hybrides, nanomatériaux Electronique organique	Stage de 5 à 6 mois en laboratoire ou entreprise, en France ou à l'étranger
	SEMESTRE 1	**SEMESTRE 2**
MASTER 1 (Nantes)	Chimie organique, organométallique et catalyse Caractérisations physico-chimiques (RMN, MS) Spectroscopies (UV-Vis, IR, fluorescence…) Modélisation moléculaire Cristallographie, analyses thermiques Electrochimie Matériaux De la molécule au solide Outils de communication Projet intégrateur (laboratoire ou industrie)	Stage de 4 à 6 mois en laboratoire ou entreprise, en France ou à l'étranger

Your skills:

Molecular engineering (organic chemistry, organometallic coordination and polymers)

Acquire the autonomy necessary to implement molecular and supramolecular synthesis of a certain complexity in the field of functional materials

Modelling and spectroscopy

Predicting chemical, photochemical or electrochemical reactivity through theoretical calculations
Identify different molecular interactions
Master current molecular modelling tools

Physicochemical characterisation tools

Propose a series of tests to elucidate the correlation between structure and the electronic and photonic properties of matter
Learn to use a multidisciplinary approach

Find out more about admission requirements, the detailed programme and the Lumomat ecosystem:

Your contacts:

Co-directors of the programme:
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