

COORDINATORS AND DIRECTORS

Master Applied and Fundamental Physics
Damien JACOB
+33 3 20 43 47 78
damien.jacob@univ-lille.fr

MME Condensed Matter
Philippe CARREZ
+33 3 20 43 48 61
philippe.carrez@univ-lille.fr

MME Condensed Matter/Pharma
Frédéric AFFOUARD
+33 3 20 43 68 15
frederic.affouard@univ-lille.fr

MME Dilute Matter and Spectroscopy
Cristian FOCSA
+33 3 20 43 43 64 84
cristian.focsa@univ-lille.fr

MME Atmospheric Sciences
Odran SOURDEVAL
+33 3 20 43 41 71
odran.sourdeval@univ-lille.fr

MME Modeling at the molecular
& atomic scales
Céline TOUBIN
+33 3 20 43 43 80
celine.Toubin@univ-lille.fr

ADMINISTRATIVE STAFF

Justine DE BACKER
+33 03 20 43 69 89
Justine.Debacker@univ-lille.fr

APPLICATIONS

First year applicants: Bachelor of Science and Technology (Licence, i.e. 180 ECTS) or an equivalent Diploma in Physics, Applied Physics or Physical Chemistry or Chemical Physics

Second year applicants: First year of a Applied and Fundamental Physics.

Good English skills (minimum score for Toefl paper test 550 ; IELTS: 6.5; CEF Europass: B2).

International students must complete the Campus France procedure as soon as possible (campusfrance.org/en) for application to the Master and Student Visa.

Students with no Campus France agency and Europeans have to go through the university's application program e-candidat <https://ecandidat-2020.univ-lille.fr/>

RECRUITMENT CALENDAR

- Campus France: before 06/03/2020
- e-candidat: 02/03 to 24/04/2020

INTERNATIONAL RELATIONSHIP

- The University of Lille has a policy of supporting international access to its courses. That's why it has introduced special procedures to make international students feel welcome and form collaborations.

<https://www.univ-lille.fr/home/international-student/>

- Practical information for your stay at the University of Lille

<https://www.univ-lille.fr/home/international-student-tool-box/>



New master Program subject to accreditation



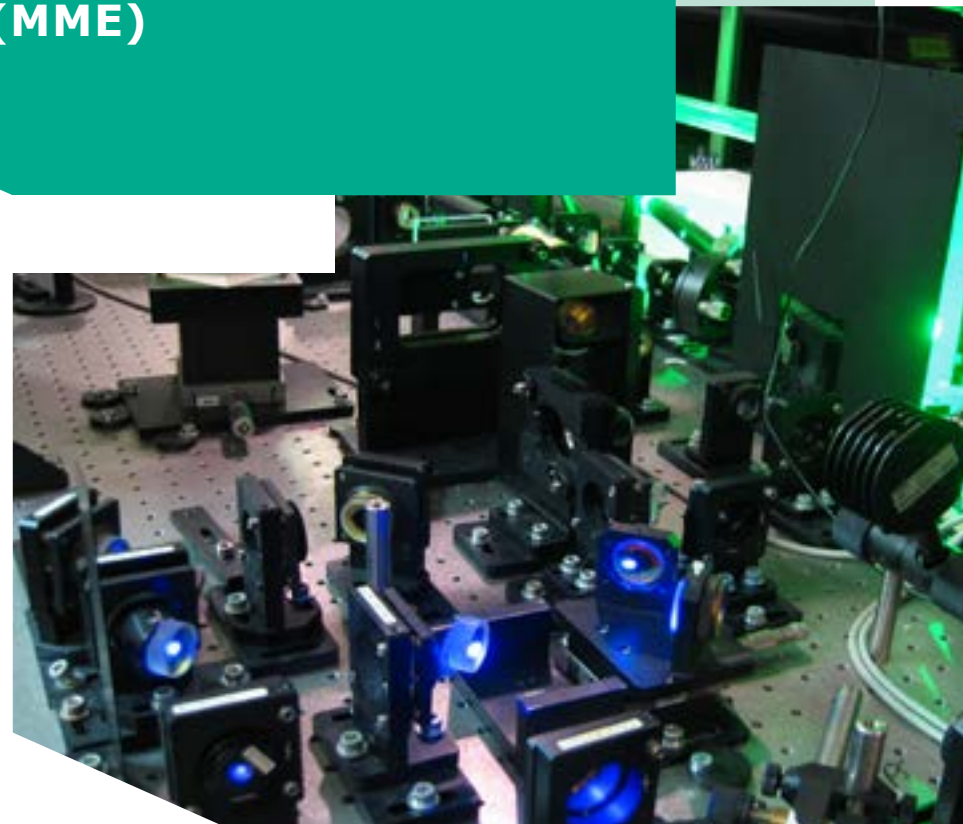
GRADUATE PROGRAM
'SCIENCE FOR A
CHANGING PLANET'

Master

Master 2

Mention

Applied and Fundamental Physics MATTER, MOLECULES AND THEIR ENVIRONMENTS (MME)



Université
de Lille

FACULTÉ
DES SCIENCES ET
TECHNOLOGIES
Département Physique

MENTION APPLIED AND FUNDAMENTAL PHYSICS - MME

MASTER 1 – COMMON BACKGROUND
with fundamentals and transversal skills
(including project management)

MASTER 2
Atmospheric
Sciences

MASTER 2
Modeling at
the molecular &
atomic scales

MASTER 2
Dilute Matter &
Spectroscopy

MASTER 2
Condensed Matter

MASTER 2
Condensed
Matter (Pharma)

The master is a 2 years course (120 ECTS credits).

Three semesters (30 credits each) of integrated courses delivered in english.

- **First and second semesters:** Fundamentals such as: advanced optics, mechanical and electromagnetic properties of the matter, solid state physics, advanced quantum mechanics, advanced spectroscopy, molecular and atomic physics & quantum information, ...
- **3rd semester:** Dedicated courses to one of the M2 options
In addition, transferable skills (internship, bibliographical research, scientific communication, project management).
- **4st semester** is dedicated to the Master thesis (30 credits) in a research Laboratory or Industry

OBJECTIVES

The specialization “Matter, Molecules and their Environments” of the master “Applied and Fundamental Physics” offers an advanced education in the field of condensed or diluted matter physics, atmospheric physics and molecular modeling. It is organized with 4 courses:

- Condensed Matter, CM (materials sciences applications, including an optional course “Pharmaceutical Materials”)
- Dilute Matter and Spectroscopy, DMS
- Atmospheric Sciences, AS (in the framework of the Labex CAPP)
- Modelling at the Molecular and Atomic Scales, MoMAS

TARGETED SKILLS

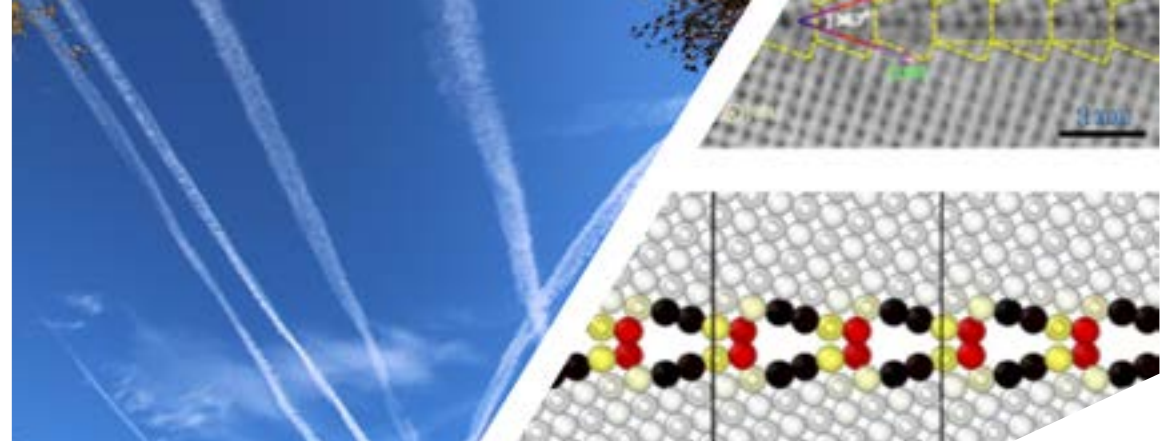
MME students will become experts in one of the fields covered by the master’s courses with a common background on characterization methods from the micro to the nanoscale (diffraction methods, optical and mass spectroscopies, electron microscopy) and theoretical basis.

They will be prepared for doctoral studies as well as R&D careers in industry or in public research institutes.

They will develop high skills in project management and intercultural communication.

JOB OPPORTUNITIES & FURTHER STUDIES

The Master Applied and Fundamental Physics, specialization Matter Molecule and their Environments leads to work in either public research laboratories or in industry or business, in one of the numerous fields covered in the master. It is possible to enter the workforce directly after graduation or following further study and a PhD. This Master’s degree is also appropriate for prospective teachers.



A MASTER DEGREE IN A STIMULATING SCIENTIFIC ENVIRONMENT WITHIN THE GRADUATE PROGRAM ‘SCIENCE FOR A CHANGING PLANET’

- 22 laboratories included in excellence or high level programs
- 292 Phd students
- An interdisciplinary training from the master to the doctorate including an international environment, mobility and thematic summer schools.



STRENGTH OF THE TRAINING

- Close relationships with research laboratories involved in excellence programs in the field of material sciences and solid state physics, spectroscopy of dilute matter, atmospheric physics & chemistry and modelling at the atomic scale.
- Strong networking with international research teams
- Benefit from high level characterization platforms: X-ray diffraction, electron microscopy, lasers, optical and mass spectroscopies, radiometry, in-situ measurements
- Scholarships from the Graduate Program potentially available for M1 and M2 courses.
- Internship in industry or lab research: 2 months during the first year and 4-5 months during the second year.