



Erasmus+



# BIOPHAM

Bio & Pharmaceutical materials science  
EUROPEAN MASTER



UNIVERSITÀ DI PISA



UNIVERSITAT POLITÈCNICA  
DE CATALUNYA  
BARCELONATECH



UNIWERSYTET ŚLĄSKI  
W KATOWICACH

 Université  
de Lille

<http://master-biopham.eu>

25/9/2025

**Frédéric Affouard**

[frederic.affouard@univ-lille.fr](mailto:frederic.affouard@univ-lille.fr)

Professor at University of Lille (France)

Physics Department – Faculty of Sciences and Technologies

Research activities on Pharmaceuticals:

Physical states (crystal/amorphous) & Transformations

Small molecules, polymers and proteins

Team leader “Therapeutic Molecular Materials”  
laboratory <http://umet.univ-lille.fr>

Coordinator of several European INTERREG 2-Seas projects IMODE: Innovative multi-component drugs and medical devices <http://www.project-imode.eu/>  
Multidisciplinary (Materials science, Pharmacy, Medicine)  
11 partners (academics, industries, hospital) in France/UK/Belgium

Coordinator of several research projects with Industries  
(AstraZeneca, Janssen Pharmaceutica, Servier, Roquette, +SMEs)

Coordinator of the Erasmus Mundus Master BIOPHAM  
Bio&Pharmaceutical Materials Science  
<http://master-biopham.eu>



**BIOPHAM**

Bio & Pharmaceutical materials science  
EUROPEAN MASTER



**Erasmus+**

**BIOPHAM → A worldwide unique training programme in materials science (physics-chemistry) focusing on pharmaceuticals**



BIOPHAM JOINTLY OPERATED  
BY 4 PARTNERS UNIVERSITIES

**BIOPHAM 1 [2020-2026] : 4 cohorts recruited  
86 students total from 33 different countries**

|         |         |         |             |      |          |            |         |         |
|---------|---------|---------|-------------|------|----------|------------|---------|---------|
| France  | Albania | Algeria | Bangladesh  | Iran | Cameroon | Brazil     | Georgia | Russian |
| Ireland |         | Egypt   | China       |      | Ghana    | Columbia   |         |         |
| Italy   |         | Jordan  | Philippines |      | Nigeria  | Costa Rica |         |         |
| Spain   |         | Syrian  | India       |      | Uganda   | Cuba       |         |         |
| Turkey  |         |         | Indonesia   |      |          | Ecuador    |         |         |
|         |         |         | Kazakhstan  |      |          | Mexico     |         |         |
|         |         |         | Pakistan    |      |          | Salvador   |         |         |
|         |         |         | Mongolia    |      |          | Venezuela  |         |         |

<https://erasmus-plus.ec.europa.eu/programme-guide/part-a/eligible-countries>

**BIOPHAM has just been renewed**  
**BIOPHAM 2 [2025-2031] : 4 cohorts to be recruited 😊**



## The BIOPHAM programme starts by an INTEGRATION WEEK



Lille, December 2021



Lille, December 2024



Lille, October 2021



It continues with  
memorable moments

...

Have a look to  
testimonies on the  
BIOPHAM website 😊



Katowice, 2023

<https://www.master-biopham.eu/testimonies>



Pisa, September 2024

Cohort 1, Pisa, Sept. 2023



It concludes with a  
very emotional  
graduation ceremony

Cohort 1, Pisa, Sept. 2023



Cohort 2, Pisa, Sept 2024



# GRADUATION CEREMONY COHORT 3

## Barcelona, July 2025



# What students are doing after the BIOPHAM training programme ?

## Based on Alumini from Cohort 1 and 2

### Statistics made in February 2025

1st cohort [2021 – 2023]  
15 students total

- 80% PhD
- 20% Not performing a PhD  
(job in a company, research fellowship in Academia)

2nd cohort [2022 – 2024]  
26 students total

- 62% PhD
- 38% Not performing a PhD  
(job in a company, Research Engineer/Research fellowship or lecturers in academia)



# BIOPHAM

Bio & Pharmaceutical materials science  
EUROPEAN MASTER

**This is the important word !**

**BIOPHAM is basically a Master in Materials Science**

**(physics-chemistry of materials)**

**focusing on pharmaceutical and biopharmaceutical materials**

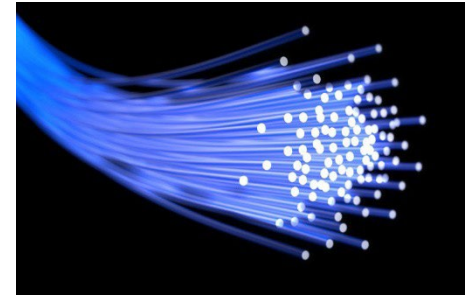
**BIOPHAM IS NOT a Master in: **B**iology, **B**iochemistry, **B**iotecnology,  
**B**iomedical sciences, **P**harmacy, **P**harmaceutical sciences,...  
(in which one may have some Materials science courses)**

**Targeted students: Bachelor in Physics, Chemistry, Materials Science,  
Biomaterials, Nanosciences,...or related fields**

**Materials science:** the science that is interested in materials :o)

Interdisciplinary field : Physics + Chemistry

"materials" is usually associated to metals, polymers (plastics), glass, ceramics,...



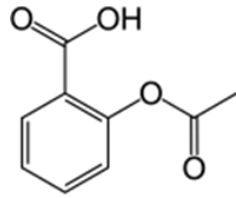
Drugs are materials ( small organic molecules, polymers and bio-polymers)

One can apply « materials science » approaches to drugs



Bringing a drug to market is  
a long and costly process...

New Chemical  
Entity (NCE)



Early stage development

Pre-clinical Phase

Clinical Phase

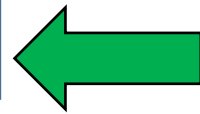
Regulatory Approval

Marketed  
product



## MATERIALS SCIENCE MATTERS !!!!

solubility, physical states, crystal, polymorphism,  
polyAmorphism, glass, stability, molecular mobility,  
out-of-equilibrium, mechanical properties, small  
molecules, polymers, proteins, biomaterials,...



It is better to identify "problems" at start  
Than after 10 years of development and  
after spending 2 billions \$ ☹

Pharmaceutical companies have understood it  
and are supporting BIOPHAM



**BIOPHAM**

Bio & Pharmaceutical materials science  
EUROPEAN MASTER

21 large and small partners companies  
are BIOPHAM associated partners

Specialized seminars & lectures  
Work placements – Short & Long internships



AKERN Italy



Farmigear Italy



Servier France



ALMIRALL Spain



UCB Pharma Belgium



Janssen Pharmaceutica Belgium



Xedev Belgium



Zentiva Czechia



Minakem France



Roquette France



IBI Italy



Lattice Medical France



Linari Engineering Italy



AstraZeneca Sweden



Spartha Medical France



BioZoon Germany



Physiolution Germany



Audio Technologies Italy



Lusochimica Italy



Cellbox Lab Latvia

## What is the initial training of some scientists working in Pharma industries ?

- Associate Principal Scientist AstraZeneca
- Senior scientist AstraZeneca
- Head of Solid State Department  
Technologie at Servier
- Global Head Technical R&D at Novartis
- R&D scientist at Evotec
- R&D scientist at Johnson & Johnson
- Manager of the Functional Properties  
Analytical Laboratory R&D at Roquette
- Head of Section at Sanofi Solid State

**Master in Physics, Chemistry or  
Material Sciences  
Not in Pharmacy !**

**They just learn “pharmacy”  
on the job !**

**Quote from a scientist (with a background in chemistry)  
working in a big pharma company:**

***“Pharmaceutical development is far too serious to be left  
only in the hands of pharmacists”***

## **Survey of the existing Masters worldwide:**

<https://eacea.ec.europa.eu/erasmus-plus/library/>

<https://www.findaMasters.com>

<https://www.Mastersportal.com>

...

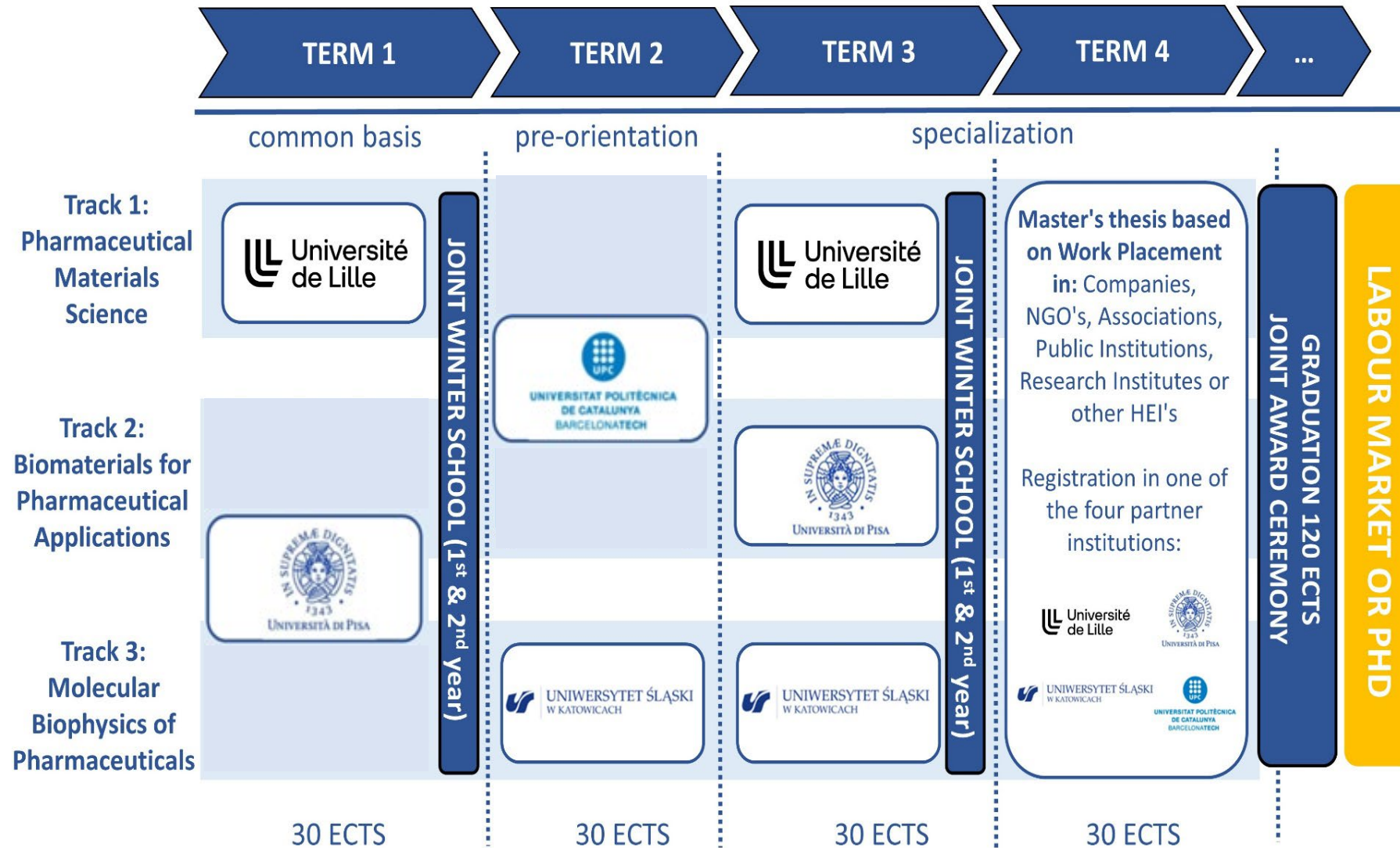
**It exists many Masters in Materials Science & Masters in Pharmacy**

**→ No Master at the interface between Materials Science and Pharmacy !**

**BIOPHAM → A very unique specialized training**

# Mobility scheme

## 3 specialised Tracks



**Track 1:  
Pharmaceutical  
Materials  
Science**



- Specialized training focused on the core of “**materials science**”
- **Physical states** (perfect and imperfect crystals, nanocrystals, and amorphous states)
- **Structural, Dynamical, Thermodynamical properties** as well as surface and interface properties.
- **Phase transformations** (crystallization/melting, vitrification)
- **Solid-state physical characterization:** X-ray powder diffraction, thermal analyses (DSC, TGA), Raman, infrared and THz spectroscopies, optical microscopy, electron microscopies (TEM, SEM)
- **Molecular modelling** (Molecular Dynamics & Quantum calculations) and **Artificial Intelligence**

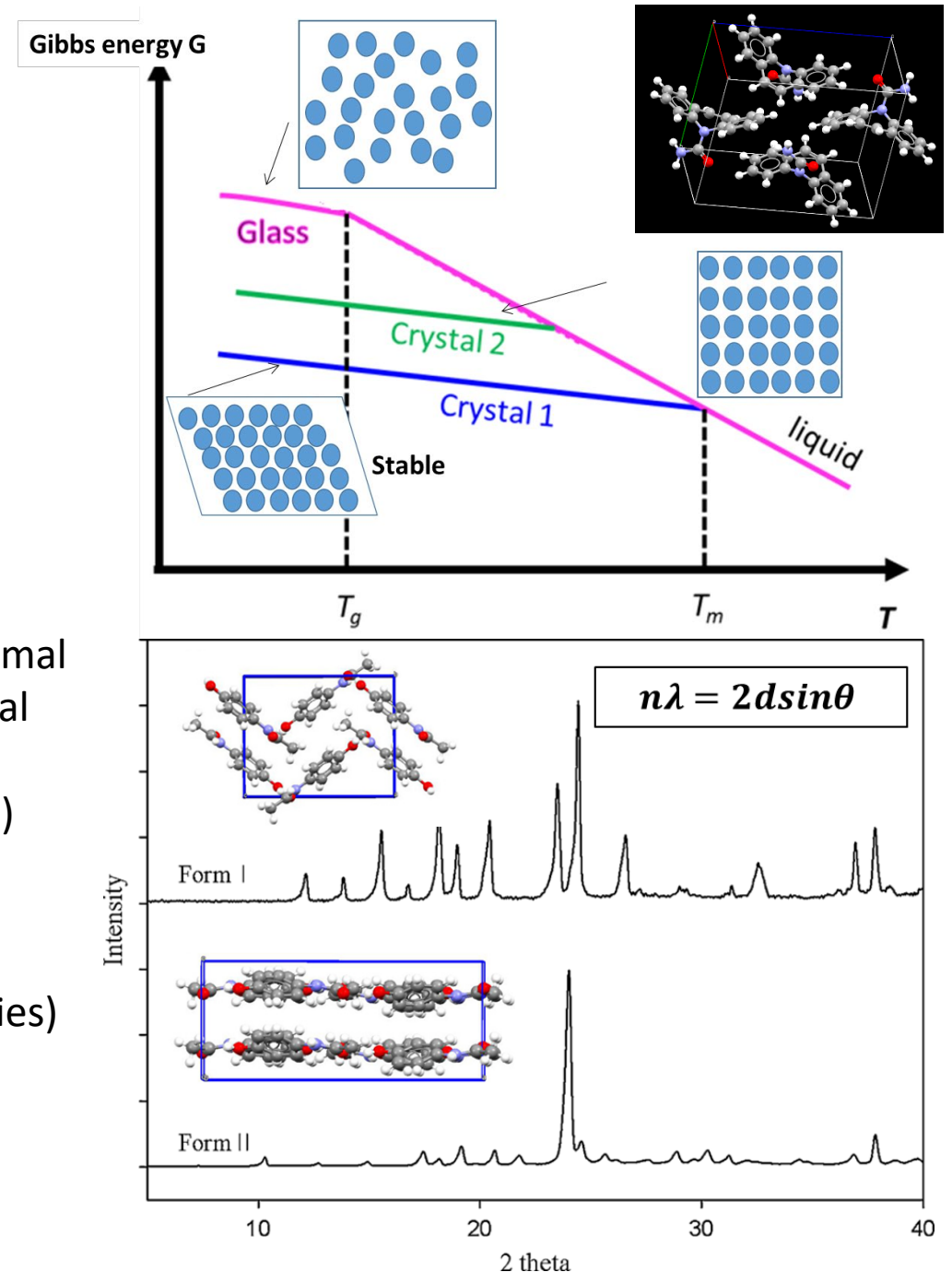


**Master of fundamental and applied physics**  
Physics Department (Faculty of Sciences & Technologies)  
College of Pharmacy



UNIVERSITAT POLITÈCNICA DE CATALUNYA BARCELONATECH

**Master of Engineering Physics**  
Department of Physics



## Tentative list of courses

| TRACK 1                  | Term 1<br>(University of Lille, ULille, France)                                                                                | Term 2<br>(Universitat Politècnica de Catalunya, UPC, Spain)                                                | Term 3<br>(University of Lille, ULille, France)                                                                                                                                |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Core fundamental courses | Continuum mechanics (3 ECTS)<br>States of Matter and Materials Science Primers (3 ECTS)                                        | Molecular and soft condensed matter (4 ECTS)                                                                | Advanced thermodynamics and phase transformations (3ECTS)<br>Molecular mobility and amorphous state of matter (3ECTS)                                                          |
| Specialized courses      | Drug product development and pharmaceutical technology I (3 ECTS)<br>Introduction to Pharmaceutical Materials Science (6 ECTS) | Materials science of drugs (4 ECTS)<br>Biophysical and materials science characterisation (4 ECTS)          | Drug product dev. and pharmaceutical tech. II (3ECTS)<br>Thermal analysis of drugs (3ECTS)<br>Advanced experimental and numerical characterization techniques of drugs (3ECTS) |
| Experimental tools       | Science projects in lab. Tutored trainings (3 ECTS)                                                                            | Large facilities: synchrotron and neutron sources (5 ECTS)                                                  | Advanced Spectroscopy of Molecular Systems (3ECTS)<br>Structural properties of matter : electron microscopy and diffraction (3 ECTS)                                           |
| Numerical tools          | Atomic scale modeling I – Classical methods (3 ECTS)<br>AI and advanced computations (3 ECTS)                                  | Machine learning with neural networks (4 ECTS)<br>Stochastic methods for optimization & simulation (4 ECTS) | Atomic scale modeling II – Quantum methods (3 ECTS)                                                                                                                            |
| Transferrable skills     | French/English language course (3 ECTS)<br>joint advanced winter course – Common with 1st / 2nd year students                  | Rosetta stone language course (4 ECTS)                                                                      | French/English language course (3 ECTS)<br>joint advanced winter course – Common with 1st / 2nd year students (3 ECTS)                                                         |

+ 1 short internship (1 to 2 months)  
(5ECTS)

# An alternative at University of Lille

## In case you don't want to move....



**BIOPHAM**

Bio & Pharmaceutical materials science  
EUROPEAN MASTER

**Track 1:  
Pharmaceutical  
Materials  
Science**

**TERM 1**

**TERM 2**

**TERM 3**

 **Université  
de Lille**



 **Université  
de Lille**

**Training  
100% shared**

**Training  
100% shared**

**“Local” Master at University of Lille (France)  
Advanced Physics of Pharmaceuticals (A2PM)**

 **Université  
de Lille**

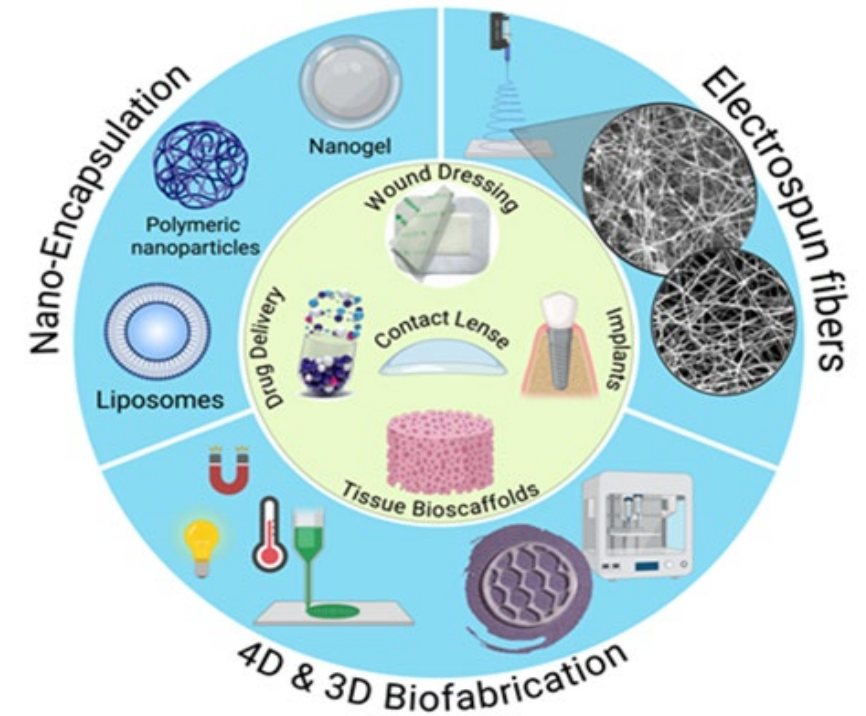
 **Université  
de Lille**

 **Université  
de Lille**

Track 2:  
Biomaterials for  
Pharmaceutical  
Applications



- Specialized training on the fundamental principles of **biomaterials**
- **Advanced (bio)fabrication techniques** (from macro-to-nanoscale), **modern analytical, structural and imaging techniques for characterization of biomaterials & Modelling techniques**
- Understand the **key properties of biomaterials** and their relevance to **biomedical applications**
- Explore the **applications in drug delivery, regenerative medicine, and pharmaceutical technologies**



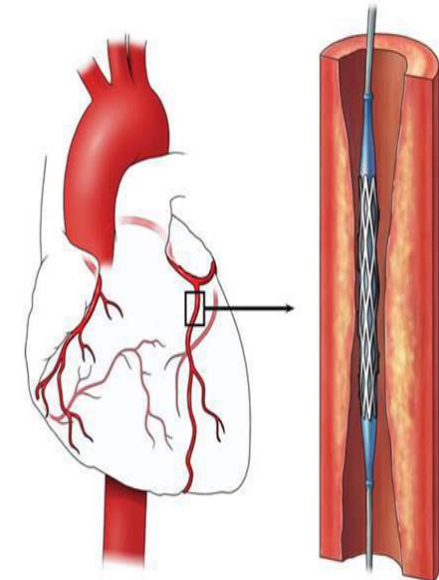
## Master's Degree in Materials and Nanotechnology

Departments: Physics, Chemistry, Information Engineering and Civil & Industrial Engineering  
Scuola Normale Superiore of Pisa



## Master of Engineering Physics

Department of Physics



## Tentative list of courses

| TRACK 2                        | Term 1<br>(University of Pisa, UNIPi, Italy)                                                                                                                                                                                                                 | Term 2<br>(Universitat Politècnica de Catalunya, UPC,<br>Spain)                                                   | Term 3<br>(University of Pisa, UNIPi, Italy)                                                                                                                                                                     |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Core<br>fundamental<br>courses | Quantum physics of matter (6 ECTS)<br>Solid state physics (6 ECTS)<br>Disordered and off-equilibrium systems (6 ECTS)<br>Polymer science and engineering (6 ECTS)<br>Transport phenomena in materials (6 ECTS)<br>Mechanical Behaviour of Materials (6 ECTS) | Molecular and soft condensed matter<br>(4 ECTS)                                                                   | Physics of Biosystems (6 ECTS)                                                                                                                                                                                   |
| Specialized<br>courses         | -                                                                                                                                                                                                                                                            | Materials science of drugs (4 ECTS)<br>Biophysical and materials science<br>characterisation (4 ECTS)             | Biomaterials for Pharmaceutical Applications<br>(6 ECTS)<br>Nanomedicine and Regenerative Medicine<br>(6 ECTS)                                                                                                   |
| Experimental<br>tools          | Surface physics (3 ECTS)<br>Introduction to optical spectroscopy for<br>pharmaceuticals (3 ECTS)                                                                                                                                                             | Large facilities: synchrotron and neutron<br>sources (5 ECTS)                                                     | Biofluids and materials interactions (3 ECTS)<br>Manufacturing of polymers and nanocomposites<br>for biomedical application (3 ECTS)<br>ssNMR spectroscopy in pharmaceutical and<br>biomaterial science (6 ECTS) |
| Numerical tools                | Computational materials science (6 ECTS)<br>Bioinformatics (6 ECTS)                                                                                                                                                                                          | Machine learning with neural networks<br>(4 ECTS)<br>Stochastic methods for optimization &<br>simulation (4 ECTS) | Multi-scale modelling in materials design(6 ECTS)<br>In Silico Models for drug-design techniques (6<br>ECTS)                                                                                                     |
| Transferrable<br>skills        | English for scientific writing and communication<br>(3 ECTS)<br>joint advanced winter course – Common with 1st<br>/ 2nd year students                                                                                                                        | Rosetta stone language course (4 ECTS)                                                                            | European Responsible Research and Innovation (6<br>ECTS)<br>joint advanced winter course – Common with 1st<br>/ 2nd year students (3 ECTS)                                                                       |

+ 1 short internship (1 to 2 months)  
(5ECTS)

**Track 3:  
Molecular  
Biophysics of  
Pharmaceuticals**



- Specialized training on the physical principles at the molecular level that govern the structure, dynamics, and interactions of biomolecules and biopharmaceuticals.
- Expertise in formulating solid forms using advanced drying techniques such as freeze-drying, spray-drying, supercritical fluid drying, and hot melt extrusion techniques.
- Solid understanding of materials science, including processes like freezing, thawing, interfacial stress, and interactions with specific solvents as well as a thorough understanding of rheological properties.
- Knowledge of stabilization mechanisms (e.g., glassy state formation, water replacement, and interfacial adsorption)
- Experimental techniques: microcalorimetry, infrared spectroscopy, and Raman scattering.
- Numerical techniques: Stochastic dynamics, Machine learning and data-driven techniques



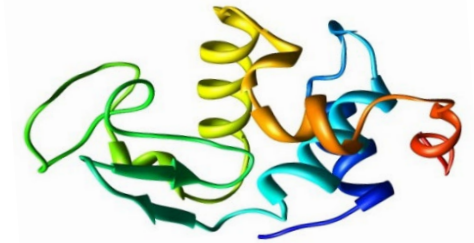
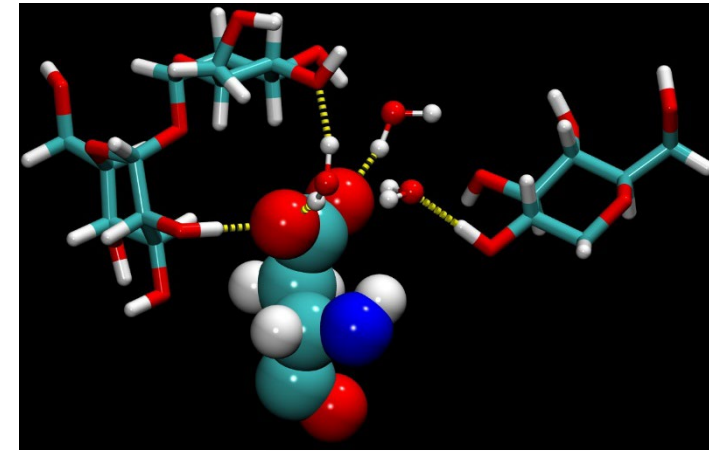
**Master (Field: “biophysics”)**

Institute of Physics, Faculty of Science and Technology



**Master's Degree in Materials and Nanotechnology**

Departments: Physics, Chemistry, Information Engineering and Civil & Industrial Engineering  
Scuola Normale Superiore of Pisa



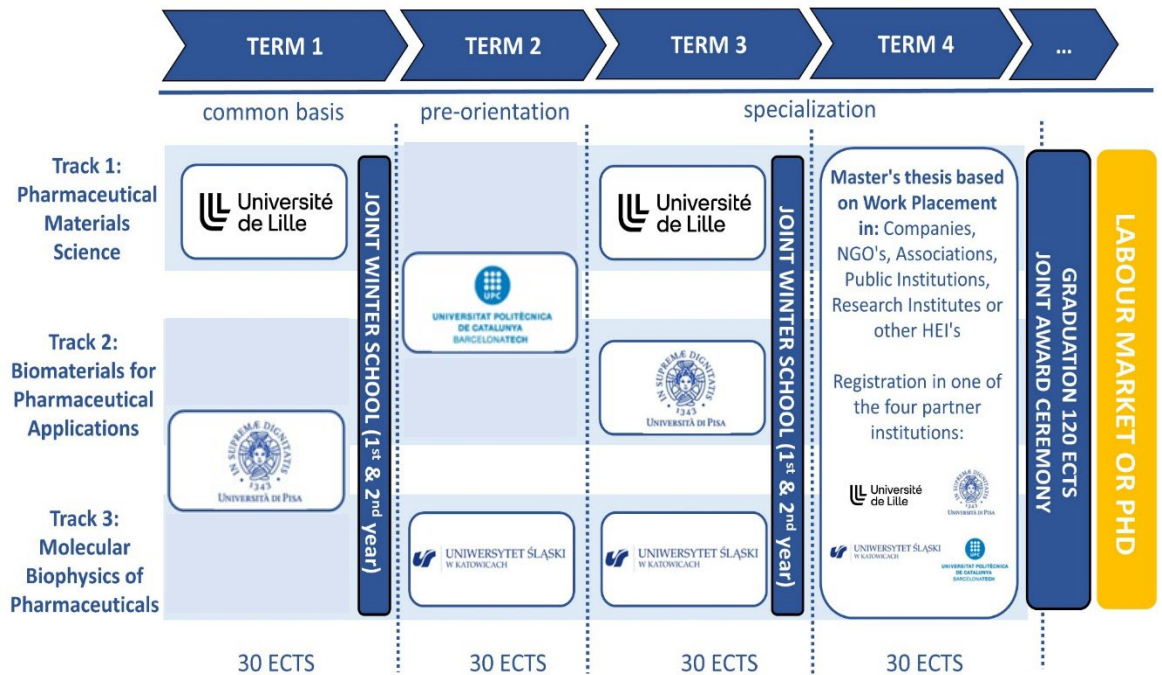
## Tentative list of courses

| TRACK 3                  | Term 1<br>(University of Pisa, UNIPI, Italy)                                                                                                                                                                                                                 | Term 2<br>(University of Silesia in Katowice, USK, Poland)                                                    | Term 3<br>(University of Silesia in Katowice, USK, Poland)                                                                                                                                              |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Core fundamental courses | Quantum physics of matter (6 ECTS)<br>Solid state physics (6 ECTS)<br>Disordered and off-equilibrium systems (6 ECTS)<br>Polymer science and engineering (6 ECTS)<br>Transport phenomena in materials (6 ECTS)<br>Mechanical Behaviour of Materials (6 ECTS) | Soft matter physics (3 ECTS)                                                                                  | -                                                                                                                                                                                                       |
| Specialized courses      | -                                                                                                                                                                                                                                                            | Molecular biophysics with elements of computer modelling (5 ECTS)<br>Pharmacology and drug discovery (4 ECTS) | Animal models in contemporary pharmacy (4 ECTS)<br>Polymers and biopolymers for pharmaceutical applications (4 ECTS)<br>Hot-melt extrusion: from theory to application in drug formulation (3 ECTS)     |
| Experimental tools       | Surface physics (3 ECTS)<br>Introduction to optical spectroscopy for pharmaceuticals (3 ECTS)                                                                                                                                                                | Scattering techniques for structural investigation (3 ECTS)<br>Specialized laboratory (4 ECTS)                | Specialized laboratory (5 ECTS)<br>Dielectric spectroscopy in the study of dynamics of biological systems (3 ECTS)<br>Application of vibrational spectroscopy in therapeutic substance studies (4 ECTS) |
| Numerical tools          | Computational materials science (6 ECTS)<br>Bioinformatics (6 ECTS)                                                                                                                                                                                          | Stochastic dynamics of systems in molecular biology (3 ECTS)                                                  | Machine learning and data-driven techniques with applications in bioscience (4 ECTS)                                                                                                                    |
| Transferrable skills     | English for scientific writing and communication (3 ECTS)<br>joint advanced winter course – Common with 1st / 2nd year students                                                                                                                              | Polish/English Language course (3 ECTS)                                                                       | Subject in the field of humanities (3 ECTS)<br>Entrepreneurship and intellectual property management (3 ECTS)<br>joint advanced winter course – Common with 1st / 2nd year students (3 ECTS)            |

+ 1 short internship (1 to 2 months)  
(5ECTS)

# 1 Master → 2 to 3 degrees 😊

Students obtain the degree from all visited universities (Term 1 to 4)



| Name of institution                                 | Title of degree awarded in English                                                                                                                     |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| University of Lille (ULille)<br>FRANCE              | Master of Sciences, Technologies, and Health, specialization in Fundamental Physics and Applications – Track: Bio and Pharmaceutical Materials Science |
| University of Pisa (UNIPi)<br>ITALY                 | Master Degree in Materials and Nanotechnology                                                                                                          |
| University of Silesia in Katowice (USK)<br>POLAND   | Master (Field: “biophysics”)                                                                                                                           |
| Universitat Politècnica de Catalunya (UPC)<br>SPAIN | Erasmus Mundus Master in Bio and Pharmaceutical Materials Science (BIOPHAM)                                                                            |

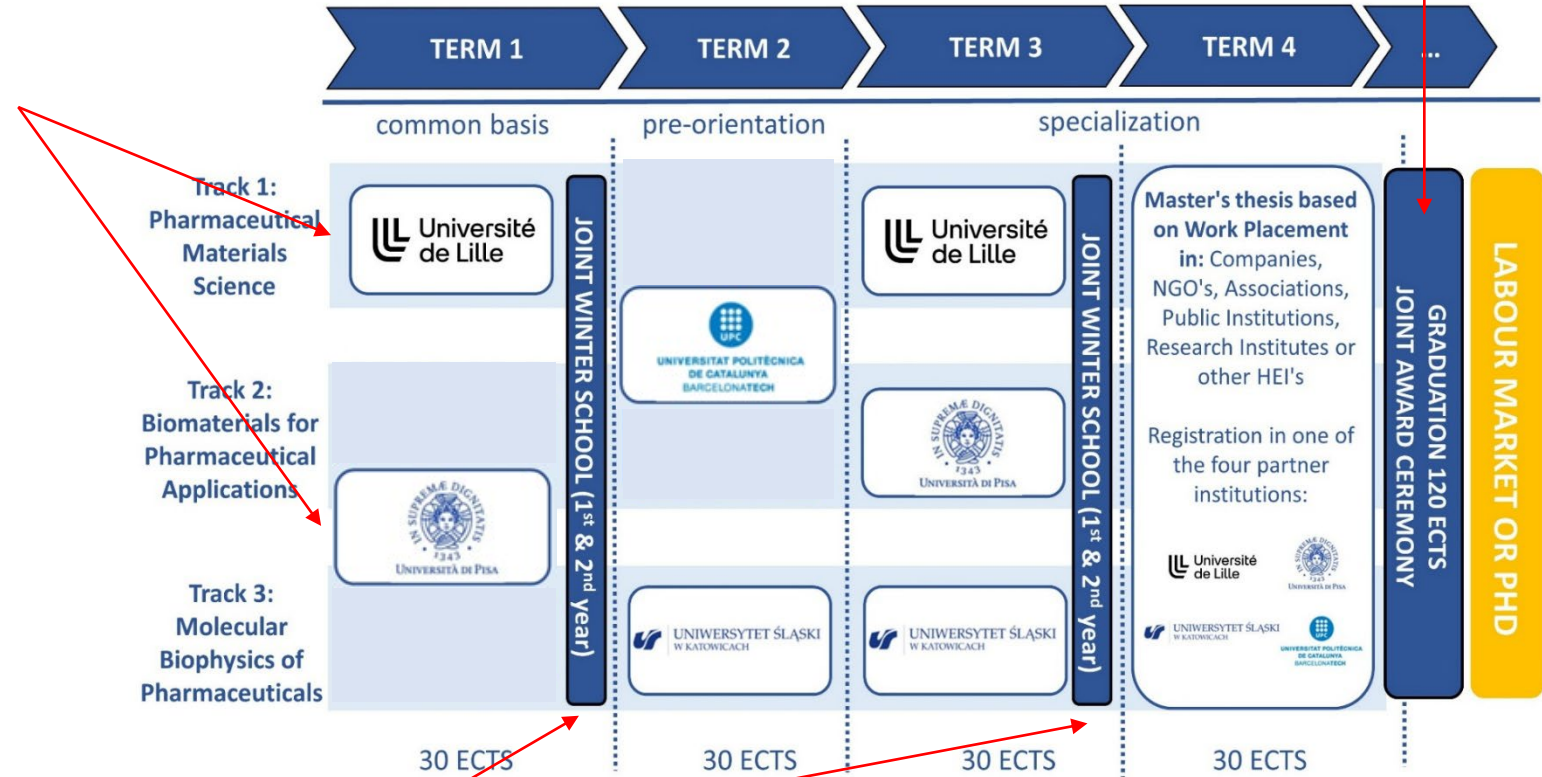
**+ joint diploma supplement:** Providing detailed information about the student’s academic programme and achievements

# Mobility scheme & events

**Integration event (2 days) for newly recruited students organized in Pisa (Italy) and in Lille (France) in September each year**

- Welcome the new students
- Salutation of authorities/directors
- Round table presentation
- Testimonies of Alumni
- Students' Questions & Discussion
- Welcome to Pisa/Lille (customs and traditions)
- Presentation of the courses/tracks
- Lunch/Dinner
- Integration activities (treasure hunt, guided visit,...)

**Graduation ceremony organized either in Katowice (Poland), Barcelona (Spain), Pisa (Italy) or Lille (France)**



**Joint winter schools for both 1st and 2nd students Organized alternatively in Pisa (Italy) and in Lille (France) in January each year**

**Focus on topics not taught in class during the semester**  
 Scientific presentations (research in academia/industry)  
 + Ethics, Deontology and Scientific Integrity, , Entrepreneurship, Innovation  
 Pathways for Researchers, open science & FAIR data management,  
 Intellectual Property Protection, technology transfer, start-up creation,...

# What support BIOPHAM can offer to students ?

| Types of Support                                                                                                                               | Fully funded student                | Partially funded student            |
|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|
| Scholarship €1400 / month during the 2 years of the training programme                                                                         | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Registration fees covered in all visited universities                                                                                          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Health insurance covered during the 2 years of the training programme                                                                          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Financial support to attend events (winter school, award ceremony) during the 2 years of the training programme                                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Financial support for special needs for all students with disabilities or sensory impairments can be provided. [€3,000 to €60,000] per student | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

*Financial support for special needs* : Contribution to cover the individual needs of students with disabilities (e.g. long-term physical, mental, intellectual, or sensory impairments): assistance such as by third persons, adaptation of work environment, or additional travel/transportation costs...

# Number of available supports

Number of supports  
for fully funded  
students  
(with scholarship)

**50**

- 12: EU Member States + Third countries associated: Iceland, Liechtenstein, Norway, Republic of North Macedonia, Serbia, Turkey
- 38: Third countries not associated (all other countries)

Number of supports  
for partially funded  
students  
(no scholarship)

**30**

- 20: EU Member States + Third countries associated: Iceland, Liechtenstein, Norway, Republic of North Macedonia, Serbia, Turkey
- 10 Third countries not associated (all other countries)

**50 + 30 = 80 → About 20 students to be recruited / cohort**

# In case you do not get a scholarship

**Students can apply for a financial support through national and regional grants in the consortium countries where they plan to study**

***University of Lille (France):*** International students enrolled in a Master's track at the University of Lille **may qualify for a scholarship of €3,500 from the Graduate Programme, covering one academic year.** For foreign students enrolling for the first time in a French university, this can be supplemented by a **one-time relocation grant of €3,500. The scholarship is renewable for one additional year.** Furthermore, students completing their Master's thesis internship in France are eligible for a monthly grant of approximately €700/month. With special arrangements, on-campus accommodation is offered at very affordable rates (less than €250 per month in Lille), providing an additional incentive for attracting students. **In France, the long internships (Master's theses) are also paid about €700/month during 4 to 6 months.**

***University of Pisa (Italy):*** The Department offers specific funding to support outgoing mobility for students enrolled in Master's programs. This funding supports internships conducted abroad in research centres, universities, or high-tech companies, with **a fellowship amount of approximately €400 per month.** For incoming mobility, the University of Pisa provides individual programs for visiting students, funded by departmental-specific resources. Additional resources for mobility can be obtained from Erasmus+ Mobility.

***Universitat Politècnica de Catalunya (Spain):*** The Catalan Government (Generalitat de Catalunya) offers grants ("beques MOBINT-MIF") intended to cover part of the mobility costs of students from Catalan universities selected for international academic mobility schemes. **This grant with a fellowship amount of approximately €200 per month for a period up to six months, helps pay part of the costs of studying in other countries during the course of a degree.** In particular, one of three available modalities (modality A) covers (part of) the cost associated to taking part in exchange programs with academic recognition, that are carried out in the countries that participate in the context of the Erasmus+ Programme.

***University of Silesia in Katowice (Poland):*** The University regularly receives funding from the National Agency for Academic Exchange (NAWA) to organize an international summer school, which BIOPHAM students can attend. Eligible participants receive a scholarship of around PLN 5,000. Students can also secure additional funding by joining research projects at the Faculty of Science and Technology, supported by the National Science Center (NCN), **with scholarships up to PLN 5,000 per month.** Through the Transform4Europe (T4I) initiative, students have access to international courses, mobility programs, and collaborative events

## What are your chances ?

| INTAKE          | Number of applications received | Number of students recruited | % success |
|-----------------|---------------------------------|------------------------------|-----------|
| 1 [2021 – 2023] | 188                             | 15                           | 8 %       |
| 2 [2022 – 2024] | 200                             | 26                           | 13 %      |
| 3 [2023 – 2025] | 380                             | 25                           | 7 %       |
| 4 [2024 – 2026] | 415                             | 21                           | 5 %       |

**Average age**  
 Intake 1 → 23.4  
 Intake 2 → 23.9  
 Intake 3 → 24  
 Intake 4 → 23.6

**Gender ratio Male/Female (%)**  
 Intake 1 → 52/48  
 Intake 2 → 46/54  
 Intake 3 → 40/60  
 Intake 4 → 35/65

|                 |   |                                                           |   |
|-----------------|---|-----------------------------------------------------------|---|
| 5 [2026 – 2028] | ? | About 20:<br>12 with scholarship<br>8 with no scholarship | ? |
|-----------------|---|-----------------------------------------------------------|---|

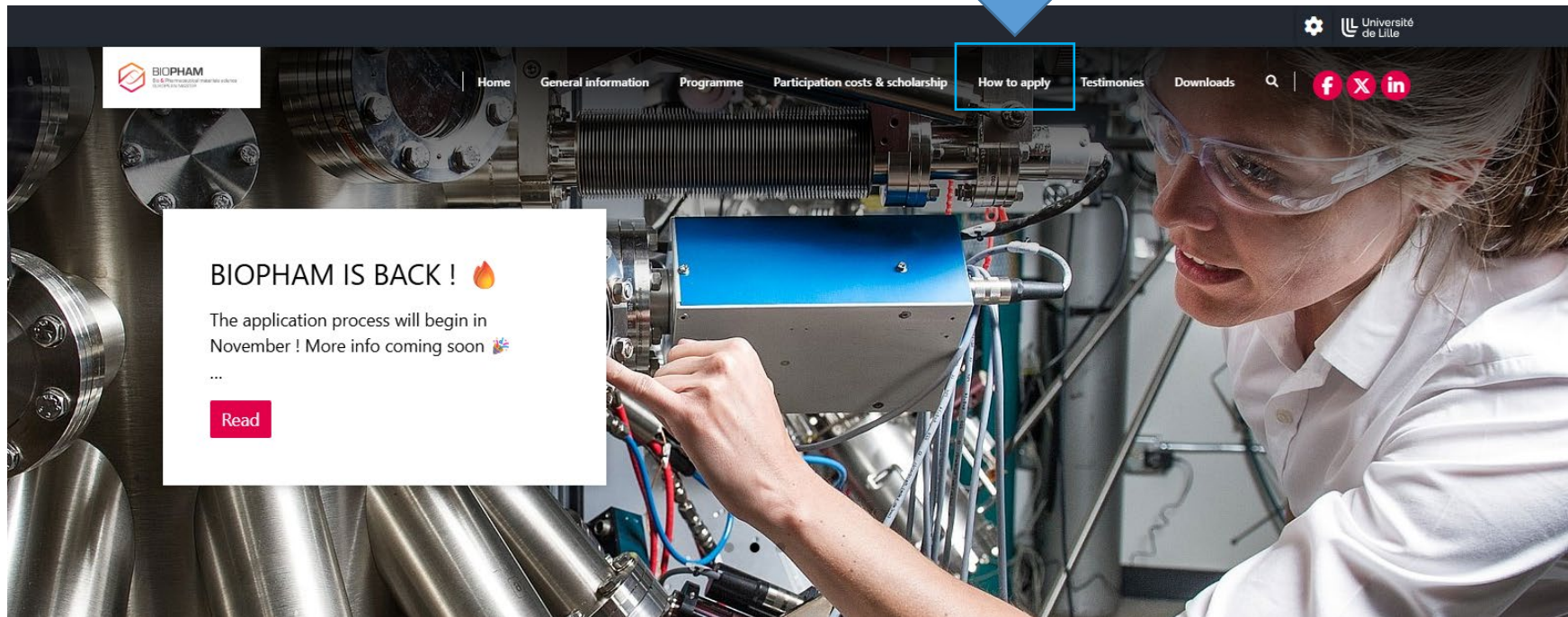
**To get a scholarship: very (very) competitive !**

**To join without scholarship: you just need to be a « good student » !**

# HOW TO APPLY TO BIOPHAM ?

<https://www.master-biopham.eu>

Click here !



# IMPORTANT DATES

## 2 Calls for admission in Cohort 5 starting in September 2026

### **Call 1: Fully funded (with scholarship) and partially funded (no scholarship)**

- Opening: November 1st 2025 (10:00 Brussels time)
- Deadline for electronic submission: February 1st 2026 (23:59 Brussels time)
- Interviews : March 2026
- Admission decision: Beginning of April 2026

### **Call 2: Partially funded (no scholarship)**

- Opening: April 9th 2026 (10:00 Brussels time)
- Deadline for electronic submission: May 9th 2026 (23:59 Brussels time)
- Interviews : May 2026
- Admission decision: Beginning of June 2026

**Do not apply late !**

**50% of applications submitted the day of the deadline are rejected because some documents (CV, transcripts, motivations or recommendation letters,...) are missing 😞**

# Selection process (1)

## Step 1 – Online application

The students submit their application online: personal details, previous academic results, academic background, CV, motivation & recommendation letters and other compulsory administrative documents.

**Eligibility check is made:** to ensure that the minimum requirements are met and that all requested information and documents have been correctly provided and are valid.

## Step 2 – Evaluation based on the electronic applications

**Each application is evaluated four times:** one evaluator from each partner Universities (University of Pisa, Polytechnic University of Catalunya, University of Silesia in Katowice and University of Lille).

**Criteria:** results obtained in the previous academic education of the applicant, the academic background, the CV, the quality of the university of origin and the motivation and recommendation letters.

**Evaluators' assessments → first ranking list**

## Step 3 – Interview and Admission

**Online oral interview with the best ranked applicants at step 2** and a panel of evaluators.

This online interview will serve to assess :

- level of English of the student
- motivation
- overall level in physics, chemistry and mathematics

**Evaluators' assessments → final ranking list**

## Selection process (2)

This final list is divided into three sets:

- **Main List– Scholarship holders** : Best ranked successful applicants who are offered to join the program with an Erasmus Mundus Joint Master (EMJM) scholarship.
- **Reserve List – Non-scholarship holders** : Best ranked students on the Reserve list who are offered to join the program without scholarships but with a Tuition and Registration fee waiver, Comprehensive health insurance and Financial support to attend key events (winter school, award ceremony). Time is left for these applicants whether to decide to join as Non-scholarship holders students, or to benefit for potential drop-out from Main List applicants.
- **Non-Selected List:** applicants who will not be admitted to the program.

## Admission criteria

Applicants should have or should be in process to get a Bachelor degree (or equivalent) at the time of the application.

### Eligible topics

- **Physics** (including Fundamental physics, Engineering physics, Physics-Chemistry, Biophysics)
- **Materials Science** (including Materials science & Engineering, Metallurgy and Materials Engineering, Metallurgical Engineering, Materials Science & Materials Technologies, Polymer Materials and Engineering )
- **Chemistry** (including Chemical Engineering, Chemistry and Food Technology)
- **Biomedical Engineering & Bioengineering**
- **Nanotechnology**, Nanotechnology Engineering, Nano-engineering, Nanoscience

The applicants should prove good academic performance during their Bachelor's studies and should possess **adequate knowledge in fundamental subjects (Physics, Mathematics)**, which will be assessed by the Selection Committee during the selection procedure.

### Non eligible topics

|                                     |                                         |
|-------------------------------------|-----------------------------------------|
| Biochemistry                        | Medicinal chemistry                     |
| Bioinformatics                      | Microbiology                            |
| Biological Pharmaceutical Chemistry | Molecular Biology                       |
| Biomedical Technology               | Nutrition and Dietetics                 |
| Biology                             | Pharmaceutical and Health Sciences      |
| Biotechnology                       | Pharmaceutical manufacturing technology |
| Botany                              | Pharmaceutical Sciences                 |
| Dental Surgery                      | Pharmacy                                |
| Health Science Nursing              | Reproductive health                     |
| Industrial Bioprocesses Engineering | Surgery                                 |
| Medicine                            | Textile Engineering                     |
| Medical technology                  | Zoology                                 |



# BIOPHAM

Bio & Pharmaceutical materials science  
EUROPEAN MASTER

**ALL DETAILED INFORMATION (including this presentation)  
WILL BE FOUND SOON ON THE BIOPHAM WEBSITE  
(still under construction)**

**<http://master-biopham.eu>**

**CONTACT OUR PROJECT OFFICER (Farhane) :**

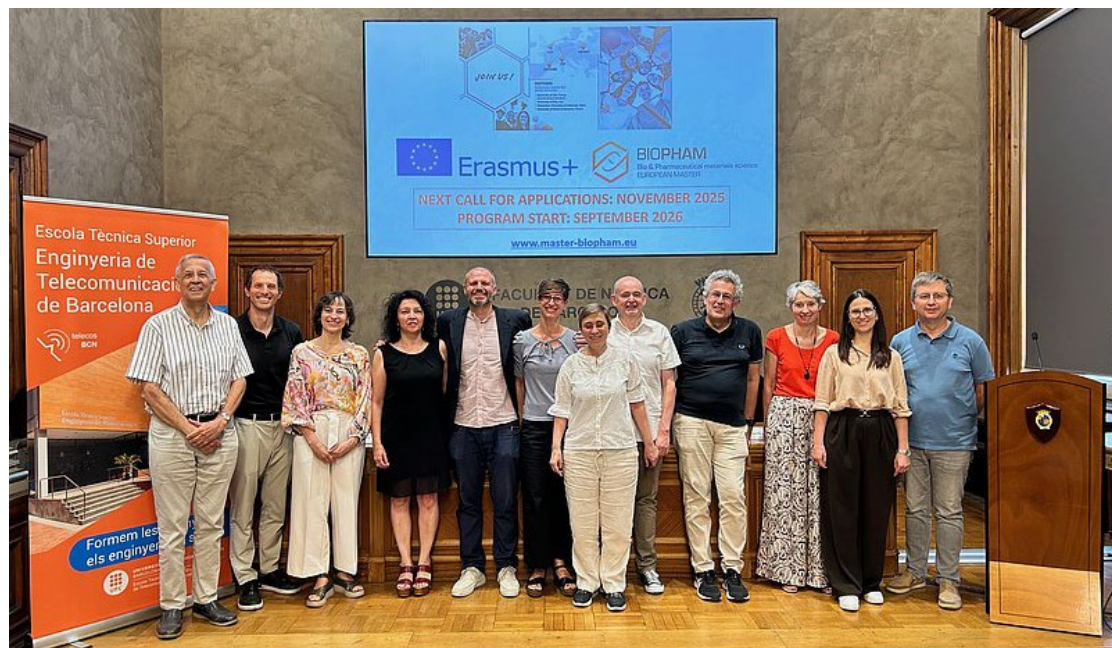
**[master-biopham@univ-lille.fr](mailto:master-biopham@univ-lille.fr)**

**JOIN US !  
We are waiting  
for you !**



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**THANK YOU**



**QUESTIONS ?**