

Student-company projects



École européenne d'ingénieurs en **chimie, polymères et matériaux**
Université de Strasbourg



Industrial innovation at the heart of the curriculum

Every year, more than 200 students could provide their scientific expertise, project management skills and creativity for your R&D projects.



INDUSTRY TESTIMONIALS

Carole Braley,
(development engineer)
ST GOBAIN

« Entrusting projects to students who work on an outsourced basis is a significant time saver for the company (compared to integrating an intern). The managerial and scientific tutoring provided by ECPM allows us to be relieved of some of the work of supervising the students. »

Grégory Smauch,
(cooking research)
RATIONAL

« Rational's interest in calling on ECPM students is to entrust our subjects to people with a 4-year degree who will take a fresh look at them and who have all the necessary background to understand a wide variety of subjects. »

AN INDUSTRY CONNECTED SCHOOL

We intend to build a wide and deep interaction with companies.

The purpose of the school is to educate trilingual chemical engineers with a robust scientific and technological background in the area of advanced materials, health, environment, sustainable development and energy.

CURRICULUM

ECPM school awards two masters of science in chemistry:

- ♦ **Chemical engineering MSc** with 4 majors: analytical chemistry, molecular chemistry, polymer chemistry, functional materials & nanoscience.
- ♦ **Chembiotech MSc** (Chemistry & biotechnology) with 2 core sections: health, environment (in partnership with ESBS, a Biotechnology engineering school).

INDUSTRIAL PARTNERSHIPS

In order to support company's R&D projects, we have built up a broad and comprehensive collaboration offer based on the know-how of our student-engineers and academic researchers:

- 5 student-company projects of level Bac+4 and Bac+5
- 3 internships from 2 to 6 months and from bachelor to master level
- Material characterization services using the Chemlab platform
- Collaborative research projects with one of our 5 academic research labs.

Find more information about opportunities to collaborate on ecpm.unistra.fr

STUDENT-COMPANY PROJECTS

INDUSTRIAL MISSIONS

With Chemistry and ChemBiotech Curriculum (Bac+4 level) students

Find innovative solutions to an industrial problem.

The industrial mission is a problem-solving pedagogical exercise run by a student team of 6 to 8 engineering students, including a project manager. Your team will analyze your technical issue, define a work plan, make a bibliographical study, draft specifications, search and select the most suitable concepts and study their technical and economic feasibility. The issues can concern all the departments of your company: production, quality control, research, development, sales, maintenance...

All of this work, which gives priority to a multidisciplinary approach, is done in close collaboration with your teams. Regular meetings are organised at the ECPM, at your office or remotely.

PROJECT COMPLETION

Period: from mid-September to mid March (6 months)

Working hours: 450 to 500 hours

RESEARCH MICROPROJECTS

With Chemistry curriculum (Bac+5 level) students

A bibliographical summary of latest developments of a scientific issue.

A group of 2 to 3 students monitor technological developments, analyse patents, benchmark innovative processes and draw research mappings on a scientific subject to demonstrate the unexplored, explored or even developed alternatives. Using exhaustive analyses of publications, research plans may be drafted to launch your own developments. Each group could be made up of students from one or two majors of our Chemical engineering MSc.

The work could be completed by a 6 month end-of-studies internship carried out by one of the team members.

PROJECT COMPLETION

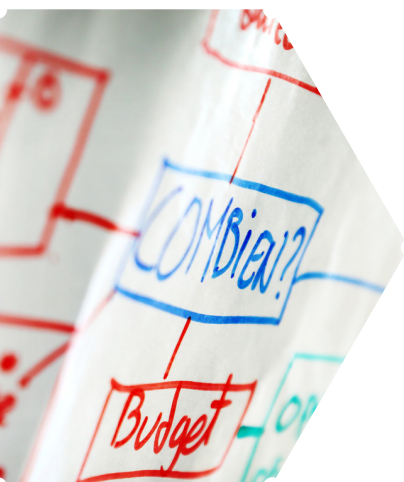
Period: from the beginning of September to mid-January (4 months)

Working hours:
120 hours to 180 hours

SUPERVISION

All teams are supervised and coached by:

- your enterprise regarding technical aspects
- a university professor/researcher regarding scientific aspects
- a professional regarding managerial aspects





PROFESSIONAL TESTIMONIAL

Gwenaëlle CADO, (R&D engineer)

ACGB

« As an alumni, I regularly receive information about student-company projects. We wish to choose a new material for liquid natural gas tank. So I thought this could be the subject of a industrial mission. Knowing the content of the training at. As I know that ECPM students were trained in the selection of materials and the design of innovative solutions. The subject was difficult, but they knew we to make proposals that we have comforted in some directions. I don't know yet. which solution will be chosen but I'm satisfied with the work that's been done. »

Olivier ALBENGE,
(technological watch manager)

BIC

« We're always looking for students with a scientific open minded, i.e. the ability to look into all technical domains and especially the ability to think outside the box, to understand news technologies they haven't seen before. When carrying out an ECPM microproject for research, students have already had industrial experience and therefore know how to combine fundamental research with the reality of the industrial environment. And this is exactly what we intended by giving a subject for a microproject research project to ECPM. »

SOME EXAMPLES OF ISSUES

INDUSTRIAL MISSIONS (BAC+4 LEVEL)

- Definition of a method for chemical product moisture measurement
- Selection of ultrafiltration systems for a labs use
- Benchmarking and selection of recycling methods for chemical compounds (plastics, solvents, metallurgical waste)
- Definition of a dosing procedure in an industrial project and selection of the appropriate equipment
- Study of a traceability system of raw materials in production
- Selection of coating products to enhance the characteristics of fabrics
- Design of electrolytic deposition equipment
- Selection of materials to optimize the weight / resistance ratio of an object
- Search and selection of technical solutions to dose and disperse solids into polymer compound
- Bibliographical study of bacterial degradability of a material.

RESEARCH MICROPROJECTS (BAC+5 LEVEL)

- Definition of a method for measuring levels of active molecules in a packaging
- Selection of organic molecule grafting methods onto silica
- Selection of natural compounds by their specific properties
- Mapping of catalys support to improve a synthesis pathway
- Selection of a method for separating and concentrating a high value-added compound
- State of the art on bio-based and Biodegradable polymers and their polymerization processes
- Search for ways of recovering waste or by-products of manufacturing processes
- Modifying a synthetic pathway by following green chemistry principles
- Comparative analysis of coating techniques for glass
- Research and select conductive nanoparticles for painting application
- State of the art on organic/inorganic hybrid Photovoltaic systems
- Light-curable ceramic dispersion for use in additive manufacture.

CALENDAR

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	
INDUSTRIAL MISSIONS		STUDENTS TEAM UNDERTAKING THEIR PROJECT						SUBJECTS SUBMISSIONS					
RESEARCH MICROPROJECTS		STUDENTS TEAM UNDERTAKING THEIR PROJECT								SUBJECTS SUBMISSIONS			

CONTACT

INDUSTRIAL MISSIONS

Patrick Filizian
patrick.filizian@unistra.fr
Phone +33 3 68 85 26 06
Mob. +33 6 37 791 480

RESEARCH MICROPROJECTS

Scientific Manager
Nathalie Viart
nathalie.viart@ipcms.unistra.fr
Phone +33 3 88 10 71 29

Administrative Manager

Méridith Gassmann
mgassmann@unistra.fr
Phone +33 3 68 85 27 94

**EUROPEAN SCHOOL OF
CHEMISTRY, POLYMERS AND
MATERIALS**

25 RUE BECQUEREL
FR-67087 STRASBOURG CEDEX 2
FRANCE

ecpm.unistra.fr

