Managed by groups of 2 to 3 students from several specializations of the engineering cycle, microprojects of research introduce students to technical and scientific challenges in the form of bibliographical research.

The 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.

All of this work is done in close collaboration with your team. Regular meetings are organised remotely, at the ECPM or at your office.

The students are given the possibility to attend additional supervision sessions focused on bibliometrics, patent research and communication (presentation of the project and results).

*Practical work (chemical formulation, analysis…) cannot be carried out by the students during the microproject.*

**Examples of issues**

Definition of a method for measuring the levels of active molecules in packaging

Selection of methods for grafting organic molecules onto silica

Selection of extraction and concentration processes for a high added value compound

Mapping of ligands used for chemical synthesis

Selection of biosourced compounds for specific cosmetic and pharmaceutical applications

Mapping of catalysts and their supports to improve a synthesis pathway

State of the art on biosourced and/or biodegradable polymers and their polymerization processes

Design of manufacturing processes to improve foam properties

Research of methods to recover waste or production by-products

Application of green chemistry principles to improve a specific synthesis pathway

Comparative analysis of glass substrate coating techniques

Research and selection of conductive nanoparticles for paints

State of the art of organic/inorganic hybrid photovoltaic systems

Photopolymerisable ceramic suspension for additive manufacturing

**Time period**: from September to mid-January

**Duration**: 120 to 180 work hours (60h/student), including collaborative work sessions

**Supervision**

* technical by your team
* scientific supervision by a university professor/researcher
* managerial supervision by a professional

**Assessment**: written report and oral presentation

**Participation to costs**: A fee of **990 €** (exempted from VAT) is requested for the microproject of research (including supervision, travel expenses, use of software, access to bibliographical databases, etc.).

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| **YOUR ISSUE | 2021** |  |
| **Subject title** |  |
| **Major focus**  **□** Technological benchmark  **□** Selection of concepts/technologies  **□** Mapping of scientific knowledge  **□** Patent analysis | **Major scientific area covered**  **□** Analytical chemistry  **□** Organic chemistry  **□** Material Science  **□** Polymers |
| **Brief description** |  |
|  | |
| **Coordinates** | |
| Company name |  |
| Address |  |
| Postcode |  |
| City |  |
| Your name |  |
| Your position |  |
| Tel. |  |
| Email |  |

Date

Signature

**Please send this form until June 15 to Caroline Schmitt (caroline.schmitt@unistra.fr)**