

Internship offer - M2 / Engineering student

Polymers derived from micro-algae: potential building blocks for the preparation of biomaterials

Location: CarbonWorks (located in Libourne, France, approximately 20 % of the time) and the Center for Materials Forming (CEMEF) of MINES Paris - PSL (located in Sophia Antipolis, France, approximately 80 % of the time).

Starting date: Autumn 2026 for a period of 6 months.

Scientific background and objectives: Biomaterials made from natural polymers present several advantages over synthetic biomaterials, including intrinsic biocompatibility and reduced environmental impact. Micro-algae have emerged as an attractive source of natural polymers thanks to their rapid growth, environmental adaptability and bioactive properties. The goal of this internship is the preparation of biomaterials using polymeric building blocks extracted from micro-algae. The selected intern will initially work at CarbonWorks for a short period to extract polymers from micro-algae. Subsequently, the extracted polymers will be characterized at CEMEF (e.g. molecular weight, chemical composition, ...). Efforts will then be made to transform the bio-based polymers into materials with potential biomedical use at CEMEF. The obtained biomaterials will be characterized for e.g. biomedical and material properties at CEMEF.

Entrusted activities: The intern will actively participate in the experimental and analytical part of the project:

- Conduct literature reviews to support experimental planning and contextual understanding of biomaterials made from polymers derived from micro-algae
- Gain hands-on experience in the extraction of polymers from micro-algae
- Gain hands-on experience in characterization techniques relevant to polymers and polymeric materials
- Data analysis and interpretation
- Develop and document experimental protocols for the preparation of bio-based biomaterials

Desired profile: Master student (M2), ideally with wet lab experience and a background in materials science, polymers as well as biomedical applications; fluent in English; highly motivated; pro-active

Remuneration: Internship stipend, approximately € 700/month

Application: Please send your CV, a cover letter, and a list of your study grades to Dr. Sijtze Buwalda: sijtze.buwalda@minesparis.psl.eu