

Maria Brió Pérez

Address: Friesestraat 81, 3812EB Amersfoort, the Netherlands

Email: maria.brioperez@gmail.com

Tel. Nr.: +31 651610284

Birth date: 17-11-1994

Nationality: ES



Profile

Multidisciplinary Chemical Engineer with 5 years of experience in polymer chemistry and materials engineering. Expertise in the development of innovative and sustainable materials, including environmentally responsive materials and recyclable coatings for industrial and biomedical applications. Experienced in project management, mentoring and guiding research projects, I combine technical proficiency with creative problem-solving skills. Eager to apply my expertise in a high-tech industry setting, I am committed to driving forward cutting-edge solutions and advancing technical excellence.

Professional experience

02-2020/03-2024

PhD candidate

University of Twente, Enschede, the Netherlands

Developed stimuli-responsive coatings for capture and release systems, switchable adhesives, sensing platforms and (bio)-degradable antifouling coatings. Designed experiments, synthesised and characterized materials, including degradation and reusability assessments. Authored articles and proposals, together with posters and scientific presentations. Enhanced project management skills by coordinating cross-disciplinary research projects, complemented by a Green Belt in Lean Management.

03-2023/06-2023

Research Fellowship

Kansai University, Suita, Osaka, Japan

Initiated and led a collaborative research project on anti-biofouling and degradable polymer coatings. Developed antibacterial and protein-repellent polymer brush coatings for medical applications. Utilised Japanese language skills to enhance international collaborations.

02-2019/05-2019

Research Trainee

Saxion University of Applied Sciences, Enschede, the Netherlands

Designed and developed sensing layers in photonic chips for electronic nose applications for early detection of food spoilage. Project was recognised with the Holland High Tech Technology award (2019) and mentored students whose subsequent research received the Holland Chemistry Student award (2nd place, 2019).

02-2017/02-2018

Research Trainee

University of Twente, Enschede, the Netherlands

Conducted a comparative study on solid and needle-free injectors for medical purposes during a graduate internship, contributing to a project that was recognized as the Best Tech Idea of 2017 by Kijk magazine.

04-2016/12-2016

Research Intern

LEITAT, Technological Center, Terrassa and Barcelona, Spain

Engaged in a double internship for undergraduate students. First within the Fast Moving Consumer Goods Department, performing laboratory essays related to detergent formulation and testing. Subsequently, contributed to the MIDES project (microbial desalination for low-energy drinking water) within the Nanomaterials Department.

Education

02-2018/12-2019

MSc. Chemical Engineering, Molecular and Materials Engineering specialization

University of Twente, Enschede, the Netherlands

Specialization courses in organic and supramolecular chemistry, inorganic and organic materials and polymer chemistry. Additional courses in the fields of sensors and functional coatings, with in a thesis focused on the degrafting of polymer brushes by exposure to humid air.

09-2012/01-2017

BSc. Chemical Engineering

University of Barcelona, Spain

Developed a strong foundation in chemical engineering principles. Completed a thesis on needle-free injectors for medical purposes. Conducted physico-chemical characterization of permanent makeup and tattoo inks.

Languages

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|-----------|----------------|------------|----------------------|
| • Spanish | Native | • Dutch | A2-B1 level, ongoing |
| • Catalan | Native | • Japanese | A2 level (N5) |
| • English | C1 proficiency | | |

Skills

- Technical expertise: Polymer synthesis, experimental design and characterization (SE, AFM, QCM, NMR, GPC, XPS, FTIR, OM). Experience with sustainable materials and biodegradable polymers.
- Understanding of physical and chemical characteristics of biomass feedstocks and intermediates.
- Project Management: Coordinating cross-disciplinary projects, Lean Management (Green Belt certification), mentoring and guiding research projects.
- Software: Matlab, L^AT_EX, Adobe Illustrator, ImageJ, Microsoft Office.
- Driver's license: type B.

Publications

(Co-)author of 9 journal articles on subject of polymer coatings.

Links

(Digital version only)

