Postdoctoral Researcher in Organic and Materials Chemistry

The Tecilla and the Gobbo Research Groups at the Department of Chemical and Pharmaceutical Sciences of the University of Trieste (Italy) are looking for a motivated and enthusiastic researcher, with excellent organizational and communication skills. The successful candidate will hold (or be working towards) a **PhD in Chemistry or Materials Science** (or equivalent professional qualification/experience) and have at least **3 publications in peer reviewed journals** in the Chemistry/Material Science field.

Project overview: The project, funded by the Italian Ministry of University and Research, aims to explore a chemical bottom-up approach to the preparation of innovative multifunctional materials spanning in dimensions across the mesoscale (20 nm - 100 μm) and able to selectively localise the target bacteria strain, signal their presence, and locally release the antibiotic. To achieve this ambitious and crossdisciplinary objective the project is based on a collaboration between the Department of Chemical and Pharmaceutical Sciences of the University of Trieste, the Department of Chemistry of the University of Parma, and the Department of Biotechnologies and Biosciences of the University of Milano-Bicocca.

Main job purpose: Within this crossdisciplinary project, the postdoctoral researcher will develop a methodology based on reversible addition-fragmentation chain-transfer polymerisation – polymerisation-induced self-assembly (RAFT-PISA) to synthesize novel nanomaterials carrying on their surface monovalent or multivalent ligands.

Responsibilities of the researcher:

- Undertake research into the design and multi-step synthesis of functional molecules and polymers.
- Develop experimental methodologies to fabricate novel polymeric nanomaterials.
- Develop experimental methodologies to characterise the polymeric nanomaterials.
- Write reports and contributing towards the drafting of scientific papers, including collating supporting information. Scientific communication through presentation of results in group meetings, school-wide research seminars and at scientific conferences. Maintaining an up-to-date knowledge of relevant literature related to the research project.
- Accurate recording and interpretation of experimental results. Regular submission of written reports on experimental results.
- Co-ordination of their own work and day-to-day research activities. Active engagement with the planning and development of the research project and with other research programmes in the group.
- Conduct all necessary administrative tasks associated with the successful progress of the research project (accurate data recording, written reports, papers, conference papers and presentations, up-to-date literature knowledge) and with the smooth running of the research group (ordering consumables and chemicals, laboratory cleaning, actively engaging in research meetings etc.).
- Contribute to the day-to-day supervision of PhD and undergraduate student projects.

Essential skills:

- Experience in modern synthetic chemistry, including the design and execution of multi-step syntheses and/or polymerisation reactions.
- Experience in materials chemistry and in the self-assembly of molecular systems.
- The ability to analyse and interpret experimental results, through the use of spectroscopy methods (e.g., NMR, FT-IR, fluorescence, UV-vis etc.).

- Experience in surface analysis and imaging at the nanoscale using, *e.g.* AFM, TEM and/or SEM.
- The ability to conduct day-to-day experimental work safely and efficiently without close supervision, including the accurate and reliable recording of experimental results.
- The ability to work independently: effectively manage one's own time, recognise problems, seek timely advice, develop solutions.
- The ability to work as part of a wider research team.
- Desire to acquire new technical skills in the fields of chemical biology, cell biology and/or tissue engineering.
- Excellent written and oral communication skills to allow the dissemination of results arising from the research project to a wide scientific audience.
- Excellent organisational skills.
- Excellent leadership skills.

Desirable skills:

- Experience in fluorescence microscopy.
- Experience in image analysis, e.g. ImageJ, Python etc.
- Engagement with the broader interests of the group, *e.g.* interest in, and enthusiasm towards, the field of bottom-up synthetic biology and biomimetic materials chemistry.
- Experience of mentoring junior members of a research team.

Duration and salary: 12 months, renewable; perspective starting date: 1st of January 2024. Gross salary of € 20.000,00 – 30.000,00 per year (gross salary will commensurate with the experience of the researcher).

How to apply: Applications should be sent to both Prof. Paolo Tecilla and Prof. Pierangelo Gobbo (biomimeticmatter.lab@units.it) and include a **curriculum vitae** with a list of publications and a **cover letter** which should introduce the candidate's background and clearly state why they would like to work with us and what they can bring to our groups. The candidates should also provide the names of 2 referees who have been former supervisors and can be contacted for a reference letter.

We welcome applications from all members of our community and are particularly encouraging those from diverse groups, such as members of the LGBTQIA+ and BAME communities, to join us.