UNSW SYDNEY

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POSITION DESCRIPTION

Postdoctoral Fellow

Position Level	A
Faculty/Division	Engineering
Position Number	00153471
Original document creation	10/10/2024

Position Summary

The Postdoctoral Fellow will be part of the researchers employed in the ARC Australian Laureate Fellowship, entitled Light-Driven Manufacturing for (Re)Programmable Materials. The Postdoctoral Fellow will undertake research in the preparation of 3D printed materials using photochemical reaction and photopolymerization. More specifically, this research aims to further the development of selective photochemical tools driven by different colours of light for the fabrication of functional 3D objects. By using different wavelengths to selectively activate specific chemical reactions, this will enable multiple reactions to be performed simultaneously, significantly streamlining fabrication. This research will lead to the fabrication of multi-materials. The Postdoctoral Fellow is envisaged to conduct close collaboration with a team of researchers and HDR students.

The role of Postdoctoral Fellow reports to Prof. Cyrille Boyer and has no direct reports.

Accountabilities

Specific accountabilities for this role include:

- Conduct research in photochemical reactions which will be implemented in 3D printing process for the fabrication of functional 3D printed objects to create scholarly output that is recognised by peers.
- Contribute to the writing of scientific papers and reports for international journals and progress reporting to other researchers and industry partners.
- Assist with the coordination of research activities and actively contribute to research outputs to meet project milestones.
- Contribute to the preparation of research proposal submissions to funding bodies and actively seek collaboration with academic, clinical, and industry partners as appropriate.

- Participate in and/or present at conferences and/or workshops relevant to the project as required.
- Assist with the supervision of research students in the research area where required.
- Undertake discipline-appropriate research activities, e.g., literature reviews, data gathering using appropriate research methods.
- Participate in and/or present at conferences and/or workshops relevant to the project as required.
- Cooperate with all health and safety policies and procedures of the university and take all reasonable care to ensure that your actions or omissions do not impact on the health and safety of yourself or others.

Skills and Experience

- PhD (or soon to be awarded) in material science or chemistry, with expertise in photopolymerization, photocontrolled/living radical polymerization (such as PhotoReversible Addition Fragmentation Chain Transfer polymerisation) and photocationic polymerisation, photocatalyst and photoinitiator synthesis.
- Demonstrated track record of publications in polymer science or photochemistry.
- Proven commitment to proactively keeping up to date with discipline knowledge and developments.
- Demonstrated ability to undertake high quality academic research and conduct independent research with limited supervision.
- Demonstrated ability to work in a team, collaborate across disciplines and build effective relationships.
- Demonstrated previous research experience in polymer synthesis, photochemistry, and synthesis of functional monomer.
- Demonstrated ability to communicate and interact with a diverse range of stakeholders and students.
- An understanding of and commitment to UNSW's aims, objectives and values in action, together with relevant policies and guidelines.
- Knowledge of health and safety responsibilities and commitment to attending relevant health and safety training.

Pre-employment checks required for this position

- Verification of qualification