

## Three Postdoctoral Positions Available

**Project Title:** Morphology Controlled Fabrication of Rare Earth Magnetic Materials Using Engineered Biosystems

### **Supervisors:**

Dr Nicholas Bedford, (n.bedford@unsw.edu.au) | School of Chemical Engineering

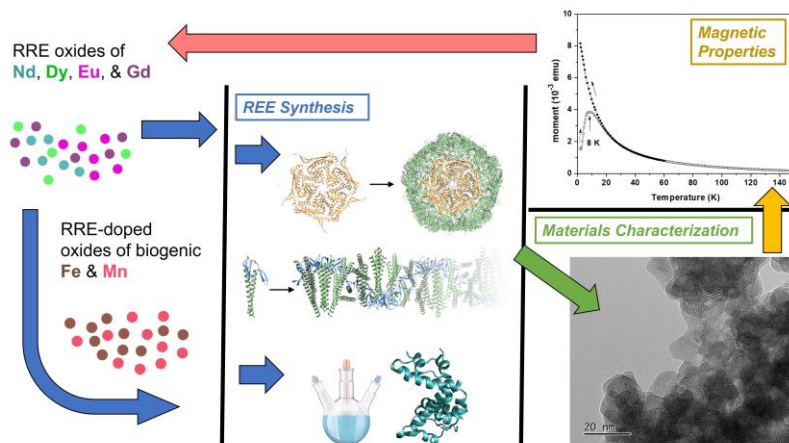
Dr Dominic Glover, (d.glover@unsw.edu.au) | School of Biotechnology and Biomolecular Sciences

Prof Richard Tilley, (r.tilley@unsw.edu.au) | School of Chemistry

### **Project Summary:**

This project is focused on using synthetic biology to generate proteins for the synthesis of rare-earth element (REE) nanoparticles for magnetic device applications. Perspective postdocs will work within a multidisciplinary team consisting of protein engineers, chemists, materials scientists, and physics to understand how biotic/abiotic interactions can be manipulated to control REE structure and subsequent magnetic properties.

The 15-month project is funded by Defense Advanced Research Project Agency and has strict deadlines, thus necessitating highly motivated postdocs with strong technical and writing skills that can easily work within a multidisciplinary team that includes researchers from the University of Sydney, Central Michigan University, and various synchrotron facilities worldwide. Potential candidates with working rights in Australia will be given preference. Details on the available postdoctoral positions can be found below:



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### **Postdoctoral Positions Available:**

- **Protein Engineering:** This postdoctoral position will be located in the School of Biotechnology & Biomolecular Sciences under the supervision of Dr Dominic Glover. The position requires a background in protein engineering and synthetic biology. In addition, those with an understanding of recombinant protein production or protein structural characterization are strongly encouraged to apply.
- **Bio-enabled REE Synthesis and Characterization:** This postdoctoral position will be located in the School of Chemical Engineering under the supervision of Dr Nicholas Bedford. The position requires a strong background in metal oxide synthesis, bio-enabled nanotechnology, and structural materials characterization. Those with experience in X-ray absorption spectroscopy are strongly encouraged to apply.
- **Liquid cell Electron Microscopy and Colloidal REE Synthesis:** This postdoctoral position will be located in the School of Chemistry under the supervision of Prof Richard Tilley. The position requires a strong background in the synthesis and characterization of magnetic nanoparticles and transmission electron microscopy, especially liquid cell-based measurements. Those with additional experience in magnetic property measurements are strongly encouraged to apply.

**For additional information, contact Dr Nicholas Bedford at [n.bedford@unsw.edu.au](mailto:n.bedford@unsw.edu.au)**