Postdoctoral Research Associate Opportunities 2021

ARC Training Centre for the Global Hydrogen Economy (GlobH2E)

The Australian Research Council (ARC) Training Centre for the Global Hydrogen Economy brings together 6 leading Universities with UNSW as the administrating node, 4 international research institutions and 13 companies to work collaboratively in the areas of **chemical, safety and manufacturing engineering, materials science and theoretical modelling, social science and energy market analysis** to develop new, cost-effective hydrogen technologies and new research-based engineering and business skills to facilitate and support the transformation of Australia's industry into a hydrogen powerhouse. The Centre is established under the ARC Industrial Transformation Research Program to train Australia's future generation of industry focused researchers to implement and commercialised advanced hydrogen technologies and develop business frameworks and safety standards.

The GlobH2E centre will focus on five key themes that will act as enablers. The first two focus on the production, storage and utilisation of hydrogen; the third on developing the right safety systems and controls; and the final two concentrate on commercialisation, public acceptance and the skills industry and the broader community will require in a hydrogen economy.

The specific aims of the Centre are:

- Train Australia's future generation of industry-focused researchers to implement and commercialise advanced hydrogen technologies and develop business frameworks and safety standards;
- Undertake research where technologies will contribute to competitive advantages on the global market and lead to commercially viable ventures;
- Educate and disseminate hydrogen technology and its safe use for effective transition and adoption into the broader economy
- Enable cross-institutions, industry-university-government research collaborations that create a path for simpler deployment, and commercialisation of hydrogen technologies;
- Reduce the risk of hydrogen technologies to benefit early adopters

The Centre is seeking exceptional applicants with strong background in one or more of the following areas: chemical engineering, materials engineering, mechanical engineering, physics, social-policy, computer sciences to undertake research. More information on eligibility, selection criteria and how to apply is available below. Successful applicants will conduct their research in an integrated, multi-disciplinary environment and maybe required to spend some time in one or more of the industry partners companies.

Environment

The GlobH2E Training Centre is recruiting several Post-Doctoral Research Associate/Researcher to work on a range of Hydrogen themed and related projects

at the GlobH2E Training Centre. The successful candidates will have a unique training opportunity through:

- World-class and state-of-the-art facilities and experts across the participating universities, research institutions, industry partners and other organisations
- An integrated Training Centre research agenda with inter-disciplinary projects across 5 themes area
- Opportunity to work or placement with partner organisations and industry partners
- Research skills, career development workshops and relevant industrial training
- Competitive support for national and international conference travel and networking opportunity
- Generous project support and excellent mentorship
- Delivering the next generation of highly skilled workforce to give Australia the ability to build home-grown hydrogen solutions and economic models.

Organisational Environment

The University of New South Wales (UNSW) is one of the leading universities in Australia and is consistently ranked as one of the world's top 100 universities (the 48th in the 2014 QS World University Rankings). The School of Chemistry has a proud history back to 1833, and is located in the UNSW Kensington Campus, within easy reach of Sydney's CBD, sandy beaches, national parks, airport and suburbs with their own unique identities. Sydney is consistently rated as one of the world's best cities.

The NanoElectroChemistry Lab led by Professor Chuan Zhao in School of Chemistry at UNSW has regularly ~ 20 members, including postdocs, PhD & MSc students. The group is one of the leading groups in hydrogen technologies in Australia, and publishes regularly in highly respected journals such as Nature group journals, PNAS, JACS and Angew Chem Int Ed.. The group also has strong links with industry and has several patents successfully commercialised.

About You and the Role

The postdoctoral Research Associate will undertake research and development in the areas of electrochemical water splitting for green hydrogen production. The research aims to work on development of novel electrocatalysts and structures with state-of-the-art activity and stability for water splitting, and translate these catalysts into industrial electrolysers for green hydrogen production.

You will be responsible for:

- Conduct systematic reviews and comprehensive literature surveys in fields related to hydrogen production via water splitting.
- Prepare, initiate, and execute a research agenda on development of catalysts and electrolysers in the areas water splitting for hydrogen production

- Assist with coordination of research activities and actively contribute to research outputs to meet project milestones.
- Contribute to the writing of scientific papers and reports for international journals and progress reporting to other researchers and industry partners.
- Contribute to the preparation of research proposal submissions to funding bodies and actively seek collaboration with industry partners as appropriate.
- Participate in and/or present at conferences and/or workshops relevant to the project as required.
- Assist with the supervision and mentorship of undergraduate students and PhD students and participate in learning program activities appropriate to areas of expertise as well as administrative functions related to the research project
- 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

Selection Criteria

- PhD in Chemistry, Chemical Engineering or Materials Science
- Expertise and experience on electrochemical energy conversion and storage
- Highly developed research and data analysis skills
- Track record of successful grant applications is highly regarded (optional)
- Demonstrated ability to conduct independent research with limited supervision
- Demonstrated track record of high-impact publications and conference presentations relative to opportunity
- Demonstrated ability to work in a team, collaborate across disciplines and build effective relationships
- Strong interpersonal skills with demonstrated ability to communicate and interact with a diverse range of stakeholders and students
- Knowledge of health and safety responsibilities and commitment to attending relevant health and safety training

Employment information:

- 1 FTE, 1 year fixed-term contract which is extendable to 3 years, based at UNSW School of Chemistry, but maybe required to work and/or be based at Industry partner's site
- Report directly to the Project Chief Investigator Prof Chuan Zhao: chuan.zhao@unsw.edu.au
- Remuneration for Academic Level A6 + 17% super