University of Nottingham
UK | CHINA | MALAYSIA

Role profile

Job title	KTP Research Associate in Electrocatalysis for Hydrogen Production	Job family and level	Research & Teaching Level RT4A
School/ Department	School of Chemistry	Location	AqSorption Ltd, Netherfield Nottingham, NG4 2HD

Purpose of role

Based at AqSorption Limited in Nottingham you will work alongside academics from the School of Chemistry at the University of Nottingham on this Knowledge Transfer Partnership (KTP).

You will be instrumental in supporting AqSorption in the delivery of its strategic ambition to develop a commercially viable electrocatalytic ammonia decomposition unit. Ammonia is gaining significance as a zero-carbon fuel due to its higher volumetric energy density compared to hydrogen and other zero-carbon technologies. Ammonia has the potential to replace fossil fuels as an energy vector, creating a whole new economy. To make this a reality, it is crucial to find fast and energy-efficient ways to crack ammonia into the elements H2 and N2 on demand at both small and large scales.

You will engage with company members throughout the project and will be fully embedded within the team, working across the business to fully understand AqSorption's suppliers, customers, and the new technology market.

You will be supported and supervised by the University's internationally leading experts in surface chemistry and nanomaterials and have access to world-class facilities available within the Nanoscale & Microscale Research Centre and Metal Atoms on Surfaces & Interfaces (MASI) programme.

A key part of your role will be to transfer and embed knowledge and expertise from the University to AqSorption, delivering new skills and capabilities that enable AqSorption to develop proprietary technologies and expand their business in the zero-carbon technology sector.

Within your role, you will be tasked with co-creating an exploitation plan with AqSorption's marketing and product development team to ensure there is a costed and achievable route to market with associated exploitable results.

This is a fixed-term contract for 26-months.

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	**% time per year**
1	Project insight: Familiarisation and understanding of the business processes, activities and market opportunities. Review the project plan and undertake a mini-project.	5%
2	Material identification: Literature search and identification and sourcing of the optimum materials for the decomposition unit anode.	7.5%
3	Laboratory scale evaluation: Fabrication and characterisation: of a laboratory scale decomposition unit anode.	20%
4	Optimisation: Laboratory scale full cell for ammonia decomposition.	7.5%
5	Assembly of an industrial unit: Scale-up of anode and cathode fabrication to the industrial size decomposition unit.	7.5%
6	Performance review: Implementation and evaluation of the performance of the full-sized unit.	7.5%
7	Execution: Determine the efficiency, selectivity, and stability of the unit over long-term usage and address potential challenges.	20%
8	Commercialisation: End-user and market engagement.	10%
9	Project close: Consolidation and dissemination activities and reporting.	5%
10	Training and Development: Time allocated to personal and professional development and training.	10%

Person specification

	Essential	Desirable
Skills and attributes	▪ Excellent command of the English language with written and verbal communication that is clear and easy to understand and at the appropriate level for project delivery. ▪ A self-starting, proactive attribute to meet deadlines and prioritise tasks through excellent time management, project management and organizational skills. ▪ Problem-solving skills with the ability to consider alternative solutions to multiple related problems and adapt to a fast-changing environment.	▪ Awareness and understanding of AqSorption and its commercial priorities and the green energy sector. ▪ Skills in effective collaboration with colleagues from various disciplines, showcasing prior success in a team-oriented environment.
Knowledge and experience	▪ Extensive practical electrochemistry and/or electrocatalysis knowledge and experience. ▪ Extensive knowledge of nanomaterials, surfaces, and interfaces in relation to electrode design for electrocatalysis. ▪ Data analytical and problem-solving experience and skills.	▪ Experience in material characterization. ▪ Experience of spectroscopy methods. ▪ Experience with customer engagements and building relationships. ▪ Experience of working in industry. ▪ Experience in technical writing, which may include peer-reviewed scientific publications.
Qualifications, certification and training (relevant to role)	▪ PhD (or near to completion) in Chemistry or a related discipline.	
Other	▪ Willingness to undertake appropriate further training and to adopt new procedures as and when required. ▪ Willingness to engage and support commercial activities related to the dissemination and demonstration of the project outputs/outcomes to stakeholders. ▪ Willingness to travel to University of Nottingham to conduct experimental work as required for the delivery of the KTP.	

The University of Nottingham is focused on embedding equality, diversity and inclusion in all that we do. As part of this, we welcome a diverse population to join our work force and therefore encourage applicants from all communities, particularly those with protected characteristics under the Equality Act 2010.

Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

Valuing people	Is friendly, engaging and receptive, putting others at ease. Actively listens to others and goes out of way to ensure people feel valued, developed and supported.
Taking ownership	Is clear on what needs to be done encouraging others to take ownership. Takes action when required, being mindful of important aspects such as Health & Safety, Equality, Diversity & Inclusion, and other considerations.
Forward thinking	Drives the development, sharing and implementation of new ideas and improvements to support strategic objectives. Engages others in the improvement process.
Professional pride	Is professional in approach and style, setting an example to others; strives to demonstrate excellence through development of self, others and effective working practices.
Always inclusive	Builds effective working relationships, recognising and including the contribution of others; promotes inclusion and inclusive practices within own work area.

Key relationships with others