



OLLSCOIL NA GAILLIMHE
UNIVERSITY OF GALWAY



HR EXCELLENCE IN RESEARCH

Postdoctoral Researcher /Research Associate

Combustion Chemistry Centre

Ref. No. 011418

JOB ADVERTISEMENT

Applications are invited from suitably qualified candidates for a full-time fixed term position as a Postdoctoral Researcher in the Combustion Chemistry Centre at the University of Galway, Ireland.

The University is committed to embracing opportunities for hybrid working, to build a more dynamic, agile and responsive University, while sustaining strong standards of teaching, learning, research and high levels of productivity. The University will continue to be the primary workplace for all staff, however individual hybrid arrangement requests can be reviewed with the Line Manager in conjunction with the University [Hybrid Working Policy](#).

This position is funded by HORIZON and is available from 1/12/2025 for a period of 2 years.

The new project (ACCEPT) contributes to the use of hydrogen as a renewable fuel for GTs3 by providing fundamental information on reactive features and experimentally evaluated CFD4 in model combustors appropriate to TRL3/5, to support the rational and 'right first time' design of fuel-flexible combustion systems.

ACCEPT will investigate variations in the behaviour of premixed composition of blends of H₂/NG

Salary: [Research Salary Scales - University of Galway](#) salary scale €46,305 to €59,063 per annum, (subject to the project's funding limitations), and pro rata for shorter and/or part-time contracts.

The default position for all new public sector appointments is the 1st point of the salary scale. This may be reviewed, and consideration afforded to appointment at a higher point on the payscale (subject to the project's funding limitations), where evidence of prior years' equivalent experience is accepted in determining placement on the scale above point 1, subject to the maximum of the scale.

Closing date for receipt of applications is 17:00 (Irish Time) on 6th November 2025. It will not be possible to consider applications received after the closing date.

***Please review full job description for further details and essential requirement**

JOB DESCRIPTION

Job Description:



The successful candidate will be a part of a funded research project on the use of hydrogen as a renewable fuel. The techniques used in this project will **investigate variations in the behaviour of premixed composition of blends of H₂/NG. Specifically, in the use of a single-pulse shock tube to measure NxOx emissions produced during the combustion of H₂/NG blends.**

Duties:

- Use a single pulse shock tube to study the oxidation of H₂/NG blends at pressures up to 10 bar.
- Use of an FTIR detection system to perform quantitative analysis of NxOx emissions produced in H₂/NG blends at pressure up to 10 bar.
- Production of accurate reaction mechanisms based on novel fundamental experimental information at high pressures and fuel lean conditions on the chemical kinetics of mechanisms of pollutants formation in H₂/NG blends, with an emphasis on NxOx emissions.
- The development of technologies enabling dry low emission (DLE) gas turbines (GTs) to burn 100% hydrogen at full load
- Write and publish international peer-reviewed journal articles.
- Day to day responsibility for the performance of all duties associated with their research project, in recording, interpretation, and validation of experimental data, and in dissemination of project results and outcomes.
- The post holder will ensure research programme requirements in terms of documentation of the project activities, milestones and major key deliverables are implemented and adhered to.
- The post holder will assist in the preparation of periodic scientific reports for this project, maintain confidentiality of background IP, foreground IP and research results, liaise with the members of the group, industry partners and TTO office on the identification of and patent protection of intellectual property generated in the work programme.
- The successful candidate will also represent the research activities of the microRNA research group as required at local, national and international events (including talks, panel discussions and meetings with funding agencies, industry representatives etc.
- Any other duties assigned commensurate to this level of post

ELIGIBILITY REQUIREMENTS

Essential Requirements:

- Candidates must have a PhD, or a PhD thesis submitted, in Combustion/Physical Chemistry or a related discipline (e.g. Mechanical Engineering) prior to start date.
- High level of experience and competence in fuel combustion
- High level of experience and competence in using shock tubes for fuel oxidation
- Competence in using diagnostics to quantify chemicals involved in combustion systems



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- Basic ability in python or similar programming language
- A demonstrated output in terms of published papers in peer-reviewed journals

Desirable Requirements:

- Good writing and excellent communication skills are essential for this project, which will involve close collaboration with other members of the team.
- An interest in renewable fuels
- Ability to work independently and as part of a team
- Self-motivated, high level of initiative and excellent attention to detail

CONTINUING PROFESSIONAL DEVELOPMENT

Continuing Professional Development/Training:

Researchers at University of Galway are encouraged to avail of a range of training and development opportunities designed to support their personal career development plans. University of Galway provides continuing professional development supports for all researchers seeking to build their own career pathways either within or beyond academia. Researchers are encouraged to engage with our Researcher Development Centre (RDC) upon commencing employment - see [HERE](#) for further information.

Further Information/Links

To apply:

Applications must be submitted online.

- Applications to include a covering letter, CV, Evidence of Qualifications, and the contact details of three referees should be sent, via e-mail (in word or PDF only) to:
Ms Gráinne Morahan: email: grainne.morahan@universityofgalway.ie
Please put reference number **University of Galway 011418 in subject line of e-mail application**
 - [How to apply guide](#)
- Informal enquiries concerning the post may be made to Professor Henry Curran (henry.curran@universityofgalway.ie)
- [University's Strategic Plan](#)
- [Working in Research at University of Galway](#)
- [Moving to Ireland \(Euraxess\)](#)
- [Applicant Information](#)
- We reserve the right to re-advertise or extend the closing date for this post.



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- University of Galway is an equal opportunities employer.
- All positions are recruited in line with Open, Transparent, Merit (OTM) and Competency based recruitment.

