



Product Development Engineer (Thermal and Design) – KTP Associate

Reference: R210351

Salary: £30,000 – £33,000 per annum depending on experience with up to £5000 dedicated training budget

Contract Type: Fixed term (30 months)

Basis: Full Time

Job description

This 30-month project takes the form of a Knowledge Transfer Partnership (KTP) (<http://www.ktponline.org.uk>), which provides you with practical and formal training and the availability of support from experienced mentors from Lanemark Combustion Engineering Limited (Lanemark), Aston University and Innovate UK.

Job Purpose:

This project aims to develop state of the art, low emission and low carbon fuel, gas fired burners for process heating applications with newly developed, innovative burner Design Software.

In partnership with Aston University, a successful candidate will develop novel Design Software which will address the challenge of designing burner systems with reduced emissions and more complex fuel blends. The new Design Software needs to be capable of modelling fuel emissions and complex fuel behaviours to enable Lanemark to deliver optimised designs for its burner systems, which will both meet future stringent regulations on emissions and capable of burning complex fuel blends without increasing emissions.

The Innovative Design Software, integrated into Lanemark's design process will embrace the new knowledge on fuel characteristics transferred in this project, resulting in the design of: a) three new low emission products for process air heating, liquid tank heating and petrochemical applications, and b) two new low-carbon fuel prototypes using Hydrogen or similar new low- Carbon Fuel Blends.

This role is an exciting opportunity for candidates with industrial experience in a product design role and will require a minimum 2:1 B.Sc / B.Eng and M.Sc / M.Eng in Design / Mechanical Engineering. They will need to be able to demonstrate excellent mechanical engineering design skills, with a methodical approach to problem solving. This is multi-disciplinary project, which will challenge the associate to develop new skills, work as part of a multifunctional team and be able to communicate and defend ideas to colleagues at all levels and functions in the business. They should be cognizant of the commercial imperatives of the company and the business outcomes of the project. They should have well-developed interpersonal skills that will enable the Associate to work alongside sales, technical and engineering staff effectively. KTP Associate will also develop a broad set of skills in project management, stakeholder management, working on a strategic project in an innovative business. The skills developed during the course of the project will enable the successful candidate to broaden their future career opportunities.

Main duties and responsibilities

- Development of the state of the art, low emission and low carbon fuel, gas fired burners for process heating applications with newly developed, innovative burner Design Software.
- Applying mathematical modelling techniques (MATLAB or Python) to design principles based on low emissions and low carbon fuels and integrating them

into software, balancing optimisation of the burner design against the commercial and environmental benefits.

- Understanding the commercial context of the project, conducting in-depth market research to acquire sector knowledge and standard practices for burner system design and product costs.
- Establish KPI's, track the benefits and report to firm's management through reports and presentations.
- Compile and analyse quantitative and qualitative data and write up results of tests and experiments undertake.
- Develop the research methodology further in order to address the research objective.
- Prepare reports and present results to summarise main findings and conclusions, and write or contribute to journal articles on research findings.

Additional responsibilities

- ▶ Engage in continuous personal and professional development in line with the demands of the role, including undertaking relevant training and development activities to develop themselves and support the development of others.
- ▶ Ensure and promote the personal health, safety and wellbeing of staff and students.
- ▶ Carry out duties in a way which promotes fairness in all matters and which engenders trust.
- ▶ Promote equality of opportunity and support diversity and inclusion as well as working to support the University's environmental sustainability agenda and practices.

Person specification

	Essential	Method of assessment
Education and qualifications	A minimum 2:1 B.Sc / B.Eng and a M.Sc / M.Eng in Design / Mechanical Engineering	Application form
Experience	Industrial experience in a product design role.	Application form and interview
Aptitude and skills	<p>Excellent mechanical engineering design skills, with a methodical approach to problem solving.</p> <p>Good written and verbal communication skills and ability to present and defend ideas to groups at all levels in the business and to all project stakeholders.</p> <p>Good skills and knowledge in the heat transfer and thermodynamics subject area.</p> <p>Highly motivated and proactive individual, who has the confidence to own and drive the project, monitor progress, co-ordinate work streams and manage the project timescales and budget effectively.</p>	Application form and interview

	Desirable	Method of assessment
Education and qualifications	<p>Practical engineering experience (via previous employment and/or academic project).</p> <p>Experience or capability in Numerical / mathematical modelling of systems, particularly in the used of MATLAB Software engineering and computer programming, particularly in the used of high level languages such as JAVA / Python.</p> <p>Collaborative working in a team Project management, including the application of Agile / Scrum techniques.</p>	Application form and interview
Experience	<p>Ability to synthesize a new design methodology by integrating input from multiple sources</p> <p>Members of the IMechE (or similar professional body).</p> <p>Engaged in a Continuous Professional Development.</p>	Application form and interview

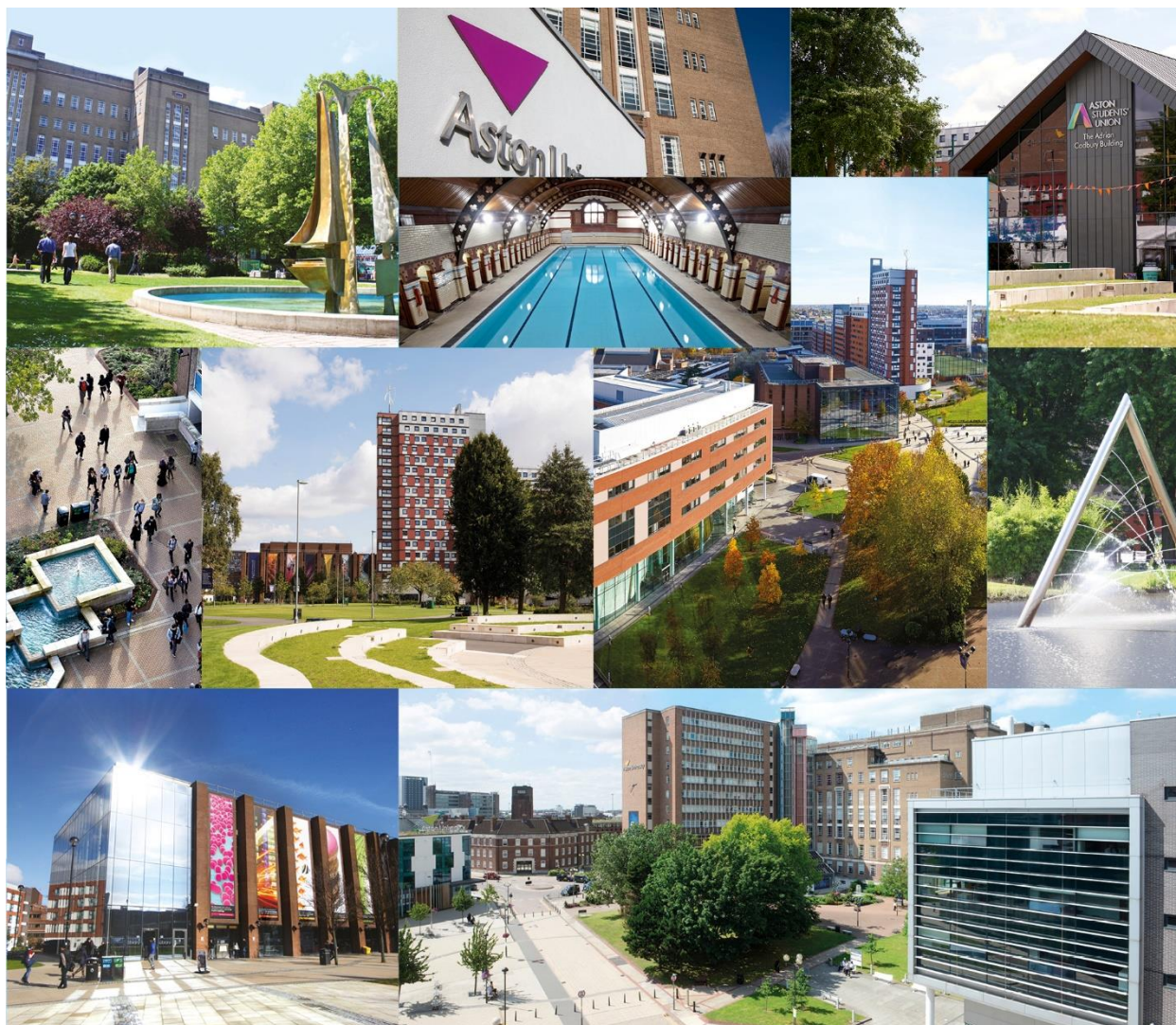
How to apply

You can apply for this role online via our website <https://www2.aston.ac.uk/staff-public/hr/jobs>.

Applications should be submitted by 23.59 BST on the advertised closing date.
All applicants must complete an application form, along with your CV.

Any CV sent direct to the Recruitment Team and Recruiting Manager will not be accepted.

If you require a manual application form then please contact the Recruitment Team via jobs@aston.ac.uk.



Contact information

Enquiries about the vacancy:

Name: Dr Muhammad Imran

Job Title: Lecturer in Mechanical Engineering

Email: m.imran12@aston.ac.uk

Enquiries about the application process, shortlisting or interviews:

Recruitment Team via jobs@aston.ac.uk or 0121 204 4500.

Additional information

Visit our website <https://www2.aston.ac.uk/staff-public/hr> for full details of our salary scales and benefits Aston University staff enjoy

Salary scales: <https://www2.aston.ac.uk/staff-public/hr/payroll-and-pensions/salary-scales/index>

Benefits: <https://www2.aston.ac.uk/staff-public/hr/Benefits-and-Rewards/index>

Working in Birmingham: <https://www2.aston.ac.uk/birmingham>

Employment of Ex-Offenders: Under the Rehabilitation of Offenders Act 1974, a person with a criminal record is not required to disclose any spent convictions unless the positions they applying for is listed an exception under the act.

Eligibility to work in the UK:

Post-Brexit transition period / EU Settlement Scheme

The post-Brexit transition period ended on 31 December 2020. If you are an EU/EEA citizen and you were a resident in the UK before 31 December 2020, you and your family members (including non-EU citizens need to apply to the EU Settlement Scheme to continue to live, work and study in the UK beyond 30 June 2021. The deadline for applying to the EU settlement scheme is 30 June 2021. You can apply via the Government webpage

<https://www.gov.uk/settled-status-eu-citizens-families>

Irish Nationals do not need to apply for settlement as they retain the right to work in the UK.

New immigration system for EU/EEA and Swiss Nationals who were not resident in the UK before 31 December 2020

A new immigration system has been introduced for people arriving in the UK from EEA countries with effect from 1 January 2021. In addition to those who have always required a visa, EU citizens moving to the UK to work will need to get a visa in advance. You can find more information on the following website. Candidates should check their eligibility to enter or remain in the UK in advance of making any job application via the UKVI website <https://www.gov.uk/browse/visas-immigration/work-visas>. Before applying you should ensure that you meet the requirements, including meeting the English Language requirements. If you do not meet the eligibility criteria, any application for a work visa would be unsuccessful. If you require a visa to work in the UK the most common types of visa are:

Skilled Worker Visa

<https://www.gov.uk/skilled-worker-visa>

Global Talent Visa

If you are a leader or potential leader in one of the following fields you may be eligible to apply for a Global Talent Visa:

- Academia or Research
- Arts and Culture
- Digital Technology

Please click the following link for further information and to check your eligibility for this visa.

<https://www.gov.uk/global-talent>

Equal Opportunities: Aston University promotes equality and diversity in all aspects of its work. We aim to ensure, through our admissions policies for students, and our staff recruitment and selection processes that we encourage applications from all groups represented in the wider community at a local, national and international level.

The University will endeavour not to discriminate unfairly or illegally, directly or indirectly, against student or potential students, staff or potential staff. This commitment applies to all functions of the University and to any stage of an individual's career.

An Equal Opportunities Monitoring Form is included within the application form. Data you provide on the Equal Opportunities Monitoring Form will be included in a general database, for statistical monitoring purposes, enabling the University to monitor the effectiveness of its Policy, Codes of Practice and Guidelines on Equal Opportunities in Employment. Individuals will not be identified by name.

Data Protection: Your personal data will be processed in compliance with the Data Protection Act 2018 and the General Data Protection Regulation ((EU) 2016/679) ("GDPR"). The University's Data Protection Policy and Privacy Notices, including the Job Applicant Privacy Notice can be found at <https://www2.aston.ac.uk/data-protection>. Your application will only be used to inform the selection process, unless you are successful, in which case it will form the basis of your personal record with the University which will be stored in manual and/or electronic files. Information in statistical form on present and former employees is given to appropriate outside bodies.

Full details of our terms and conditions of service and associated policies and procedures are available online at <https://www2.aston.ac.uk/staff-public/hr/policies>

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