



Job Description

Job title	Reader in Advanced Automotive Propulsion Systems
Department/School	Mechanical Engineering
Job family	Education and Research
Grade	9
Reporting to	Head of Department
Responsible for	Any research staff/students
Location	University of Bath premises

Background and context

The [Department of Mechanical Engineering](#) of the University of Bath is seeking to appoint a Lecturer in Advanced Automotive Propulsive Systems to conduct high-impact research, provide excellent postgraduate research supervision, and deliver high-quality teaching in Automotive Engineering. The successful applicant will have track record in applied engineering and teaching, with the potential to develop a research portfolio. In particular, the post-holder should have experience (or potential) in research encompassing the following: thermal propulsion systems, turbocharger and engine interactions, compressor design, turbine design, control systems and high speed rotating machines. Systems-level expertise and a track record in the application of experimental techniques and computational modelling of turbomachinery in propulsion systems would be an advantage.

Based at the Department, the [Institute of Advanced Automotive Propulsion Systems \(IAAPS\)](#) is a leading institute for theoretical, experimental and analytical research into powertrain systems in the UK. The team has an excellent track record in delivering industry-relevant projects, and has long established collaborations with industrial partners. Our work covers all of the links in the chain from energy storage to its conversion into mechanical work on board a vehicle. The recently secured £61m investment for a new facility in Bristol and Bath Science Park will deliver significant new test facilities and collaboration space to propel the IAAPS team into a global leading position. Research will play an important role in the vital task of making a cleaner environment.

This is an excellent opportunity to contribute to the design of the new MSc for Automotive Engineering with Electrical Propulsion. The successful applicant will be joining a group of colleagues publishing in leading journals and engaging with industrial partners, and would make a significant contribution to research and teaching capacity in the IAAPS.

The Department of Mechanical Engineering holds Silver Award for [Athena SWAN](#) scheme, which promotes gender equality among all disciplines. We particularly encourage applications from under-represented groups.

Job purpose

To lead research with international impact and profile; contribute to teaching at undergraduate and postgraduate level; supervise postgraduate research students, and undertake management and leadership duties commensurate with the role.

Main duties and responsibilities

The job duties and responsibilities listed below are intended to describe the general nature of the role. In exceptional circumstances jobholders may be required to undertake research and scholarship duties only e.g. where external funding has been secured for research.

The duties and responsibilities and the balance between the elements in the role may change or vary over time depending on the specific needs at a specific point in time, or due to changing needs in the department/group. Jobholders should note that there may not be an immediate requirement to carry out all the activities listed below.

1 Research & scholarship

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| a | Lead a research team as appropriate to the discipline, including supervision of research students and staff, ensuring the highest standards of ethics and integrity in research. |
| b | Lead collaborative research projects as appropriate to the discipline, normally at an international level, which may include international partners. |
| c | Attract substantial external funding to support research activity in collaboration with other Universities or organisations as appropriate to the discipline |
| d | Maintain a regular output of highest quality research which is published in leading research journals and national/international conferences or other outputs as appropriate to the discipline. |
| e | Present research at national and/or international conferences and/or at other appropriate events. |
| f | Engage effectively in non-academic impact of research, including substantial knowledge or technology exchange and/or public engagement activities, involving a range of partnerships with external organisations. |
| g | Contribute to the development and implementation of research strategies in the Department. |

2	Teaching
a	Deliver a wide range of effective and inclusive teaching and supporting learning activities
b	Assess the work and progress of students and provide them with constructive feedback.
c	Seek ways of improving performance by reflecting on teaching design and delivery and obtaining and analysing feedback.
d	Engage in professional development in relation to teaching, learning and assessment, including the use of an evidence-informed approach, which utilises the outcomes of research and scholarship, to enhance practice.
e	Contribute to outreach and/or Widening Participation activity within the Department, Faculty/School or University.
3	Management and leadership
a	Undertake specific leadership roles in the Department / Faculty and contribute to institutional committees and working parties.
b	Manage and support colleagues with less experience and facilitate their academic and personal development.
c	Represent the Department in external relations as required.
d	Foster and develop internal or external networks of benefit to the Department and University.

Person Specification

Criteria	Essential	Desirable
Qualifications		
PhD or equivalent in relevant discipline	√	
UG degree in relevant discipline or equivalent qualification/experience	√	
Membership of professional body		√
Experience/Knowledge		
Experience in providing research leadership	√	
Excellent record of publications in leading peer-reviewed journals at a national and normally international level	√	
Strong record of research funding as appropriate to the discipline	√	
Demonstrates depth and breadth of understanding of subject matter at a complex conceptual level	√	
Up to date knowledge of content and methods of teaching and /or supporting learning. This includes the value and use of learning technologies	√	
Skills		
Academic leadership	√	
Ability to articulate a research vision and strategy for development, implementation and delivery of successful research projects	√	
Proficient written and verbal communication skills including presentation skills	√	
Proficient interpersonal skills, communication style and team working	√	
Evidence of positive working relationships within the University, community, business and other partners	√	
Attributes		
Commitment to excellence in research and teaching and to providing the highest quality experience for students	√	
Commitment to working within professional and ethical codes of conduct	√	