



Job Description

Job title	Lecturer (Assistant Professor) in Advanced Automotive Propulsion Systems
Department/School	Mechanical Engineering
Job family	Education and Research
Grade	8
Reporting to	Head of Department
Responsible for	Any research staff / students appointed to grants held
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 conduct research with a high potential for national / international impact and profile; undertake teaching at undergraduate and postgraduate level; supervise postgraduate research students, and undertake management and administrative 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. 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. Jobholders should note that there may not be an immediate requirement to carry out all the activities listed below.

1	Research
a	Establish own area of independent research as appropriate to the work of the Department, ensuring a commitment to the highest standards of ethics and integrity in research.
b	Participate in collaborative research projects as appropriate to the discipline.
c	Identify sources of funding and secure funding for own research programme.
d	Write papers and submit for publication in leading research journals and / or leading national/international conference proceedings or other scholarly outputs as appropriate to the discipline.
f	Present research at national and/or international conferences and / or at other appropriate events.
g	Supervise doctoral research students as required.
h	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.

2	Teaching
a	Design, plan and implement effective and inclusive teaching and supporting learning activities.
b	Teach across a range of modules / units or within a subject area using appropriate teaching, learning support and assessment methods and technologies.
c	Assess the work and progress of students and provide them with constructive feedback.
d	Seek ways of improving performance by reflecting on teaching design and delivery and obtaining and analysing feedback.
e	Develop ideas for improving the learning environment, teaching and/or assessment and feedback methods.
f	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.
g	Contribute to outreach and / or Widening Participation activity within the Department or University.
3	Management and administration
a	Undertake internal roles of responsibility e.g., contribute to committees and working parties, act as Admissions Tutor.
b	Advise and support colleagues with less experience and advise on academic and personal development.
c	Participate in internal initiatives/events to the benefit of the University e.g., open days, outreach activities, student placements.
d	Act as supervisor for the work of others, for example, research teams or projects or as PhD supervisor.

Special conditions

All appointments to Lecturer posts are subject to three years' probation and successful completion of the Bath Course in Enhancing Academic Practice (Bath Course). Individuals may be granted exemption from the Bath Course and/or probation at the University's discretion.

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 (e.g. IED, IMechE, ASME, etc.)		√
Higher education teaching qualification or professional recognition (e.g. PGCert, FHEA or equivalent)		√
Experience/Knowledge		
Substantial experience in Engineering Design and/or Manufacturing research fields		√
An emerging track record in research in relevant subject, commensurate with stage of career	√	
Demonstrates depth and breadth of understanding of the subjects of engineering design and manufacturing. Experience of teaching at UG/PG level	√	√
Skills		
Proficient written and verbal communication skills including presentation skills	√	
Proficient interpersonal skills, communication style and team working	√	
A creative research vision for development, implementation and delivery of successful research projects		
Ability to supervise PhD students	√	
Excellent organisational and administrative skills	√	
Ability to form 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 learning experience for students	√	
Commitment to working within professional and ethical codes of conduct	√	