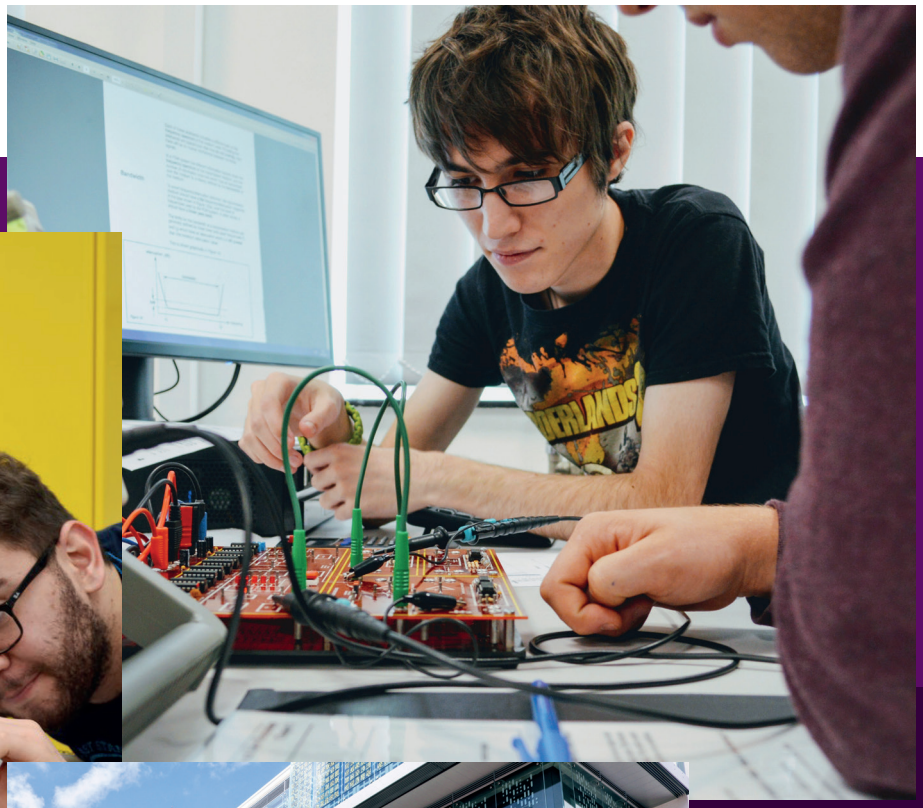
UNIVERSITY OF PORTSMOUTH

HEAD OF SCHOOL
ENERGY AND ELECTRONIC ENGINEERING

CANDIDATE APPLICATION PACK



NO.1
in the UK for boosting graduate salaries. (*The Economist* 2017)

TOP 40
in *The Guardian University Guide 2018.*

TEF Gold
Teaching Excellence Framework

96.5%
of **GRADUATES WORKING** or in **FURTHER STUDY** (DLHE 2016)

port.ac.uk

A MESSAGE FROM THE VICE-CHANCELLOR

Thank you for your interest in The Role of Head of School of Energy and Electronic Engineering at the University of Portsmouth.

We are at an exciting stage in our development, having just defined a new vision that maps out our ambitions as a leading UK university. Naturally, we need talented people who can help us realise those ambitions.

You'll find the University of Portsmouth the perfect environment to achieve great things. As Vice-Chancellor, I continue to be impressed by the potential of this University, and the ambition and commitment of colleagues towards growing our reputation through inspirational education and excellent research and innovation.

We are already on track to achieve our ambitions, including growing our international profile; strengthening and broadening our research and innovation; enhancing our students' experience – particularly in preparing them for the world of work; and developing our role within the city and the region.

Our bustling and diverse city has a strong maritime tradition, brought up to date by Ben Ainslie Racing's choice of Portsmouth as the base for their America's Cup bid. As a place to live, Portsmouth offers a stimulating environment that's perfect for career and lifestyle.

I look forward to reading your application.

Professor Graham Galbraith
Vice-Chancellor

THE UNIVERSITY OF PORTSMOUTH

WORK AT ONE OF THE TOP 40 UNIVERSITIES IN THE UK*

TOP 100

NEW UNIVERSITIES IN THE TIMES HIGHER EDUCATION YOUNG UNIVERSITY RANKINGS 2017

NO.1

IN THE UK FOR BOOSTING GRADUATE SALARIES

The Economist 2017

GOLD

RATED FOR TEACHING EXCELLENCE

TEF Gold Teaching Excellence Framework

5★

RATING FOR TEACHING EMPLOYABILTY AND FACILITIES

QS World University Ranking 2017

22,000

STUDENTS, INCLUDING 4,000 INTERNATIONAL STUDENTS FROM OVER 130 COUNTRIES

2,500+

UNIVERSITY STAFF

**The Guardian's* University Guide 2018

OUR MISSION, VISION AND VALUES

LIKE EVERY UNIVERSITY, WE FACE TOUGH CHALLENGES IN AN EVER MORE COMPETITIVE HIGHER EDUCATION ENVIRONMENT, WHICH IS WHY IT IS SO IMPORTANT TO HAVE A SHARED AND COMMON VISION OF OUR FUTURE PRIORITIES.

Our clarity of purpose is driven by our mission, vision and values.

OUR MISSION:

'To delight in creating, sharing and applying knowledge to make a difference to individuals and society.' In our vision, we are committed to the delivery of transformational education, research and innovation.

WE ARE:

Ambitious

- We pursue bold ideas in an environment where creativity, innovation and success is encouraged and celebrated
- We nurture and value relationships and partnerships that foster a global outlook
- We inspire and support staff and students to achieve their potential and meet the challenges of society
- We never settle for second best

Responsible

- We act with integrity for the greater good
- We insist on upholding the highest academic and professional standards
- We respect and celebrate diversity and equal opportunity through an inclusive culture
- We aim for sustainability across all our activities

Open

- We work consultatively and collaboratively to benefit from new perspectives
- We share ideas and maintain transparency
- We are trustworthy and do what we say we will do
- We listen and respond to the needs of our students and staff

You can read more detail on our plans for shaping the University's future at port.ac.uk/vision.

THE FACULTY OF TECHNOLOGY

THE FACULTY OF TECHNOLOGY IS ONE OF FIVE FACULTIES IN THE UNIVERSITY. WITH AROUND 4000 STUDENTS, IT OFFERS A DIVERSE PORTFOLIO OF UNDERGRADUATE AND POSTGRADUATE COURSES IN ENGINEERING, THE BUILT AND NATURAL ENVIRONMENT, COMPUTING, MATHEMATICS, AND PHYSICS.

The Faculty is structured as follows:

- School of Mechanical and Design Engineering
- School of Energy and Electronic Engineering
- School of Computing
- School of Civil Engineering and Surveying
- School of Mathematics and Physics
- Institute of Cosmology and Gravitation
- Department of Learning at Work

Leading institutions and professional bodies accredit most of our courses, and the Faculty is an academic partner of the IET. It also offers several transnational programmes in Asia, the Middle East, and in Europe. Regionally, the Faculty has also validated an extensive range of courses with local colleges and the MOD.

The Faculty is committed to continually developing and enhancing the student learning experiences. Our ambition is to improve the take up of the yearlong placement option to 50% of all students who qualify and show an interest in engaging with business and industry to enhance their future graduate employment prospects. A team of learning support tutors has been established to provide extra tuition to individual and groups of students in maths, engineering science, and software simulation. The Faculty also provides Math support to all University students through Maths Café.

Staff are actively engaged in research and services to business and industry. In recent years, the Faculty research and innovation income has grown by more than 50% with a significant proportion of income from a variety of UK research councils. The Faculty's REF2014 submission returned under four Units of Assessment:

- Computer Science and Informatics
- Aeronautical, Mechanical, Chemical and Manufacturing Engineering
- Physics
- Mathematics

The Faculty hosts the only accredited and the sole UK (one of 6 in Europe) establishment for ESA (European Space Agency) Approved Skills Training School (ASTA Technology Ltd).
In the last 5 years, the University invested in excess of £25 million in the Faculty buildings and equipment and the most recent Future Technology Centre (FTC) building opened in early 2018. The Faculty invested in 2 supercomputers (Sciama 1 & 2) to support research in large and complex data science research.

THE SCHOOL OF ENERGY AND ELECTRONIC ENGINEERING

THE NEWLY FORMED SCHOOL OF ENERGY AND ELECTRONIC ENGINEERING (SEEE) HAS EMERGED FOLLOWING A RECENT RESTRUCTURE IN THE FACULTY OF TECHNOLOGY AND CONSISTS OF OVER 30 MEMBERS OF ACADEMIC STAFF AND MORE THAN 700 STUDENTS.

The School engages in teaching and research in the fields of electronic engineering, energy and power systems, and petroleum engineering. This combination of subjects provides an exciting opportunity to shape the profile of future developments in addressing big societal challenges related to energy storage, renewable energy, automation and autonomous systems. We have established several collaborative programmes nationally and internationally and continue to maintain professional accreditations with the Institution of Engineering and Technology, the Institution of Mechanical Engineers, and the Energy Institute.

We pride ourselves on providing an outstanding student learning experience, which has enabled us to achieve leading positions nationally in the NSS and DLHE league tables. Maintaining this standard is our primary focus and ensuring the quality of all programmes meet and excel the requirements of the University's gold rating in the TEF.

Building on existing academic and professional strengths is another of our key objectives and by continually enhancing the portfolio of programmes we offer, we are prepared to meet the challenges of the future. We aim to widen the horizons of research and innovation, establishing an internationally competitive profile of activities aligned with the university strategic objectives.

COURSES

The teaching of electronic engineering in the University spans many decades. It has retained its accreditation with IET for over 30 years, also an academic partner of the University. SEEE courses continue to deliver high levels of student satisfaction and produce highly employable graduates in the following subject areas:

MEng	Electronic Engineering
BEng (Hons)	Electronic Engineering
MSc	Electronic Engineering
BEng (Hons)	Electronic Systems Engineering (top-up by Distance Learning)
BEng (Hons)	Embedded Electronic Systems Design and Development Engineer (Degree Apprenticeship)

Recently, a new MSc in Energy and Power Systems Management was launched in response to the growing need for specialists in energy and power systems covering smart grid, nuclear and renewable technologies.

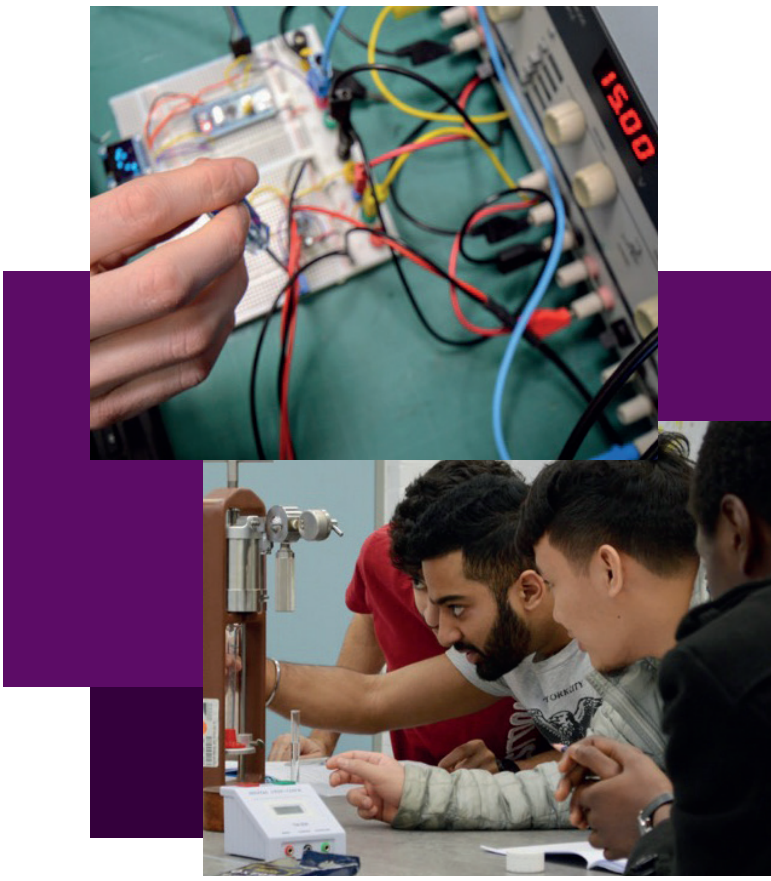
As the demand for energy grows globally, the importance of carbon-based natural resources remain a significant component in the spectrum of energy production. We are able to support provision for this key sector through the following curriculum offer:

MEng/BEng	(Hons) Petroleum Engineering
MSc	Petroleum and Gas Engineering

By synergising emerging renewable energy technologies with an ongoing demand for Petroleum & Gas Engineering skills within one School, we are better able to navigate the developing industry that encompass both fields of study and pre-empt changes on the horizon.

FACILITIES

A SIGNIFICANT INVESTMENT PROGRAMME IN FACILITIES INCLUDING THE LATEST EXPERIMENTAL AND COMPUTATIONAL RESOURCES PROVIDE ACCESS TO AN IMPRESSIVE SUITE OF ADVANCED ANALYSIS AND SIMULATION TOOLS TO ENABLE FAMILIARISATION WITH INDUSTRY-STANDARD SOFTWARE PACKAGES.



Analogue Electronics and Control Engineering Laboratory

This laboratory has a fully equipped suite for analogue testing and measurements and eight project areas for control system design, analysis and development. All benches have PCs with relevant software suites such as circuit simulations, Gesseca, Spice Age, Microcap and control system simulations, ServoCad, Matlab. Facilities also include inverted pendulum equipment, Servoset systems, helicopter demonstration and development kits and sets of walking robots.

Digital Electronics and Microprocessor Laboratory

This laboratory has 45 fully equipped benches including oscilloscopes, network analysers, PCs and other standard electronic equipment for measurement purposes. There are also hardware and software development tools for design, development and implementation of microcontroller systems. In addition, there are professional hardware and software programming and testing VHDL environments for CPLD and FPGAs devices.

Digital Signal Processing Laboratory

The School's teaching of Digital Signal Processing (DSP) is supported by both hardware and software laboratory facilities. MATLAB software, an industry-standard simulation package, is available throughout the Linux and Unix suites. It is used in teaching DSP, both in lectures and laboratory experiments, and is available for DSP-related student projects. There are hardware DSP facilities in the School that are used for laboratory experiments and student projects.

Energy Systems and Petroleum Engineering Laboratory

Our energy systems facilities include internal combustion test engines, a gas turbine, a wind tunnel, and student project test equipment. The petroleum engineering laboratory houses industry standard test equipment and reservoir simulation software including OFITE drilling fluid testing, PVT apparatus and CMG, IMP, ECLIPSE and Kappa suites.

The Petroleum Engineering course received a generous donation of a software suite worth more than £1.3 million from Petroleum Experts (Petex), UK. An Integrated Production Modelling (IPM) suite developed by Petroleum Experts, the specialised petroleum engineering software developer with headquarters in Edinburgh, are used extensively as standard prediction tools by more than 350 oil and gas companies worldwide.

The suite comprises six software applications: PROSPER, MBAL, GAP, RESOLVE, REVEAL and PVTP. These applications are capable of modelling the complete production system from the reservoir to the surface network including the complex reservoirs, wells and complete surface systems for the prediction and optimization of the entire production network. Models built using the suite can be used in the optimization of hydrocarbon production from the existing oil and gas fields as well as the design of the production system of new oilfields.

Telecommunications Laboratory

Our telecommunications facilities include a wide range of instruments for generating, receiving and analysing high-frequency signals. Signal generators and spectrum analysers cover the communication bands up to 22 GHz, with an emphasis on 3G frequencies.
We also have an anechoic chamber for the measurement of antenna and a range of electronic circuit boards that may be interconnected to form a number of typical communications systems.

RESEARCH & INNOVATION

RESEARCH IN THE NEWLY FORMED SCHOOL OF ENERGY AND ELECTRONIC ENGINEERING FOCUSSES ON THE AREAS OF ELECTRICAL POWER SYSTEMS, PLANT CONDITION MONITORING, RENEWABLE ENERGY, CONTROL OF ENERGY STORAGE, EFFICIENT UNCONVENTIONAL OIL RECOVERY METHODS, AND AUTONOMOUS SYSTEMS.

Ongoing or recently approved projects are funded by the EPSRC (smart monitoring for nuclear power plants, fault tolerant control of nuclear power plants), the EU Horizon 2020 programme (Doctoral training programme in Energy), Interreg 2 Seas (solar energy adoption in the two seas area), and the Progeny Community of Interest (maritime defence), totalizing over £1.5m in value. The School has well equipped laboratories for research in smart grids, renewable energy and petroleum engineering. Current research partners include Qinetiq, the Bhabha Atomic Research Centre (India) and Scottish and Southern Energy Networks.

The School conducts research in response to practical demands in defence, healthcare, manufacturing, marine and service industries, which is supported by grants from the EPSRC, the Royal Society, EU, MOD, industry and UK charities. Our ever-evolving range of specialist areas leads research students to successful professional engineering careers.

Our students come from all over the UK and many other parts of the world. They are conducting research on a range of subjects including electronics, control and automation, telecommunications and data communications. Research in the field of Energy and Electronic Engineering can also be linked to: Computer Science, and Civil Engineering and Surveying.

Intelligent and Networked Systems
There are four research groups in Intelligent and Networked Systems: Engineering Education; Intelligent and Autonomous Systems; Systems Engineering; Telecommunications and Networked Systems.

Petroleum and Energy Engineering Research Group
The Petroleum and Energy Engineering research group includes: Computational Fluid Mechanics, Multiphase Flow and Heat Transfer, Thermal and Renewable Energy Systems, and Enhanced Oil and Gas Recovery Flow Assurance.

Renewable Energy and Sustainability
The need to produce clean, green energy at a reasonable cost and design production, logistics, transportation, and societal processes that are sustainable, give rise to some of the most pressing challenges of the 21st century. Operational Research plays a key role in providing the decision support and solutions that allow these challenges to be met. Our members are involved in key European projects in the marine renewable energy sector that will allow the production of electricity from renewable sources at more competitive cost. Our members also have a wider interest in the general theme of sustainability that runs through many of the other themes and application areas of the centre.

THE ROLE OF HEAD OF SCHOOL OF ENERGY AND ELECTRONIC ENGINEERING

MAIN PURPOSE OF THE ROLE

The Head of School is a senior appointment in the University. The primary function is to provide leadership and strategic planning, to manage resources and processes, and to facilitate a collegiate and productive working environment at the School level. These functions are exercised within the context of wider strategic and operational plans of the Faculty and University and in the context of emerging priorities. Heads have a key role to play in ensuring the quality of the student learning experience and staff performance. They are also expected to play an active role in the wider business of the Faculty and University and to work closely with key senior colleagues.

KEY RESPONSIBILITIES

The key roles of the Head are in the areas of academic leadership, strategy and policy development, resource management and the quality of the student experience. It is recognised that the balance between these activities may vary according to specific school and faculty circumstances.

Each of the categories is associated with a number of general responsibilities in which strategic positions are translated into operational procedures. Heads are ultimately accountable for these responsibilities but may devolve authority for decisions to other colleagues in the School. In addition, the extent to which responsibilities are devolved will be dependent on the size and complexity of Schools.

Academic Leadership:

Heads are responsible for providing leadership of the academic provision including pedagogy, research and knowledge transfer and curricula development. This will involve fostering an appropriate ethos and culture within their School resulting in effective, innovative academic practice and effective working relationships. The Head will also be responsible for determining and managing an effective School organisational and committee structure and managing this structure to ensure fitness for purpose. Heads will be responsible for maintaining and enhancing the ongoing quality of all School activities including the implementation of quality assurance processes and the maintenance and enhancement of academic standards. Heads are expected to represent the School at the University level, and discharge an ambassadorial role by maintaining and enhancing the standing and reputation of the School to external academic, professional and employer communities and to potential students.

Strategy and Policy Development and Implementation:
Heads are responsible for establishing, implementing and reviewing School vision and strategic plans in line with Faculty and University strategic plans, with reference, for example, to key strategies in relation to education, research and innovation, and global engagement. They are also instrumental in establishing, implementing and reviewing local policy within the wider University framework and seeking compliance with general University policies and regulatory framework in relation to, for example, finance, health and safety, equal opportunities, employment matters and information technology.

Quality of Student Learning Experience:

Heads are responsible for the quality of the student experience from initial marketing and recruitment stages through to graduation. This will include responsibilities for the provision and review of appropriate support arrangements, of relevant programmes and effective learning opportunities designed to promote the academic development of students, the quality and effectiveness of communication with students and actions in response to student feedback.

Resource Management:

Heads have responsibility for the acquisition and management of resources (academic staff, finance, space and equipment). The management of academic staff will involve ensuring that effective annual staff PDRs are conducted and staff development plans implemented, determining equitable workloads, managing performance against agreed objectives, providing advice on staff re-grading issues and ensuring that staff work productively within a supportive environment. The Head will be responsible for managing revenue budgets, producing financial and investment plans, encouraging and driving income generating activities and managing the School's infrastructure and equipment needs.

Heads are responsible for assessing and managing risk within the scope of the role, in line with the University's Risk Management Policy and to escalate matters where necessary.

By negotiation, and as appropriate, Heads may make a contribution to the work of the School through teaching, research and knowledge transfer and other activities normally up to 20% of the time.

THE QUALIFICATIONS, SKILLS, KNOWLEDGE AND EXPERIENCE OUTLINED BELOW PROVIDE A SUMMARY OF WHAT IS REQUIRED TO CARRY OUT THIS JOB EFFECTIVELY. THEY ALSO FORM PART OF THE SELECTION CRITERIA ON WHICH THE APPOINTMENT WILL BE BASED.

PERSON SPECIFICATION

NO	ATTRIBUTES	RATING	SOURCE
1.	**SPECIFIC KNOWLEDGE & EXPERIENCE**		
1.1	Understanding the role of the School in implementing the University's Strategic Plan.	E	AF,P,S
1.2	Understanding of University's processes for staff and student recruitment, performance and development review, academic planning, quality assurance.	E	AF,P,S
1.3	Understanding of the UK context for Higher Education.	E	AF,P,S
1.4	Understanding of the wider strategic and operational plans of the Faculty and University.	E	AF,P,S
1.5	Experience of chairing committees and meetings.	E	AF,S
1.6	Record of academic achievement and evidence of continuing scholarly activity in an appropriate School subject	E	AF,S
1.7	Experience of line management and/or academic leadership relating to course and curriculum development and administration.	E	AF,S
1.8	Understanding of University funding and financial processes.	D	AF,P,S
1.9	An understanding of VLEs and their role in developing E learning provision to the Institute's varied student audiences.	D	AF, S
2.	**Skills & Abilities**		
2.1	Excellent management and leadership skills and the ability to delegate responsibilities effectively.	E	AF,P,S
2.2	Ability to plan strategically for the management of all resources and processes (staffing, finance, space and equipment).	E	AF,P,S
2.3	Ability to develop and articulate an ambitious vision and facilitate a collegiate and productive working environment within the School.	E	AF,P,S
2.4	Ability to produce clear, concise documentation and the ability to communicate to a range of individuals and groups, within and beyond the School and Faculty.	E	AF,P,S
2.5	Ability to apply analytical and problem solving skills to a range of contexts.	E	AF,P,S
2.6	Ability to represent the School in a Faculty or University context, as well as externally.	E	AF,S
2.7	Excellent team working, interpersonal and presentation skills	E	AF,S
3.	**QUALIFICATIONS EDUCATION AND TRAINING**		
3.1	A PhD in a relevant discipline.	E	AF
4.	**OTHER REQUIREMENTS**		
4.1	Commitment to the development of high quality teaching, research, knowledge transfer and scholarship.	E	AF,P,S
4.2	Commitment to supporting staff in the School and to provide a high quality student learning experience.	E	AF,P,S

Legend
Rating of attribute: E = essential; D = desirable
Source of evidence: AF = Application Form; S = Selection Programme; T = Test; P = Presentation

TERMS AND CONDITIONS

Annual leave entitlement is 35 working days in a full leave year. In addition, the University is normally closed from Christmas Eve until New Year's Day inclusive and there are a further 5 bank holidays. Staff may be asked to attend on weekends for recruitment, or other activities at certain times of the year.

Employment is on a permanent basis at the University of which the first 5 years is at Head of School level.

There is a probationary period of one year, during which new staff will be expected to demonstrate their suitability for the post.

It is the University's policy to take up references for successful candidates and to ask them to submit documentary evidence of their qualifications on taking up their appointment. Candidates who are shortlisted will be asked to bring their passport and any other 'Right to Work' documentation to interview where it will be copied, checked and verified as part of the University's prevention of illegal working process.

It is a condition of the appointment for the proper performance of the duties of the post that the appointee will take up residence at a location to enable them to fulfil the full range of their contractual duties. This residential requirement will be expected to be fulfilled within twelve months of taking up the appointment. The University has a scheme of financial assistance towards the cost of relocation, details of which can be found on the University website.

The appointee will be eligible to join the Teachers Pension Scheme. There is a comprehensive sickness and maternity benefits scheme.

RECRUITMENT PROCESS

For an informal discussion about the role, please contact Professor Djamel Ait-Boudaoud, Dean, Faculty of Technology on +44 (0)239284 2014 or djamel.ait-boudaoud@port.ac.uk

To apply, please visit the University of Portsmouth vacancy pages: port.engageats.co.uk/Vacancies.aspx

All applications must be submitted by midnight (GMT) on **24th June 2018**

Interviews will be held on **5th July 2018**

Stonewall DIVERSITY CHAMPION

disabledGO

We're supporting time to change let's end mental health discrimination

HR EXCELLENCE IN RESEARCH

MINDFUL EMPLOYER

Athena SWAN Bronze Award

working families changing the way we live and work

THE UNIVERSITY AND THE CITY: A BREATH OF FRESH AIR

LIVELY, VIBRANT AND STEEPED IN HERITAGE, THE WATERFRONT CITY OF PORTSMOUTH HAS LONG BEEN A GATEWAY - A PORT QUITE LITERALLY OPEN TO NEW AND GAME-CHANGING PEOPLE AND IDEAS.

A place of commerce and exploration, Portsmouth has innovation running through its veins.

Campus buildings are dotted throughout the 'University Quarter' in the city centre. We're part of the bustle of city life, and many of our staff live in Portsmouth while students often settle here after graduation, further enriching our city's boundless creativity and vitality.

AN ISLAND CITY

The UK's only island city, Portsmouth offers a wonderful quality of life. Easy to get around with a terrific sense of community, highlights include four miles of beach fronting the Solent, where you can enjoy sailing, windsurfing and other watersports. Foodies and culture vultures love Southsea's thriving independent scene, and like any great city, Portsmouth has a fantastic range of bars, restaurants and cafés. For shopping, you can't beat Gunwharf Quays, home to the 170m iconic Emirates Spinnaker Tower.

A MARITIME HISTORY AND FUTURE

Home to the Royal Navy, the Historic Dockyard attractions include HMS *Victory* and the award-winning Mary Rose Museum. Millions of visitors flock here from around the world. The city is also home to Ben Ainslie Racing and, in 2016, we hosted the Louis Vuitton America's Cup World Series.

ROAD, RAIL, SEA AND AIR

We're just over an hour from London by rail, and Southampton Airport can be reached within 30 minutes. The International Ferry Port offers regular trips to Europe. The New Forest, the South Downs National Park and the Isle of Wight are within easy reach, as are the historic cities of Winchester and Chichester. Visit visitportsmouth.co.uk for more info.