

**JOB DESCRIPTION**

<b>POST TITLE:</b>	Professor of Engineering
<b>DEPARTMENT:</b>	School of Engineering
<b>POST RESPONSIBLE TO:</b>	Dean of Engineering Head of the Electronics, Power and Microsystems Research Group
<b>SALARY:</b>	Negotiable
<b>REFERENCE NUMBER:</b>	70398-050
<b>CLOSING DATE:</b>	21 June 2010

**JOB PURPOSE:**

To establish and lead a significant research activity of international excellence and to teach on the range of taught programmes offered by the School at undergraduate, specialised masters and continuing professional development levels. The post will be in the Electronics, Power and Microsystems research group, in the area of electrical power engineering.

To establish and lead collaborative activities with other disciplines at Warwick and other universities in the UK and overseas.

To establish and lead collaborative activities with existing and new industrial partner organisations.

**DUTIES AND RESPONSIBILITIES:**

- To take a leading role in carrying out research of internationally-leading quality in the general field of electrical power engineering, through rapid development of a substantial research group.
- To take a leading role in developing research applications to the research councils, central and local government agencies, the European Union and UK and overseas industry.
- To teach and lead the development of courses within Engineering, including those at undergraduate, postgraduate and continuing professional development level.
- To contribute to the development of research strategies for the School.
- To contribute to other activities (including administration) within Engineering and the University.

Preference will be given to candidates who can offer an ability to carry out research in an electrical power engineering field (including automotive, smart grids, renewable energy systems, power electronics and aerospace).

**PERSON SPECIFICATION**

**POST TITLE:** Professor of Engineering

**DEPARTMENT:** School of Engineering

The Person Specification focuses on the knowledge, skills, experience and qualifications required to undertake the role effectively.

<b>REQUIREMENTS</b> The post holder must be able to demonstrate:	<b>ESSENTIAL (E) or DESIRABLE (D) REQUIREMENTS</b>	<b>MEASURED BY:</b> a) Application Form b) Test/Exercise c) Interview d) Presentation
Appropriate honours degree or equivalent	E	a
PhD level qualification or equivalent in an associated field	E	a
A major academic or professional track record in an appropriate field, with evidence of extensive impact through peer-reviewed journals and/or other outcomes	E	a, c
A strategic vision for the development of innovative research, education and knowledge transfer in Engineering	E	c, d
High level of interpersonal skills and the ability to lead a multidisciplinary team	E	a, c, d
High level of self-motivation	E	c
Evidence of and ability to develop strong national, European and international links with academe and industry	E	a, c
Ability to identify target application sectors and identify appropriate strategies for those sectors	E	c
Industrial or professional experience working for, or with industry	E	a, c
An outstanding record of achievement in research of internationally-leading standing	E	a, c
Publication record in reputable journals or the equivalent in the case of an industrial background	E	a, c
Outstanding communication skills, both written and verbal	E	a, c
Ability to manage large multi-partner research programmes	E	a, c

## FURTHER PARTICULARS

### The University

The University of Warwick is arguably the most successful of UK universities founded within the past half-century, and has earned an outstanding reputation both for research and teaching. Warwick is comfortably ranked within the top ten of all UK university league tables. The latest national UK newspaper tables (Times, Guardian, Independent, December 2008) all ranked Warwick in 7<sup>th</sup> place overall for research based on its performance in the Research Assessment Exercise.

Founded in 1965 Warwick has been a unique and uniquely successful British university combining a "can-do" entrepreneurial spirit with a commitment to absolute academic excellence. Professor Nigel Thrift, Warwick's 5<sup>th</sup> Vice-Chancellor, was appointed in 2006 to transform the University from a leading university within the UK to become one of the world's top 50 universities by 2015. A new university strategy was launched as a result of extensive consultation with staff, students and Warwick's many external stakeholders, and is making good progress.

Warwick employs over 5,000 members of staff, of whom 2,400 are academic and research staff spread across 28 academic departments and 30 research centres; The University's most recent QAA Institutional Audit in November 2008 resulted in findings of "confidence" in our management of academic standards and the quality of the learning experience, and a very positive report. The results of the 2008 Research Assessment Exercise (RAE) again reiterated Warwick's position as one of the UK's leading research universities, being ranked 7<sup>th</sup> overall in the UK (based on multi-faculty institutions). 65% of Warwick's research is 'world-leading' or 'internationally excellent', with a quality level of either 3\* or 4\*. 19 Warwick Departments were ranked in the top 10 in the UK in their units of assessment and Warwick achieved a 35% increase in the number of staff selected in RAE 2008, with almost 90% of staff submitted.

The University of Warwick has a total student population of 17,000 (full-time equivalent) of whom approximately 11,000 are undergraduates and 7,000 are postgraduates. The University is an international and cosmopolitan body which is committed to tackling major global problems through research and teaching. Many of Warwick's staff originate or were educated overseas and almost a third of the total student population comes from over 120 countries outside of the UK.

The University's main campus, located on a 400-acre site spanning the south west boundary of Coventry and the county of Warwickshire has an open and pleasant outlook. The campus offers excellent sporting facilities, including a swimming pool, a newly refurbished gym, a climbing wall, an all weather running track and acres of football and rugby pitches. An indoor tennis centre has recently been opened. The renowned Warwick Arts Centre is one of the largest outside London with the Mead Gallery showing visiting collections of contemporary art, a concert hall, two theatres and a cinema. The 1,500 seat Butterworth Hall reopened in Autumn 2009 following a £6.9 million redevelopment.

The University of Warwick is ideally placed for easy access to London (just over one hour on the train), close to the picturesque towns of Warwick, Kenilworth and Leamington Spa and about 45 minutes from the centre of Birmingham. Immediately to the south of the main campus is rural Warwickshire and both Shakespeare's Stratford and the Cotswolds are just 30 minutes away.

The University of Warwick has a turnover approaching £350 million. The University continues to invest heavily in its campus infrastructure and environment and current developments include a multi million pound extension and redevelopment of the Students' Union building, a new Clinical Trials Unit for Warwick Medical School and a £2 million refit of our Chemistry teaching labs.

The state-of-the-art £50 million Warwick Digital Laboratory's foundation stone was laid by former Prime Minister Gordon Brown in May 2007 and he returned to formally open the building in 2008.

Further details about the University of Warwick can be found at <http://www.warwick.ac.uk>

#### The Managerial and Administrative Structure of the University

The University's administrative and managerial structure is headed by the Vice-Chancellor, supported by the Deputy Vice-Chancellor, the Registrar, the Deputy Registrar and the Finance Director. However, as with all such structures, the informal lines of decision making and the sharing of responsibility for planning and strategy flatten the hierarchy. Institutional level decisions are initially made by a group comprising academics and administrators who form the Senate Steering Committee which operates much along the lines of a weekly cabinet for the University.

The Registrar, Mr Jon Baldwin, is responsible for the administration of the University and is supported in this task by a team of Senior Officers, each of whom is responsible for a key area and associated offices of University administration: the Academic Registrar, the Estates Director, the Director of Human Resources and Commercial Activities, the Director of IT Services, the Director of Development, Communication and Strategy, and the University Librarian. A number of office heads and directors report in turn to these Senior Officers. To ensure overall co-ordination between and across the University's administration, all administrative posts within academic departments have a "dotted line" reporting to the University Registrar as well as the Department in which they are based.

#### School of Engineering

Warwick's School of Engineering (<http://www2.warwick.ac.uk/fac/sci/eng/>) is one of the leading engineering schools in the UK. It is also one of the largest, with around 1000 undergraduates and 200 academic teaching and research staff, plus 140 support staff. It has a strong research profile and achieved a GPA of 2.85 in the 2008 Research Assessment Exercise. Its particular strength lies in its combination of world-class research with a close involvement with industry. This has resulted in high impact research, exceptional innovation and a strong contribution to wealth creation. Against this background, the School now has ambitious plans for its future development.

The School is led by the Dean, Professor Jonathan Seville, who took up his present position in April 2008. Within the School, there are no disciplinary boundaries; the academic staff are each associated with one of six major research groups (see below), a teaching development group or WMG (Warwick Manufacturing Group; <http://www2.warwick.ac.uk/fac/sci/wmg/>), the world-famous industry-facing research and teaching organisation led by Professor Lord Kumar Bhattacharyya.

The School's unified and flexible undergraduate degree structure provides a broad general engineering grounding and then allows students to continue a general approach or to specialise. There are strong design-led and research-led elements in the undergraduate degree, whatever the route taken.

Current student programmes include the following; other titles are under development.

#### UNDERGRADUATE PROGRAMMES

Main disciplines:

- Automotive Engineering
- Civil Engineering
- Computer and Information Engineering
- Electronic Engineering
- Manufacturing and Mechanical Engineering
- Mechanical Engineering
- Systems Engineering

Broad degrees:

- Engineering
- Combined Technology
- Engineering and Business Studies
- Engineering and Business Management

#### TAUGHT POSTGRADUATE PROGRAMMES:

Masters in Advanced Engineering:

- Biomedical Engineering
- Electronic Engineering
- General Engineering
- Mechanical Engineering
- Photonics and Communications

WMG also deliver a range of taught postgraduate courses in the UK and overseas.

The School is currently developing a new MSc in Tunnelling, with support from industry.

Information on both undergraduate and postgraduate degree programmes can be found at

<http://www2.warwick.ac.uk/fac/sci/eng/>.

The School has recently undergone a major review of its research activities, resulting in the establishment of six major research themes:

- Fluid dynamics (led by Professor Peter Thomas)
- Sustainable energy engineering and design (Professor Bob Critoph)
- Civil Engineering (Professor Ian Guymer)
- Systems, measurement and modelling (Dr Peter Jones)
- Electronics, power and microsystems (Professor Phil Mawby)
- Information and communication technologies (Professor Evor Hines)

The School's flexible structure allows new research areas to emerge and be established as formal groups.

Within the Warwick Manufacturing Group there are research strengths in all areas of manufacturing, including novel developments in sustainable and low carbon engineering. A major new activity, the £13 million Digital Laboratory (<http://digital.warwick.ac.uk/>) was opened in 2009. It brings together a multidisciplinary team of academics from across the world to work on a range of digital technologies, including digital manufacturing and digital healthcare.

The School participates strongly in a number of interdisciplinary research centres:

- The Warwick Institute for Sustainable Energy and Resources – WISER – which acts as a focus for scientists, engineers and social scientists engaged in energy research
- The Centre for Cognitive and Neural Systems
- The Centre for Scientific Computing
- The International Automotive Research Centre and the EPSRC Innovative Manufacturing Research Centre (based within WMG)

Cross-disciplinary work with the sciences in Warwick and elsewhere is growing rapidly and members of staff carry out research projects with Chemistry, Physics, Biological Sciences, Maths, Psychology and Medicine.

The School is a major contributor to the Advantage West Midlands "Science City" project, which is providing some £80 million of funding for research infrastructure to the Universities of Birmingham and Warwick, in the three key areas of Energy, Materials and Medicine.

## **Recruitment of Ex-Offenders Policy**

(Developed in line with the CRB Disclosure information pack, part DIP011)

This Policy applies to all staff recruitment at the University of Warwick.

As an organisation using the Criminal Records Bureau (CRB) Disclosure service to assess applicants' suitability for positions of trust, the University of Warwick complies fully with the CRB Code of Practice and undertakes to treat all applicants for positions fairly. It undertakes not to discriminate unfairly against any subject of a Disclosure on the basis of a conviction or other information revealed.

The University of Warwick is committed to the fair treatment of its staff, potential staff or users of its services, regardless of race, gender, religion, sexual orientation, responsibilities for dependants, age, physical/mental disability or offending background.

Our written policy on the recruitment of ex-offenders is made available to all applicants at the outset of the recruitment process.

We actively promote equality of opportunity for all with the right mix of talent, skills and potential and welcome applications from a wide range of candidates, including those with criminal records. We select all candidates for interview based on their skills, qualifications and experience.

A Disclosure is only requested after a thorough risk assessment has indicated that one is both proportionate and relevant to the position concerned. For those positions where a Disclosure is required, all application forms, job adverts and recruitment briefs will contain a statement that a Disclosure will be requested in the event of the individual being offered the position.

Where a Disclosure is to form part of the recruitment process, we encourage all applicants called for interview to provide details of their criminal record at an early stage in the application process. We request that this information is sent under separate, confidential cover, to a designated person within the University of Warwick and we guarantee that this information will only be seen by those who need to see it as part of the recruitment process.

Unless the nature of the position allows the University of Warwick to ask questions about the applicants entire criminal record, we only ask about 'unspent' convictions as defined in the Rehabilitation of Offenders Act 1974.

We ensure that all appropriate staff in Human Resources at the University of Warwick who are involved in the recruitment process have been suitably trained to identify and assess the relevance and circumstances of offences. We also ensure that they have received appropriate guidance in the relevant legislation relating to the employment of ex-offenders, e.g. the Rehabilitation of Offenders Act 1974. Line managers are advised who to approach for support on these issues.

At interview, or in a separate discussion, we ensure that an open and measured discussion takes place on the subject of any offences or other matter that might be relevant to the position. Failure on the part of the applicant to reveal information that is directly relevant to the position sought could lead to withdrawal of an offer of employment.

We make every subject of a CRB Disclosure aware of the existence of the CRB Code of Practice and make a copy available on request.

We undertake to discuss any matter revealed in a Disclosure with the person seeking the position before withdrawing a conditional offer of employment.

We do not accept Disclosures transferred from other organisations and do not supply Disclosures requested by us to any external organisations.