



Job Description

College/Management Unit	UCD College of Engineering and Architecture
School/Unit	UCD School of Mechanical and Materials Engineering
Post Title & Subject Area (if relevant)	Bekaert Lecturer (Above The Bar) in Materials Processing
Post Duration	Temporary 5 Years
Grade	Lecturer (Above The Bar)
Job Grading Reference No.	N/a
Reports to	Head of School or nominee
HR Reference No.	007292
HR Administrator	Jane Mahony

Position Summary

The UCD School of Mechanical and Materials Engineering seeks to appoint an outstanding academic with a suitably strong record in Materials Processing. The post holder will be expected to contribute to the teaching of existing modules (i.e., Computational Continuum Mechanics II, Materials Science & Engineering I, Mechanical Engineering Design I) and to be responsible for delivering the core mechanical engineering module, Manufacturing Engineering I, as well as to develop additional undergraduate and masters level modules.

The successful candidate will develop an appropriate mixture of fundamental and applied research in the materials processing area with relevant external groups including

- Bekaert, Belgium
- IComp industrial partners e.g. Henkel, Bombardier, TE Connectivity, Element 6
- Micro-injection moulding industry

2010 (2013) Lecturer (ATB) Salary Scale: €50,807 - €76,936 per annum

2011 (2013) Lecturer (ATB) Salary Scale: €45,726 - €69,275 per annum

Subject to all new entrants to public sector as of 01 January 2011

Appointment will be made on scale and in accordance with the Department of Finance guidelines.

Principal Duties and Responsibilities

- Contribute to the delivery and development of existing and future modules in the areas of Mechanical Engineering and Materials Science & Engineering including, but not limited to, the following:
 - MEEN 40150 Computational Continuum Mechanics II
 - MEEN 30090 Materials Science & Engineering I
 - MEEN 20060 Mechanical Engineering Design I
- Develop and deliver the core Mechanical Engineering module, MEEN 20020, Manufacturing I;
- Develop modules based on research interests to support the offerings across the School's taught graduate programmes and contribute to the development of content and structure of those degree programmes for which the School provides modules;
- Establish a University Technology Centre with a particular focus on the processing and manufacturing of steel wires and adopt a leadership role for the UTC in its relationship with NV Bekaert SA;
- Support and identify opportunities for industry placement projects on existing relevant Masters degree programmes;
- Develop relevant interdisciplinary, inter-school and industry collaboration to support both teaching and research, including via industry-based projects for taught masters modules;
- Contribute to the development of strong industry and academic links with relevant national

- and international partners and alumni;
- Supervise dissertations at both undergraduate and postgraduate levels;
- Direct, supervise and lead internationally competitive, high-quality research and publish the findings in leading peer-reviewed journals and conferences;
- Develop and sustain a vigorous research programme that is internationally competitive;
- Develop and deliver appropriate CPD/online courses;
- Contribute to the academic life of the School, College and University;
- Carry out administrative and other duties as deemed necessary by the Head of School or their nominee.

Selection Criteria

Selection criteria outline the qualifications, skills, knowledge and/or experience that the successful candidate would need to demonstrate for successful discharge of the responsibilities of the post. Applications will be assessed on the basis of how well candidates satisfy these criteria.

Mandatory

- Primary and doctoral degrees in Mechanical Engineering, with at least two years relevant post-doctoral, industry or teaching experience in theoretical and applied continuum mechanics;
- Advanced numerical expertise (theoretical and applied) in the FV and FE methods, including advanced knowledge of software packages (in particular, OpenFOAM);
- Experience with simulation of multi-scale, multi-physics problems, microstructural simulation, scale-bridging, metal forming (wire drawing and rolling), large deformations, plasticity, heat transfer, tribology, contact including friction and lubrication, thermal and residual stresses, damage and fracture, Fluid-Structure Interaction, phase transformation, structural and process optimisation (including use of genetic algorithms), and near real-time computing;
- Experience of relevant topics in mechanical engineering design and manufacturing;
- Experience with code development (e.g. C++) for massively parallel simulations, including use of graphics cards;
- Experience of collaborating with industry in the development of numerical models;
- An outstanding record of research, as evidenced by past and recent publications in top ranking journals and contributions to international refereed conferences;
- Evidence of potential to generate and to win independent competitive research funding from industry and research funding agencies;
- Evidence of potential to supervise and lead PhD students and postdoctoral researchers;
- Evidence of ambition and potential to lead a vigorous research group;
- Relevant experience of university-level teaching and research supervision;
- Excellent organisational skills and the ability to use initiative and work collaboratively as part of a team;
- Excellent interpersonal, communication and administrative skills;
- Excellent computing skills and/or experimental skills;
- An excellent level of fluency in English, both written and oral.

Desirable

- Prior teaching experience at University level;
- Possess a record of attracting research funds and experience of interdisciplinary collaborative research, including collaborations with industry and supervising PhD/researcher activity;
- Relevant knowledge of current research within the School: composite/polymers processing (HPRTM, RTI, MIM), fracture analysis (polymers, composites, adhesives), materials science (e.g. crystal growth predictions in metals); metals processing, additive/subtractive manufacturing, surface engineering, design;
- Experience of interdisciplinary collaborative research, including collaborations with industry and supervising PhD/researcher activity;
- Ability to fulfil specific teaching requirements at undergraduate and at taught Masters/Doctoral levels.

Further Information for Candidates

Supplementary information

The University:	http://www.ucd.ie/aboutucd.htm
The College/Management Unit:	http://www.ucd.ie/eacollege
The School/Programme Office/Unit:	http://www.ucd.ie/eacollege/mme
Other (Please specify):	n/a

Relocation Expenses

- Will not apply
- Will be applied in accordance with the UCD Relocation Policy
<http://www.ucd.ie/hr/policies>

Informal Enquiries ONLY to:

Name:	Professor Michael Gilchrist
Title:	Head of School
Email address:	head.mme@ucd.ie
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Eligibility to compete and certain restrictions on eligibility

Incentivised Scheme for Early Retirement (ISER)

It is a condition of the Incentivised Scheme for Early Retirement (ISER) as set out in Department of Finance Circular 12/09 that retirees, under that Scheme, are debarred from applying for another position in the same employment or the same sector. Therefore, such retirees may not apply for this position.

Department of Health and Children Circular (7/2010)

The Department of Health Circular 7/2010 dated 1 November 2010 introduced a Targeted Voluntary Early Retirement (VER) Scheme and Voluntary Redundancy Schemes (VRS). It is a condition of the VER scheme that persons availing of the scheme will not be eligible for re-employment in the public health sector or in the wider public service or in a body wholly or mainly funded from public moneys. The same prohibition on re-employment applies under the VRS, except that the prohibition is for a period of 7 years, after which time any re-employment will require the approval of the Minister for Public Expenditure and Reform. People who availed of either of these schemes are not eligible to compete in this competition.

Collective Agreement: Redundancy Payments to Public Servants

The Department of Public Expenditure and Reform letter dated 28th June 2012 to Personnel Officers introduced, with effect from 1st June 2012, a Collective Agreement which had been reached between the Department of Public Expenditure and Reform and the Public Services Committee of the ICTU in relation to ex-gratia Redundancy Payments to Public Servants. It is a condition of the Collective Agreement that persons availing of the agreement will not be eligible for re-employment in the public service by any public service body (as defined by the Financial Emergency Measures in the Public Interest Acts 2009 – 2011) for a period of 2 years from termination of the employment. Thereafter the consent of the Minister for Public Expenditure and Reform will be required prior to re-employment. People who availed of this scheme and who may be successful in this competition will have to prove their eligibility (expiry of period of non-eligibility) and the Minister's consent will have to be secured prior to employment by any public service body.

Declaration

Applicants will be required to a Pre-Employment Declaration to confirm whether they have previously availed of a public service scheme of incentivised early retirement and/or the collective agreement outlined above. The above represents the main schemes and agreements restricting a candidate's right to be re-employed in the public service. However it is not intended to be an exhaustive list and candidates should declare details of any other exit mechanism they have availed of which restricts their right to be re-employed in the public service. Applicants will also be required to declare any entitlements to a Public Service pension benefit (in payment or preserved) from any other Public Service employment and/or where they have received a payment-in-lieu in respect of service in any Public Service employment.

Superannuation and Retirement

The successful candidate will be offered the appropriate superannuation terms and conditions as prevailing in the University, at the time of being offered an appointment. In general, and except for candidates who have worked in a pensionable (non-single scheme terms) public service job in the 26 weeks prior to appointment (see paragraph d below), this means being offered appointment based on membership of the Single Public Service Pension Scheme ("Single Scheme"). Key provisions attaching to membership of the Single Scheme are as follows:

a. Pensionable Age

The minimum age at which pension is payable is 66 (rising to 67 and 68) in line with State Pension age changes.

b. Retirement Age:

Scheme members must retire at the age of 70.

c. Pension Abatement

- If the appointee was previously employed in the Civil Service or in the Public Service please note that the Public Service Pensions (Single Scheme and Other Provisions) Act 2012 includes a provision which extends abatement of pension for all Civil and Public Servants who are re-employed where a Public Service pension is in payment. This provision to apply abatement across the wider public service came into effect on 1 November 2012. This may have pension

implications for any person appointed to this position who is currently in receipt of a Civil or Public Service pension or has a preserved Civil or Public Service pension which will come into payment during his/her employment in this position.

- Department of Education and Skills Early Retirement Scheme for Teachers Circular 102/2007
The Department of Education and Skills introduced an Early Retirement Scheme for Teachers. It is a condition of the Early Retirement Scheme that with the exception of the situations set out in paragraphs 10.2 and 10.3 of the relevant circular documentation, and with those exceptions only, if a teacher accepts early retirement under Strands 1, 2 or 3 of this scheme and is subsequently employed in any capacity in any area of the public sector, payment of pension to that person under the scheme will immediately cease. Pension payments will, however, be resumed on the ceasing of such employment or on the person's 60th birthday, whichever is the later, but on resumption, the pension will be based on the person's actual reckonable service as a teacher (i.e. the added years previously granted will not be taken into account in the calculation of the pension payment).
- Ill-Health-Retirement
Please note that where an individual has retired from a Civil/Public Service body on the grounds of ill-health his/her pension from that employment may be subject to review in accordance with the rules of ill-health retirement within the pension scheme of that employment.

d. Prior Public Servants

While the default pension terms, as set out in the preceding paragraphs, consist of Single Scheme membership, this may not apply to certain appointees. Full details of the conditions governing whether or not a public servant is a Single Scheme member are given in the Public Service Pensions (Single Scheme and other Provisions) Act 2012. However the key exception case (in the context of this competition and generally) is that a successful candidate who has worked in a pensionable (non-single scheme terms) capacity in the public service within 26 weeks of taking up appointment, would in general not become a member of the Single Scheme. In this case such a candidate would instead be offered membership of the UCD Pension Scheme. This would mean that the abatement provisions at (c) above would apply, and in addition there are implications in respect of pension accrual as outlined below:

e. Pension Accrual

A 40-year limit on total service that can be counted towards pension where a person has been a member of more than one existing public service pension scheme would apply. This 40-year limit, which is provided for in the Public Service Pensions (Single Scheme and other Provisions) Act 2012 came into effect on 28 July 2012. This may have implications for any appointee who has acquired pension rights in a previous public service employment.

f. Pension-Related Deduction

This appointment is subject to the pension-related deduction in accordance with the Financial Emergency Measure in the Public Interest Act 2009.

For further information in relation to the Single Public Service Pension Scheme for Public Servants please see the following website: <http://www.per.gov.ie/pensions>.