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Lecturer in Biomechanics

Faculty of Engineering,
Department of Mechanical Engineering



Overview

As a Lecturer you will work within the Insigneo Institute for in silico Medicine, an initiative between the Faculties of Engineering, Medicine and Science at the University of Sheffield, and the Sheffield Teaching Hospitals Foundation Trust. You will also be a member of staff in the Department of Mechanical Engineering.

Working in the area of biomechanics, you will conduct a programme of research including attracting external funding from a range of sources, publishing working in high quality peer-reviewed journals and attending conferences and seminars.

You will also carry out teaching duties including designing, delivering, assessing and reviewing teaching programmes for undergraduate and postgraduate students in both in mechanical engineering and bioengineering. Initially, you will be allocated a lighter than average teaching load (for example one 10 credit course), and little or no administrative duties to allow focus on establishing a research career and developing as a teacher. We will also provide a generous support package to ensure rapid progress in research activity.

You will make a full and active contribution to the principles of the 'Sheffield Academic'. These include the achievement of excellence in applied teaching and research, and scholarly pursuits to make a genuine difference in the subject area and to the University's achievements as a whole. Further information on the underpinning values of the Sheffield Academic can be found at: [Sheffield Academic](#).

Person Specification

You should provide evidence in your application that you meet the following criteria. We will use a range of selection methods to measure your abilities in these areas including reviewing your online application, seeking references, inviting shortlisted applicants to interview and other forms of assessment action relevant to the post.

Criteria		Essential	Desirable
1.	A good first degree in engineering, physics, mathematics or another relevant discipline (or equivalent experience).	X	
2.	A PhD in biomechanics, bioengineering or related disciplines (or equivalent experience).	X	
3.	Research experience in biomechanics.	X	
4.	Ability to establish research objectives, and initiate and implement a programme of research.	X	
5.	A track record of quality research outputs (for example publications, patents, knowledge transfer) in the field of biomechanics or related disciplines, commensurate with the research experience of the candidate.	X	
6.	Potential for leadership in research.	X	
7.	Evidence of research income generation.		X
8.	Possess teaching experience.		X
9.	Demonstrate the potential to enhance the students' learning experience.	X	
10.	Appreciation of and commitment to the pastoral role in relation to students.	X	
11.	Experience of supervision of students and staff in a research-led		X

	environment.		
12.	Excellent communication skills, both written and verbal, with the ability to communicate complex theories and problems effectively to a variety of audiences including students.	X	
13.	An ability and commitment to working with colleagues to a common objective.	X	
14.	Experience of developing and maintaining a network of contacts throughout own work area.	X	
15.	Excellent organisational skills and the ability and willingness to contribute to the administrative function.		X

About the Team

This is an excellent research opportunity to become part of the Insigneo Institute for in silico Medicine and contribute to its cutting-edge research in the development of biomechanics methods for neuro-musculo-skeletal, cardiovascular, respiratory, or urinary pathologies. Insigneo is the largest European research institute dedicated to Computational Medicine, with the aims to realise the scientific ambition behind the Virtual Physiological Human, producing a transformational impact on healthcare. Insigneo performs cutting edge research in areas of fundamental and applied biomedical modelling, imaging, and informatics.

Our team in Mechanical Engineering has an international and interdisciplinary profile and a strong commitment to clinical and industrial translation with impact in future healthcare. The group is active in biomechanics and mechanobiology of the neuromusculoskeletal and cardiovascular systems. We have access to a fully equipped human movement analysis laboratory, a tissue testing/mechanobiology laboratory, and through the Department of oncology and metabolism, to in vitro and in vivo microCT imaging.

For more information on our research please refer to our flagship research project, the EPSRC Frontier Engineering Award MultiSim project (<http://multisim-insigneo.org>), to the H2020 funded CompBiomed (<https://www.compbiomed.eu>), and to our European Industrial Doctorate (EID) SPINNER (<https://spinner-eid.eu>) funded as part of the Marie Skłodowska-Curie Innovative Training Networks. We are also part of the NIHR funded Sheffield Biomedical Research Centre, the UK's only Biomedical Research Centre dedicated to Neurology (<http://sheffieldbrc.nihr.ac.uk>).

Academic members of the Insigneo institute are all members of individual departments, where the majority of teaching and administrative responsibilities are undertaken. For more information on the Department please see www.shef.ac.uk/mecheng.

For more information on Insigneo please see our web pages: www.insigneo.org.

Mechanical Engineering has been a major discipline in the University since its foundation in 1905 and is a thriving department within the University's Faculty of Engineering. We are one of the UK's leading departments of Mechanical Engineering, committed to maintaining our position at the forefront of our field in both teaching and research. We're ranked amongst the UK's top five Mechanical Engineering departments for research excellence and our student satisfaction is consistently high. We have 60 members of academic staff, 70 researchers and technicians, 25 support staff and over 1000 undergraduate and postgraduate students. In 2018 we were awarded an Athena Swan Silver award. The Department is located in the Sir Frederick Mappin Building on the St Georges site, adjacent to the other Engineering departments. For more information on the Department please see www.sheffield.ac.uk/mecheng/index

Job Description

Main Duties and Responsibilities

Research

- Conduct personal research of international standing independently and collaboratively, in line with the Faculty Research Strategy. This includes identifying literature and updating own knowledge; assessing the validity of the relevant literature and its contribution to the development of own field.
- Participate in large-scale collaborative research projects with other members of Insigneo and with national and international partners, with a strong focus on interdisciplinary research.
- Disseminate research outputs through a variety of channels (for example, paper, conferences, patents, etc.) ensuring a high degree of research impact.
- Determine research objectives and initiate and implement a programme of research that may include managing time, materials, finance, equipment, and people.
- Identify appropriate sources of funding and prepare research proposals for funding bodies to secure funding.
- Be actively involved in professional activities at national and international levels, for example by refereeing papers, editing journals, refereeing research grants, external examining, organising/attending conferences, committee membership and involvement with professional bodies on accreditation.
- Transfer the outcomes of research into industrial practice.
- Manage or co-manage external research funding over period of grant(s).
- Delegate and monitor the work of research students and research staff.
- Line manage research staff, as appropriate.

Teaching

- Design teaching programmes for courses, which will include identifying learning objectives and selecting appropriate curricula, selecting teaching methods, resources and reading, and determining, designing, and producing study material.
- Deliver teaching courses, which will include preparing teaching material, communicating subject matter, and encouraging critical discourse to develop rational thinking.
- Provide tutorials to students, according to practices of the Department.
- Plan teaching up to one year ahead unless there are significant teaching programme changes or new courses, then plan for up to two years ahead of their introduction.
- Engage with the teaching team, including liaison with other academic staff and postgraduate assistants, to ensure the course complements other courses taken by students.
- Carry out assessment for courses which includes designing assessment instruments and criteria, marking assessments, ensuring adequate moderation, providing written/oral feedback, and collating and providing final assessments of students.
- Supervise undergraduate and Master's projects.
- Carry out course evaluation, including facilitating student feedback, reflecting on own teaching design and delivery, and implementing ideas for improving own performance.

Management and Leadership

- Contribute to the effective and efficient administration of the Department.
- Participate in departmental and Faculty committees.
- Carry out administrative roles as delegated by the Head of Department and meet the required objectives.
- Manage own teaching, research, and administrative activities.
- Contribute where asked to the management and the leadership of the Insigneo institute.
- Carry out a pastoral role for students such as acting as Personal Tutor. If necessary refer students to the appropriate authority for guidance.
- Oversee postgraduate students and act as a PhD supervisor.
- Provide academic leadership, as appropriate. Act as a line manager (for example of research teams).
- Act as a responsible team member and develop productive working relationships with colleagues.
- Collaborate with colleagues to identify and respond to students' needs.
- Any other duties, commensurate with the grade of the post.

Reward Package

Terms and conditions of employment: Will be those for Grade 8 staff.

Salary for this grade: £40,792 - £48,677 per annum. Potential to progress to £54,765 per annum through sustained exceptional contribution.

This post is open ended.

This post is full-time:

This role has been identified as a full-time post, but we are committed to exploring flexible working opportunities with our staff which benefit both the individual and the University (See www.sheffield.ac.uk/hr/guidance/flexible/arrangements). Therefore, we would consider flexible delivery of the role subject to meeting the business needs of the post. If you wish to explore flexible working opportunities in relation to this post, we encourage you to call or email the departmental contact listed below.

If you join the University you will have access to a Total Reward Package that includes a competitive salary, a generous Pension Scheme and annual leave entitlement, as well as access to a range of learning and development courses to support your personal and professional development. You will have access to your own personalised portal where you can also access a comprehensive selection of benefits and offers to suit your changing lifestyle needs, for example financial wellbeing, travel options, shopping and cinema discounts.



To find out more visit www.sheffield.ac.uk/hr/thedeal

We are committed to making the University a remarkable place to work and we support this through a number of sector leading services such as Juice.

Our innovative Health and Wellbeing service, Juice, encourages and supports staff to maintain their own positive health and wellbeing through a broad range of inclusive services and activities.



To find out more visit www.sheffield.ac.uk/juice

Our leadership development has been designed to ensure that our leaders have the knowledge, skills and behaviours needed by the University.

*the***SheffieldLEADER**

To find out more visit www.sheffield.ac.uk/hr/sld/sheffieldleader

We are also proud of our award-winning equality and diversity action which enhances working life for all. 92% of staff tell us they are treated with fairness and respect (staff survey 2016)

www.sheffield.ac.uk/hr/equality



We are the only university to feature in the Sunday Times 100 Best Not-for-Profit organisations to work for 2018. In our staff survey (2016) 94% of staff said they were proud to work for the University and 89% of our staff would recommend the University as an excellent place to work. To find out more about what it's like to work here visit remarkable.group.shef.ac.uk

Selection – Next Steps

Closing date: For details of the closing date please view this post on our web pages at www.sheffield.ac.uk/jobs

Following the closing date, we will contact you by email to let you know whether or not you have been shortlisted to participate in the next stage of the selection process. Please note that due to the large number of applications that we receive, it may take up to two working weeks following the closing date before the recruiting department will be able to contact you.

It is anticipated that the first stage of the selection process will take place on 14th May 2019 with final interviews taking place on 10th June 2019. Full details will be provided to invited candidates.

For more information on our application and recruitment processes visit www.sheffield.ac.uk/jobs/info

Informal enquiries

For informal enquiries about this job, the recruiting department, and the Insigneo institute contact: Professor Claudia Mazza c.mazza@sheffield.ac.uk or on +44 (0)114 222 6073.

For administration queries and details on the application process, contact the lead recruiter: Julie Fryer on j.e.fryer@sheffield.ac.uk or on +44 (0)114 222 7712.

For all online application system queries and support, visit: www.sheffield.ac.uk/jobs/applying

Creating a remarkable place to work

We build teams of people from different heritages and lifestyles from across the world, whose talent and contributions complement each other to greatest effect. We believe diversity in all its forms delivers greater impact through research, teaching and student experience.

We are consistently ranked in the top 100 of the world's universities, but there's so much more to us than that. By joining the University, you will be joining award-winning teams and departments who are all working together to make the University of Sheffield a remarkable place to work.

Learn more [here](#).



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