
UNIVERSITY | CENTRE OF EXCELLENCE FOR OF HULL DATA SCIENCE AI AND MODELLING

Appointment of

Lecturer in Data Science,

Artificial Intelligence, &

Modelling - Geospatial

& Earth Observations



Band 8: Appointment Details - March 2023





The University of Hull is seeking to appoint to the role of Lecturer within the Centre of Excellence for Data Science, Artificial Intelligence and Modelling. This candidate pack sets out the role description and person specification. It also provides background information regarding the University of Hull and the local area.

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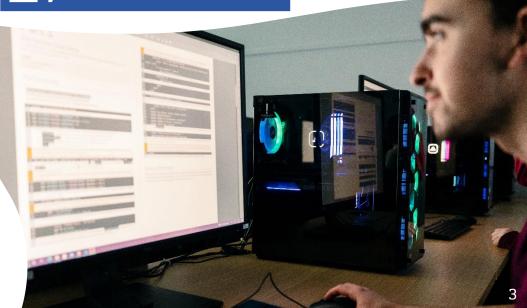
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Click to discover the real HULL



Message from the Vice-Chancellor

The University of Hull is on a journey, one that is led by our commitment to delivering excellent research and a fantastic experience.

I am honoured to have taken up the position of Vice-Chancellor at the University of Hull. I was looking for a university where I could make a difference and I truly believe the University of Hull provides that opportunity.

Our University strategy focuses on two of the most important challenges of our generation: environmental sustainability and social justice. These resonate strongly with me and my own academic research interests. I'm looking forward, along with colleagues, students and the wider community, to make a positive difference and help move this agenda forward in a bold and progressive way. High on the agenda is ensuring the student experience and education is world-leading. Hull is an inclusive, welcoming and safe university that provides a great place to study.

The Vice-Chancellor, Professor Dave Petley

Prior to his appointment at Hull,
Professor Petley was Vice President for
Innovation at the University of Sheffield,
a role which saw him establish
innovation as a key strategic focus for the
institution. He began his academic career
in roles at the universities of Sunderland
and Portsmouth before moving to the
University of Durham in 2000. His
research focuses on natural and
environmental hazards, and he was
appointed the inaugural Wilson
Professor of Hazard and Risk at Durham
in 2006

He is widely recognised as a world leader in the study and management of landslides and, alongside advising on national and international organisations on the management of slopes, has for over a decade maintained a popular blog on landslides which receives over 500,000 individual visits per year.

While at Durham, Professor Petley held leadership roles including Executive Director of the Institute of Hazard, Risk and Resilience, Dean of Research and Dean of Global Engagement.

In 2014, he joined the University of East Anglia as Pro-Vice-Chancellor for Research and Enterprise before moving in 2016 to become Vice-President for Research and Innovation at the University of Sheffield, where he led the development of a new research strategy, the formation of four new research institutes and a transformation of the University's approach to commercialisation.



Professor Dave Petley
Vice-Chancellor





Introducing our Vice-Chancellor



Click to discover a message shared from the Vice-Chancellor





Join a university where everyone matters, everyone can grow, and everyone can make a difference. This is a place to shine.

Meet our Talented Colleagues



We are ambitious about the future: ours, our staff, our students, our alumni and the world around us. Our research and teaching are designed to inspire thinking and expand horizons. As one of England's oldest universities, our motto Lampada Ferens - carrying the light of learning - remains as relevant as ever as we continue to empower people to shape the future.

The University of Hull-

A Place to Shine



Here's a flavour of some of the things we love about working for Hull...



Competitive Salary

Learning and

Development



Generous Pension

FREE Legal Advice



39 Days Annual Leave



We pay up to £10k in

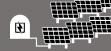




Retailers



Cycle2Work Scheme







Record visitor numbers on campus

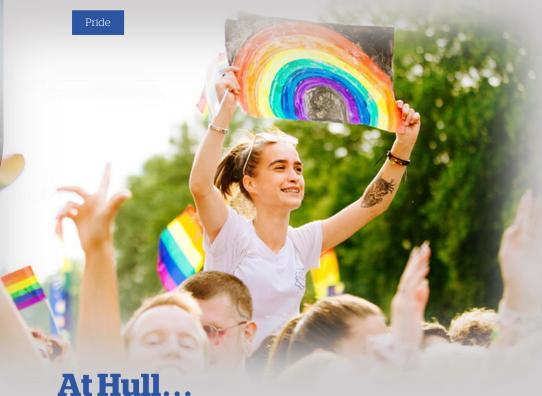
staff and the wider community.

In 2017, the University welcomed record visitor numbers and here on campus. Over 60,000 people, including many first-time visitors, enjoyed the impressive range of world-class exhibitions, installations, debates, music and drama, held as part of our cultural programme.

created unforgettable experiences for our students,

Hosted some of the world's greatest artists

Redeveloped to national standard as part of a £28-million investment in our Brynmor Jones Library, our art gallery hosted some of the world's greatest artists as part of exhibitions with partners such as the British Museum and National Portrait Gallery. 'Lines of Thought - Drawing from Michelangelo to Now', showcased works from prominent masters including Monet, Picasso, Rembrandt and Riley, and the National Portrait Gallery loan exhibition displayed images of stars from JK Rowling to Sir Ian McKellen.



We EMBRACE Culture!



Education for the New Industrial Revolution

An unprecedented revolution of not only scale, but also complexity and speed is revolutionising the way we live our lives.

Behind this revolution is a true fusion of novel technologies that break traditional lines between old disciplines such as artificial intelligence, mathematics and statistics, and physics, and is starting to make the digital world inseparable to the physical one.

Set against the backdrop of the disruption that the Fourth Industrial Revolution is causing, it is clear that the workforce will need upskilling to create new opportunities in the data science, artificial intelligence, and modelling domains.

Our highly successful MSc in Artificial Intelligence and Data Science has grown substantially in popularity with both UK and overseas students.

Through this Masters course, the University of Hull seeks to create a new education paradigm for the Fourth Industrial Revolution and prepare our workforce for the opportunities and challenges that await.





Every sector is beginning to recognise how data science can transform their business in some way, shape or form. Whether you are in manufacturing, retail, or construction, there are significant opportunities to deliver efficiencies and improvements to customer experience, and this can be achieved through the application of data science techniques. Data can be regarded as the new oil and is set to become the most valuable resource in the immediate future.

Lampada is seeing a significant increase in enquires from organisations to support them with data science projects. It is clear that every sector will need a greater supply of data scientists and universities will play a crucial role in training and developing the data scientists of the future. We have been working very closely with the University of Hull on the MSc syllabus, and see huge opportunities to unleash this talent into the market".

Life-Changing Research

Our research underpins the University Strategy 2030 that orients around the themes of social justice and environmental sustainability, and the pillars of people, place, and partnership.

Research conducted at the University of Hull covers the largest length scales possible. Spanning the cosmological scale in the E.A.Milne Centre for Astrophysics to reveal our place in the universe, through to the biological and microscopic in the advancement of wound treatment, our research is not only diverse, but also impactful, as judged by recent Research Excellence Framework returns.

DAIM will enhance this research, not only within the Departments of Computer Science and Technology, and Physics and Mathematics, but encompass the Faculty of Science and Engineering itself, and our sister faculties within the University.



The Top Rated HPC in the North of England

Within the university sector, VIPER is one of the leading High Performance Computing centres and the highest rated in the North of England.

This is a significant research investment that provides a vital requirement to meet the ever-growing demands of the University's research community, and underpins DAIM's research, education, and external partnership remit.

VIPER is being used in a wide variety of cutting-edge research across the University. This ranges from studying and simulating the galaxy in which we live, the vibrational effects of molecules, semiconductor effects, through to computational linguistics.

Discover VIPER



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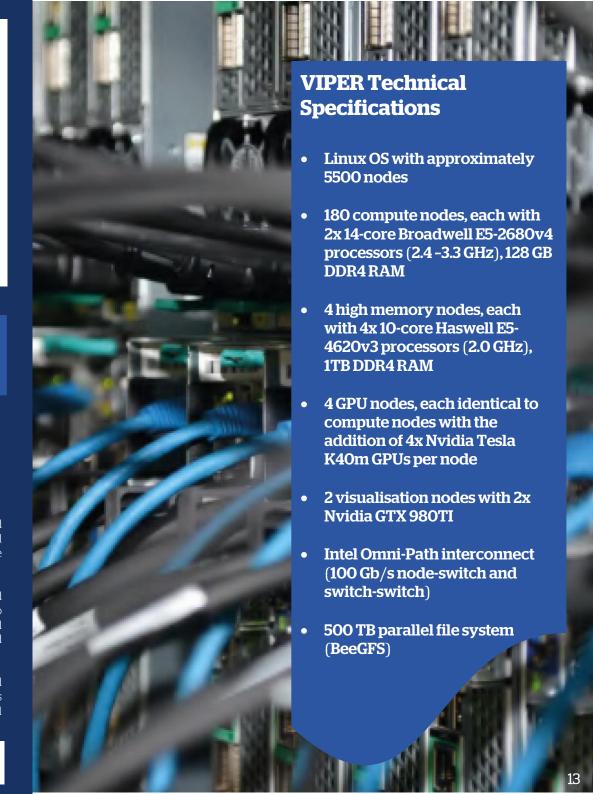
VIPER has truly enabled us to look beyond standard computational approaches and deploy techniques on a scale that we never anticipated before.

The capabilities of VIPER's specialised hardware, for example, allows us to significantly cut model training times and work on huge datasets in unprecedented ways.

This means our research sees shorter lead times from model development to results - in terms of being competitive on a world stage, this is absolutely crucial."

Dr David Benoit

Senior Lecturer in Computational Astrochemistry



What we do

Through the launch of the University's new Centre of Excellence for Data Science, Artificial Intelligence, and Modelling (DAIM), we are responding to the increasing need for qualified practitioners by delivering a step-change in the provision of educational excellence - and high-quality research - which cuts across traditional disciplinary departmental and faculty boundaries.

Crucially, through knowledge exchange, DAIM's ambitions encompass the provision of exemplary service within the University, and beyond to the public sector, that will enhance mutual goals and tackle complex industry issues.

DAIM will become a portal for business partnerships and will deliver dynamic inter-disciplinary collaborations and external partnerships leading to research and skills outcomes that are of strategic priority to our region, the UK and the world.

We are delighted to be in a leading position during this latest industrial revolution, and to be able to recruit the future education, research, and business-interfacing leaders of tomorrow. We hope that you feel inspired to come and join us.

An invitation to work with us



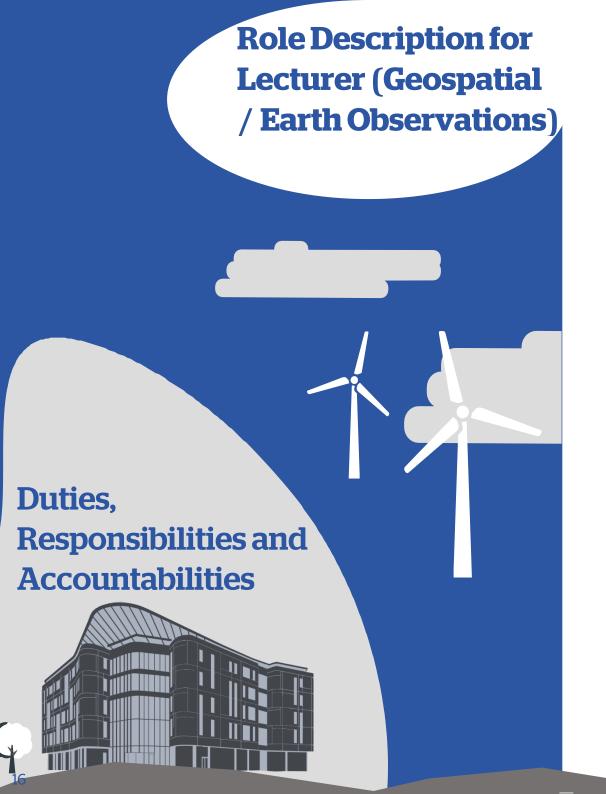
DAIM is an exciting venture within the University of Hull. Building upon our success with our postgraduate taught MSc in Data Science and AI. DAIM is ready and actively looking to expand.

If you share our values, if you share our outlook on education, research. interdisciplinarity, and business partnerships, I would personally like to extend an invitation for you to apply to work with us in the dynamic environment. Help us to build something brand new and train the next generation for the Fourth Industrial Revolution."



Artificial Intelligence and Modelling (DAIM)





Background and Context

The new interdisciplinary Centre of Excellence for Data Science, Artificial Intelligence, and Modelling (DAIM) has recently been established to support research, teaching and training, and business-facing activity within the University of Hull, and wider region. The Centre is truly interdisciplinary from both teaching and research perspectives, and brings together academics and researchers from across all University faculties and research institutes with diverse interests in data science and artificial intelligence, as well as statistics, mathematics and programming, to address complex disciplinary and global challenges under a single umbrella.

The Centre supports the delivery of a highly successful Artificial Intelligence and Data Science MSc programme in response to the shortage of Data Science and Artificial Intelligence specialists, and a doctoral training programme that has been designed for postgraduate researchers from a range of subject specialisms relevant to the application of data science and artificial intelligence to solve real and complex problems. Candidates will be expected to teach in Python.

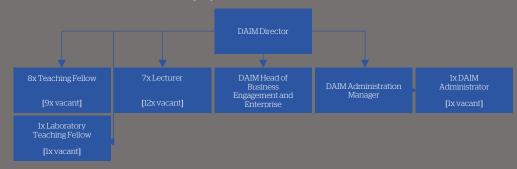
Preference will be given to candidates who are able to provide teaching support and research or knowledge exchange expertise across a number of subject areas relevant to data science, artificial intelligence, and modelling, coupled with the specialist knowledge detailed below and who complement and enhance the overall disciplinary balance within the Centre.

The post holder will be recruited to a University Department or School that fits their profile and subject specialism, and teaching, research and/enterprise expertise.



The Centre of Excellence for Data Science, Artificial Intelligence, and Modelling (DAIM)

Our mission is to deliver a step-change in the provision of educational excellence, high quality research, and knowledge exchange with industry. The centre cuts across traditional disciplinary boundaries, drawing on expertise across the University to be at the forefront of the exciting developments in the field of Artificial Intelligence (AI) and data science.



The Ideal Candidate

We have a fantastic opportunity for talented individuals to join the Centre of Excellence as a full-time, permanent Lecturer, to build our research and knowledge exchange strengths within DAIM, along with enhancing academic support and teaching provision for our students. We are looking for a talented individual who has expertise in data science and/or artificial intelligence and have specialist knowledge in one or more of the following areas:

- Application of Earth Observation and Geospatial data in the study of Global Environmental Challenges.
- Development of novel AI and Machine Learning algorithms for the <u>analysis of complex Earth Observation and Geospatial datasets.</u>
- Integration of Geospatial and digital datasets to support the implementation of Sustainable Development Goals, Climate Change and Disaster Risk Reduction.
- Embedding Earth Observation and Geospatial datasets in Earth Systems Science.

Specific Duties and Responsibilities

The postholder will primary be expected to:

- Undertake research and/or knowledge exchange activities within the fields of data science, modelling, and/or artificial intelligence and the specialist areas detailed above, which will be advancing the state of knowledge in their particular discipline. This will include but not limited to: development and processing of EO data systems and datacubes, modelling and numerical analysis, high performance computing, EO image analysis and data science, machine learning, and computer science and visualisation. Write individually or contribute to publications and present at conferences or other events as required.
- Identify sources of funding and contribute to the process of securing funds.
- Teach on the Artificial Intelligence and Data Science MSc programme.
- Have the ability to teach on related undergraduate and/or postgraduate programmes.
- Set, mark and assess work and examinations and provide feedback to students. Actively contribute to assessment examinations.
- Have skills and experience in Python programming.
- Ability to design and supervise MSc student projects and where appropriate, placements.
- Supervise the work of others, for example, research teams or projects or as a PhD supervisor.
- Act as a personal tutor for students within the Centre / Faculty.
- Act as programme leader/course leader/module leader as required.
- Communicate complex conceptual ideas to widely divergent audiences.
- Have the ability to design and deliver new course materials and identify areas for revision and improvement.
- Contribute to the DAIM Centre / Faculty through leadership and management and have the ability to take responsibility for effective deployment of resources, contribute to the broader management processes and have skills in managing and motivating staff. Identify areas where current provision is in need of revision or improvement.
- Advise and support colleagues with less experience and advise on personal development.
- Develop and build internal and external contacts and relationships which may include:
 - o identifying sources of funding
 - o contributing to student recruitment
 - o securing student placements
 - o marketing the Centre
 - o facilitating outreach work
 - o generating income
 - o obtaining consultancy projects

Main Duties

1. Purpose of the Role

This role will be carried out by individuals with extensive experience in teaching and research usually by progression from the corresponding band 7 role. Direct appointments to this level may be made where it is clear the staff have appropriate experience.

At this level, role holders' contribution spans scholarship, teaching, research and related administration, though the weight allocated to each of these strands will vary from role to role and from time to time for individual role holders. The role holder will:

- Have the ability to design and deliver course materials as well as experience and demonstrated success in delivering teaching including identifying current areas for revision and improvement
- Will have extensive research experience within subject specialism and conduct individual and collaborative research projects, including developing research objectives and proposals which will be advancing the state of knowledge in their particular discipline.
- Write individually or contribute to publications and present at conferences or other events.
- Will contribute to department/faculty through leadership and management and have the ability to take responsibility for effective deployment of resources, contribute to the broader management processes and have skills in managing and motivating staff.

Role holders at this level will be expected to be establishing a reputation nationally and emerging reputing internationally within their academic specialism.

2. Teaching and Learning

- Design and deliver teaching material across a range of modules or within a subject area using appropriate teaching, learning support and assessment methods.
- Supervise student projects, field trips and, where appropriate, placements.
- Identify areas where current provision is in need of revision or improvement.
- Contribute to the planning, design and development of objectives and material.
- Set, mark and assess work and examinations and provide feedback to students.

3. Research

- Develop research objectives, projects and proposals.
- Conduct individual or collaborative research projects.
- Identify sources of funding and contribute to the process of securing funds.
- Write or contribute to publications or disseminate research findings using other appropriate media.
- Make presentations at conferences or exhibit work at other appropriate events.

4. Relationships and Teamworking

- Develop and build internal and external contacts which may include:
 - o identifying sources of funding
 - o contributing to student recruitment
 - o securing student placements
 - o marketing the institution
 - o facilitating outreach work
 - o generating income
 - o obtaining consultancy projects
- Advise and support colleagues with less experience and advise on personal development.
- May be expected to supervise the work of others, for example, research teams or projects or as PhD supervisor.
- Act as a responsible team member and develop productive working relationships with other members of the team.
- Collaborate with colleagues to identify and respond to students' needs.
- Act as programme leader/course leader/module leader.

5. Additionally, the post holder will be required to:

- Fulfil the employees' duties described in the University's health and safety policies and co-operate with the health and safety arrangements in place within the department. May be required to undertake specific health and safety roles on request e.g. Display screen equipment assessor, departmental safety officer, fire warden etc.
- Show a commitment to diversity, equal opportunities and antidiscriminatory practices this includes undertaking mandatory equality and diversity training.
- Comply with University regulations, policies and procedures.

Person Specification - Band 8

Specification	Essential	Desirable	Examples Measured by
Education and Training Formal qualifications and relevant training	 Evidence of: A good degree and a PhD in relevant discipline Demonstrable ability with the Python Programming language Expertise in Geospatial and Earth Observations. Demonstrable background through teaching, research, or career experience in at least one aspect of: Data Science or Artificial Intelligence Expected to undertake PCAP within 2 years if limited teaching experience, unless already has a relevant qualification 	 Demonstrable background in Statistics Demonstrable background with other programming languages and applications/platforms (e.g., R, SQL) Willingness to upskill in directed aspects of: Data Science, Artificial Intelligence, Python Programming, or/and Statistics for the purposes of teaching Recognised professional accreditation (where appropriate) Experience of working with administrative data sets, especially those relevant to policing, incarceration and security 	Application Interview Other
Work Experience Ability to undertake duties of the post	 Evidence of: Reputation nationally and internationally for research, reflected in sustained output, level of innovation, impact on discipline or profession and recognition in high-impact factor journals Research experience in the Department's main research themes Excellence in teaching from peer review, from student assessment/feedback, and /or from examination results A track record of attracting research funds 	 A significant number of presentations at national and/or international conferences. Membership of Departmental Teaching Committee or equivalent Involvement in working with businesses to deliver products or outcomes Ability to design and supervise student projects 	Application Interview Other
Skills and Knowledge Includes abilities and intellect	 Evidence of: Have research and/or knowledge exchange experience in DAIM's main research themes An ability to develop new courses and actively contribute to assessment examinations An ability to communicate complex conceptual ideas to widely divergent audiences. Ability to teach effectively at undergraduate and postgraduate level in a variety of teaching modes 	 Evidence of active contribution and influence in the following areas: Effective management of research project resources. Ability to motivate research teams to deliver high quality outputs. Accreditation of courses by professional bodies. Acting as a visiting examiner at other Institutions. Involvement with external quality audit or assessment. Service as an advisor on teaching and learning in the local community. 	Application Interview Other

Personal Qualities

To be successful and add real value to this role, you will need to demonstrate at interview how you are able to work in an open and transparent way, evidencing how you are able to provide information and communicate effectively with colleagues, i.e., evidence of good collegial academic citizenship. Furthermore, vou will also need to demonstrate experience in collaborative working practices, particularly on interdisciplinary activities.

Appointment at Band 7 or Band 8

We are seeking to appoint at either a band 7 level, or a band 8 level. If you wish to be considered for more than one band, you will need to submit a separate online application form for each position.

For appointment at band 7: there is an expectation that you will undertake PCAP within two years if you have limited teaching experience, unless a relevant qualification has already been attained.

For appointment at band 8: there is a minimum requirement to be at Associate Fellow level in teaching, as represented within the UK Professional Standards Framework, and with an expectation of being at Fellow level within two years.



Ready to Apply?

The University have invested over £4.5million on a brand-new DAIM facility. containing a lot of advanced personal computers, which are used for teaching the next generation of artificial intelligence practitioners and data scientists. which give our students the necessary skills to thrive.

The investment in these facilities by the University of Hull represents a step change provision within artificial intelligence and data science, and this makes our lecturing very efficient and it means our students get the best possible experience with the highest performing computers that we have. Artificial intelligence and data science is an exciting area - principally because it's the future, it's evolving right now. And now is such a good time to get involved!



Further information



Therole attracts a highly competitive starting salary. Further salary progression and enhancements will also be achievable, based on a combination of performance in role and regular salary benchmarking.



The University offers an opportunity the Universities Superannuation Scheme (USS).



For those relocating nationally or internationally a generous relocation package is available.

Each year, we set out our University priorities under the structure of the People Plan and work collaboratively to deliver tangible improvements which support achievement of the University's ambitious goals. It is a journey on which we need to focus on our objectives, celebrate our achievements and

continue to drive high performance. Our approach needs to be both flexible and agile to respond to the voices of our stakeholders and the everchanging external world, but there must be consistent clarity of commitment to our overarching goals and true alignment with our University values and principles.

For further details on our People Strategy, please visit **www.hull.ac.uk**





Appointment terms

The candidate appointed will earn a very competitive salary which takes into account their experience, individual contribution and market rates. Most posts have a structured salary progression, ranging from pay bands 1-10.

Annual increments are paid subject to satisfactory service on the date specified in the appointee's contract. This is normally 1 August, if they've completed more than six months' service in their current pay band.

To help secure your future, we offer generous salary-related pension schemes based on employee and employer contributions.

The standard working week is 36.5 hours, but this can vary depending on the appointee's contract.

We offer a generous annual leave package of 28 days basic holiday, plus three extra days for Christmas. That's on top of public Bank Holidays - a total of at least 39 days holidays.

We recognise the importance of family life. We offer a range of benefits including up to 76 weeks of maternity or adoption leave, as well as paternity leave, parental leave, dependants' leave, carer's leave, leave for fertility treatment and the option to request flexible working.



Recruitment statement

We want to provide full information to you at an early stage to enable you to make an informed decision as to whether you are committed to pursuing this position and to outline the University's expectations of all candidates taking part in our recruitment process.

Once you have reviewed the information in this brochure, and in fairness to everyone concerned, we would ask that you give serious consideration to proceeding further with this process if you think you may not accept the position should it be offered to you.

The role will be located in Hull and there is a requirement that the successful candidate will live within commuting distance of the Hull campus. If this might involve a re-location for you, it is of course important that candidates consider how the move might affect them.

Information relating to the reward package, along with relocation details, if applicable, will be supplied to those short-listed for interview. Hull engages in a variety of domestic and international benchmarking exercises to ensure we are extremely competitive in the level of reward and recognition we provide.



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Your life in East Yorkshire

East Yorkshire has something to offer everyone - a place where your family can go walking in the Wolds one weekend and be on the beach the next!



Deciding to relocate is a big decision for all the family and you need information on everything, from homes and businesses to sports and events.

As a region, the area is progressive, seeing billions of pounds worth of private sector investment across multiple thriving industries - leading to a diverse array of opportunities, which also include public sector improvements: such as the development of multi-millionpound leisure and cultural facilities. Investment in retail and historical realm works are also being made across all four local authorities enhancing the area's vibrancy and solidifying its legacy for future generations to come.

The region offers low commute to work times allowing that soughtafter work-life balance, lower than average house prices, a fantastic choice of schools and areas of unrivalled natural beauty.

This remarkable region has so much to offer in terms of landscape and heritage, and something for all the family when it comes to shopping, dining and days out. The beautiful countryside of the Lincolnshire and Yorkshire Wolds making up a huge proportion of the area, outdoor lovers will have a riding, cycling and running.

When it comes to dining out, the Humber boasts an eclectic array of

award-winning restaurants, gastro pubs and independent coffee shops with fresh and locally-sourced produce from a fantastic selection of shops, with everything from designer boutiques, high street shopping and independent retailers; you'll be spoilt for choice if you're after some retail therapy.

There has never been a better time to make Hull your home, as the cost of living remains among the lowest in the UK and following its incredible transformation - this is only the beginning. The recent wealth of different areas for walking, £80m redevelopment of Hull's Fruit Market included 109 new homes that sit alongside a hub of independent shops, boutiques and the beautiful Marina.

Ten great reasons to work at Hull



1. We're Going Places

We're investing heavily in transforming our campus into a high-tech learning hub for the 21st century.

2. Career Opportunities

If you have the ambition, we'll help you gain the knowledge and skills to succeed. We want you to have a long-term career with us, so we'll support you every step of the way.

3. A Fantastic Environment

Situated in the leafy suburb of Newland, our beautiful red-brick campus is well known for its friendly atmosphere. We have A Spar convenience store, Costa and JD Wetherspoon (in partnership with Hull University Students' Union) on site. Our restaurants - which promote fair trade and organic products - cater for all tastes.

4. Great Benefits

We offer a competitive salary, generous holiday allowance, excellent contributory pension schemes, hybrid-working and time off for family priorities.

5. Our People

Work with people whose interests and ambitions match yours. We're investing in recruiting the best possible professors, lecturers, researchers and support staff. There's never been a better time to join us.

6. Superb Facilities

The University has one of the country's finest libraries and excellent sport and fitness facilities. -which we're currently upgrading. We've also got a world-class concert hall, a surround-sound cinema and a fantastic art gallery.

7. Location

Hull is a city with a spring in its step. The 2017 UK City of Culture has benefited from huge new investment, especially in the renewable energies sector. What's more, the surrounding East Riding of Yorkshire contains some of the country's most unspoilt scenery.

8. Affordability

Hull is one of the least expensive cities in Britain. According to Numbeo.com (December 2021), renting a onebed city centre apartment here is 70% cheaper than in London and more than 30% cheaper than Manchester.

9. Staff Support

We'll make sure you're well looked after. Our range of services includes a generous relocation package, the Cycle2Work scheme, free eye tests for computer users and access to support and advice when you need it.

10. Opportunities for All

We're committed to eliminating discrimination on grounds of age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex and sexual orientation.

University of Hull, Cottingham Road, Hull, HU6 7RX United Kingdom

hull.ac.uk



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GDPR personal data notice

According to GDPR guidelines, we are only able to process your Sensitive Personal Data (racial or ethnic origin, political opinions, religious or philosophical beliefs, trade union membership, genetic data, biometric data, health, sex life, or sexual orientation) with your express consent. You will be asked to complete a consent form when you apply and please do not include any Sensitive Personal Data within your CV (although this can be included in your covering letter if you wish to do so), remembering also not to include contact details for referees without their prior agreement.