Northumbria University NEWCASTLE

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Space expertise brings £1.3m big data science boost to North East

The North East's reputation as a major hub for space, data science and the digital industries has received a further boost with the announcement of a new £1.3 million Centre for Doctoral Training in the field of data intensive science.

The Centre – which will be known as NUdata – will be run by Northumbria and Newcastle Universities. It will be supported by over 40 industrial partners across range of sectors within the region, UK and across the globe.

The Government is keen to make the UK a leader in artificial intelligence and data science and there is an urgent need for data scientists qualified at PhD level across all sectors. The Department of Business, Energy and Industrial Strategy asked research councils to support the development of these crucial roles.

The Science and Technology Facilities Council (STFC) has now announced the funding of five new centres for doctoral training in data intensive science across the UK at a cost of £6.5 million – including almost £1.3 million to NUdata to train 21 PhD students over the next six years.

Researchers at both Northumbria and Newcastle Universities are already gathering, analysing and interpreting vast amounts of big data in the fields of solar physics, space physics, cosmology and astrophysics to unravel the secrets of our Universe.

They joined forces on a bid to create a new centre which would draw on this world-leading expertise to train a new generation of scientists in artificial intelligence and data science using astronomy as its inspiration.

The universities have attracted more than 40 industrial partners to the centre, including Amazon's Alexa, the BBC, Britishvolt, GSK GlaxoSmithKline, Marks and Spencer, the Met Office, the National Audit Office, Northumbrian Water, Ordnance Survey, Procter & Gamble, Tesco and the World Food Programme – all of which rely heavily on big data to deliver their services.

Professor James McLaughlin, Head of Northumbria University's Solar and Space Physics research group, led the bid to create the NUdata centre.

He said: "Our vision is to train students in STFC science and data science in a city renowned for both. We will train a new generation of PhD students to address the data challenges presented by STFC frontier research, as well as applying those skills to different sectors of the broader economy.

"Businesses are absolutely reliant on big data to succeed, and so industrial involvement is at the heart of this new centre for doctoral training.

"In designing these new PhDs we have made a deliberate effort to work with a range of companies from household names, large multinationals,

government-type organisations and local SMEs. Given the city's reputation for the data and digital sectors, we hope that this Centre for Doctoral Training will provide a key contribution to the levelling up agenda and put the UK at the forefront of artificial intelligence and the data revolution."

Professor Tamara Rogers, Professor of Computational Astrophysics at Newcastle University and Newcastle University's NUdata lead added: "The UK faces a shortage of skills in managing, visualising, analysing and interpreting large, complex datasets and high rates of data flow. These skills are increasingly needed across a wide range of sectors as complex data analysis underpins many aspects of society.

"Driven by the need to handle the ever-increasing data rates and high-performance computing generally, our new Centre for Doctoral Training is in a strong position to contribute to developing these skills by training the next generation of PhD-qualified data specialists."

Professor Grahame Blair, Executive Director of Programmes at the Science and Technology Facilities Council, said: "Big data is the linchpin of big science. This funding will bring on the next generation of data science experts, to ensure the UK research and innovation sector continues to thrive.

"When processing and analysing huge quantities of data, a vital step on the road to scientific discoveries, scientists gain invaluable skills which could also help with industrial and societal challenges.

"These exciting research projects take the expertise gained during frontier research in astronomy and particle physics, to find solutions and techniques which can also be applied in industry and society."

Students at NUdata will learn a thorough grounding in computational and data science techniques, machine learning, deep learning algorithms and big data challenges based on astronomy-related data before moving on to a six-month placement, choosing to work with one of the many business partners.

The placements will help them to gain explicit knowledge of the industry as well as additional expertise in data intensive techniques and their application. It will also mean that graduates of NUdata have the skills required to work either in industry or academia.

Northumbria and Newcastle Universities have a long-established tradition of working collaboratively for the benefit of people living in the city and beyond. This partnership approach has been strengthened even further through the *Collaborative Newcastle Universities Agreement*(CNUA) – combining the Universities' collective power, expertise and world-leading research.

NUdata is one of several joint Centres for Doctoral Training between the two universities, which also includes the successful ONE Planet Doctoral Training Partnership and ReNUwhich is helping create a new generation of specialists capable of tackling the most challenging problems in renewable energy.

For more information or details on how to apply for a PhD at the centre, visit the NUdata webpages or follow @NUdataCDT on Twitteron Twitter.

Contacts

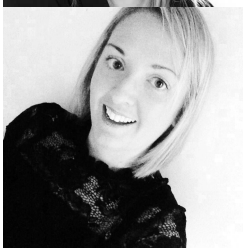
Rik Kendall
Press Contact
PR and Media Manager
Business and Law / Arts, Design & Social Sciences
rik.kendall@northumbria.ac.uk
07923 382339

Andrea Slowey
Press Contact
PR and Media Manager
Engineering and Environment / Health and Life Sciences
andrea.slowey@northumbria.ac.uk
07708 509436

Rachael Barwick
Press Contact
PR and Media Manager
rachael.barwick@northumbria.ac.uk
07377422415

James Fox
Press Contact
Student Communications Manager
james2.fox@northumbria.ac.uk

Kelly Elliott
Press Contact
PR and Media Officer
kelly2.elliott@northumbria.ac.uk



Gemma Brown
Press Contact
PR and Media Officer
gemma6.brown@northumbria.ac.uk