

# RESEARCH MATTERS

Celebrating research success and opportunities at the University of Wolverhampton

ISSUE 1

## New technology to improve understanding for people with autism

Innovative new technology is being developed by University of Wolverhampton researchers to help people with autism read and understand text better.

Figurative language, irony, sarcasm and phrases that may have more than one meaning are among the many challenges for those with Autism Spectrum Disorder (ASD), leading to lower educational achievements.

A new web tool – AUTOR – relies on eye tracking technology to measure the accessibility of texts and pinpoint particular areas of difficulty in the text. It is being developed by the University's Research Institute of Information and Language Processing (RIILP).

Victoria Yaneva, a PhD student at RIILP, said: "As many autistic people are known to experience specific reading comprehension difficulties, helping them read better would reduce school dropout – enhancing academic achievements, employability and social inclusion.

"The first step to achieving this is to provide content developers, who want to make their textbooks or websites accessible to people with autism (and thus for every other user), with a tool which is easy to use and that reflects the difficulties autistic readers face.

"They will be able to get feedback on how difficult their text is for a person with autism, as well as how they can make it more accessible, for example,

by removing particular difficulties, inserting visual support or providing definitions."

Victoria said that children with autism usually acquire language later in their lives, which results in language and reading comprehension difficulties.

"We have found that our participants with autism tend to spend significantly longer looking at images inserted in the text and search for information on web pages in a different way," she added.

The software will be used for online content, as well as textbooks. "Providing online information in an easy to read format is a legal requirement; however ASD has, until recently, been an often overlooked sector with very little research or suitable support for digital content," she said. "AUTOR will offer support in a digital world, and prevent those with autism from being isolated."

Researchers are now working with the Prince's Trust to see how this technology can be embedded to help young people in Birmingham, as well as the City of Wolverhampton Council.

Victoria is working with Dr Constantin Orasan, Deputy Head of the Research Group, to implement and tune the features of AUTOR.



Anyone with autism who would like to assist with the project should contact 01902 312 630 or email [v.yaneva@wlv.ac.uk](mailto:v.yaneva@wlv.ac.uk). Victoria recently presented at a TEDx event, part of TED, an organisation devoted to spreading ideas in the form of short, powerful talks.

AUTOR's development can be followed at: [autor4autism.com](http://autor4autism.com)



## EDITOR'S WELCOME

Welcome to the first issue of Research Matters, one of three issues that will be published this academic year to celebrate the University of Wolverhampton's research successes and opportunities.

The launch of this first issue is timely as we enter a new Research Excellence Framework (REF) cycle for 2021. The REF evaluates the quality and impact of research at UK universities across all disciplines, grading it from nationally

recognised (1\*) to world-leading (4\*) and is carried out every five years.

Our research was commended at its highest ever level in REF 2014, with all areas having world-leading elements and particular areas of research strength highlighted including health, history and linguistics and statistical cybermetrics. Read up on some of the recommendations for the next submission in this issue – we'll keep you updated as we know more.

We'll also be telling you about the important, day-to-day research projects and advances that are happening here at the University, as well as changes relating to research in the higher education sector. Research is strong at Wolverhampton and we're investing in it significantly; it's a key element of our new University Strategic Plan 2016-2021.

We hope you enjoy reading this issue.

**Professor John Darling**  
**Editor and Dean of Research,**  
**University of Wolverhampton**



## Research success

Congratulations to Professor Andrew Pollard from the Faculty of Science and Engineering. Professor Pollard has been awarded a £1.2 million grant from the European Structural and Investment Fund and the European Regional Development Fund for the £2.3 million total Innovative Project Support Service 2, which will help small businesses through the early stages of innovation. The University is managing the project, in collaboration with delivery partners Aston University and Birmingham City University.



## EU REFERENDUM: WHAT'S NEXT FOR RESEARCH?

Tatiana Panteli, the University of Wolverhampton's European Business and Research Development Manager, looks at the current potential impact of Brexit on UK universities.

The whole European research system will not suffer any change while the UK remains a full member of the European Union. This has been actively and passively stated by the EU and UK representatives since the referendum took place and it has been made clear that UK participation should remain as is until the UK officially exits the EU; beyond this period, the UK Treasury has agreed to underwrite existing UK grants.

While it's true that the UK's referendum results brought uncertainty to the field, the UK's excellence in science and research is well-known across the world and UK researchers have always been internationally sought-after collaborators. Carlos Moedas, European Commissioner for Research and Innovation, has shown great confidence in his statement that the UK's vote "doesn't change anything regarding the UK's eligibility for funding under Horizon 2020". Horizon 2020, worth nearly €80bn, shapes the future of scientific endeavour in the EU, and beyond, until 2020.

The Department for Business, Energy and Industrial Strategy (BEIS) has stated that "UK participants can continue to apply to the programme in the usual way". BEIS is keen to hear from anyone who is experiencing problems when engaging with EU funding following the referendum at: [research@bis.gsi.gov.uk](mailto:research@bis.gsi.gov.uk)

The Chancellor of the Exchequer, Philip Hammond, and the Treasury assure us that EU funding will be guaranteed "even when specific projects continue beyond the UK's departure from the EU". This statement has been very welcomed from Research Councils UK, Innovate UK, Universities UK, HEFCE and the Russell Group.

The recommendation currently is to better enhance collaboration with European colleagues, as we're still not sure about the timing and results of the negotiations between the UK Government and the EU. The University will continue to fully support its researchers in their efforts.

## REF recommendations

A report published in July has made a number of important and potentially far-reaching recommendations for higher education institutions preparing for the REF in 2021.

The review, chaired by Lord Stern, suggests that:

- Universities should submit all research active staff, providing a more holistic view of the strength of institutional research. We don't yet know how 'research active' will be defined, but an increase in staff submitted may be balanced against a requirement to submit an average of only around two outputs per person with senior researchers submitting more, up to a maximum of six.
- Only outputs accepted for publication after the date of an individual researcher's contract with an institution will count; outputs accepted for publication before will remain the 'property' of the previous institution.
- REF assessment panels should continue to assess on the basis of peer review, with supporting metrics helping panel members in their assessment.
- Among other recommendations, there may be a wider interpretation of research 'impact' and institution-wide assessment of research environment.

The full requirements of REF 2021 will be available by summer 2017. We'll keep you updated on how we can support you in preparing your submissions – look out for more details in future issues.



## Research success

Dr Mary Mahoney, Head of Lifelong Learning, has secured £146,250 from the Big Lottery and European Social Fund via Black Country Together on the Family Matters – Building Better Opportunities project. This project will roll out an innovative educational re-engagement programme for adults, working in partnership with three of the University's Education Central Multi-Academy Trust (ECMAT) schools.



## OPEN ACCESS AND THE REF: WHAT YOU NEED TO KNOW

**HEFCE have implemented an Open Access Policy for the next REF, requiring common types of research output to be deposited in an Open Access repository within three months of acceptance for publication; otherwise, they will not be eligible for REF submission.**

The Directorate of Academic Support manages the University repository, WIRE, and provides support for meeting Open Access requirements. So, what are the key things you need to know?

### What's covered?

All papers accepted for publication in either a journal or a conference proceedings after 1 April 2016. If you have published any research papers since then and have not yet submitted them to WIRE, please do so immediately. Until April 2017, authors will have three months from the date of publication rather than acceptance to deposit – so in most cases, you should still have time to comply.

### What version should be deposited?

Most publishers will not allow you to deposit the final published version of a paper in an Open Access repository. For REF compliance, you need to deposit the 'author accepted manuscript' (or post-print); that's your corrected, accepted manuscript

following peer review, but before the publisher applies final typesetting.

### How do I deposit my paper?

As soon as your paper is formally accepted for publication, submit the author accepted manuscript to WIRE via the online submission form. We'll make a variety of checks to ensure publisher requirements are met, ensure the item is deposited in WIRE appropriately, and let you know when it's completed.

### My publisher requires an embargo period – what do I do?

Please continue to upload as soon as your manuscript is accepted for publication. In line with the vast majority of publisher requirements, articles requiring an embargo will be deposited into a 'dark archive', only accessible via the publisher until the embargo has passed.

### What about other research outputs?

The HEFCE policy doesn't apply to other research outputs (such as book chapters) but, as noted in our Publications Policy, the University supports the principle of Open Access and encourages the routine upload of all newly published research to WIRE.

For more information, visit:  
**wlv.ac.uk/lib/research**  
Contact the WIRE team at:  
**wire@wlv.ac.uk**

Find out more about our research at: [wlv.ac.uk/research](http://wlv.ac.uk/research)



## INTRODUCING: WOLVERHAMPTON CYBER RESEARCH INSTITUTE

Professor Keith Burnham, Associate Dean of the Faculty of Science and Engineering, talks us through the new centre dedicated to tackling cyber crime.

“Cyber crime takes many forms, ranging from amateur hackers to systematically organised hacking, which aims to attack computer systems to cause serious harm or even to destroy a nation’s infrastructure or military capability.

“The Wolverhampton Cyber Research Institute (WCRI) is timely in that there are moves towards the setting up of a network of national computer emergency response teams to assist with cybersecurity. The issue of cyber crime is of national and international importance and the WCRI will take a proactive role.

“In collaboration with the Marches Local Enterprise Partnership, the University has joined forces to establish a dedicated Cyber Centre of Excellence which will contain secure locations for companies involved with counter attacks, laboratory research facilities, secure rooms for the delivery of short courses targeted to industry as well as demonstrating hands-on solutions to cyber attacks.

“This new development will define a Hereford to Wolverhampton cyber-corridor and position the University in a pivotal location working in collaboration with three regional police forces and providing specialist support for Black Country and West Midlands based industries.”



## New student loans for postgraduate researchers

The Conservative Party’s 2015 budget included the announcement that, for the first time, student loans for PhDs would be available. A technical consultation is currently underway, with the view that from 2018-19, loans of up to £25,000 will be available to “any English student without a Research Council living allowance who can win a place for doctoral study at a UK university.”

Could this have a long-lasting impact on postgraduate research? Benjamin Halligan, Director of the Doctoral College at the University, thinks so.

“Student loans were first introduced for undergraduate study as part of a strategy to substantially increase the numbers accessing university education – from under 10% across the 80s to an almost-achieved goal of 50% in the mid-00s. Working at universities over the last 20 years, I have frequently encountered students who noted that they were the first person ever in their family to study for a degree, or school leavers returning to study from circumstances that previously would have locked them into a low earnings bracket for the rest of their professional lives. Such encounters illustrate the way in which the educational landscape for undergraduates has been transformed since the mid-90s. Loans for PhD study may very well engender a comparable transformation.”



## New innovations in brownfield research

An innovative new urban regeneration research centre is a central focus of the new Springfield Campus development.

The Brownfield Research and Innovation Centre (BRIC) is being established to coordinate research into brownfield land regeneration, helping to develop new technologies on the appropriate use of brownfield land.

The former Springfield Brewery site is itself a brownfield site; its redevelopment into the home of the University’s new multi-million pound campus highlights how land management strategies can make use of brownfield land, helping to conserve green field land for the present and future generations.

## Research coverage

**From sports researchers discussing the Olympics on Sky News to *The Guardian* highlighting how we’re embedding environmental issues into our science curriculum, University of Wolverhampton expertise is developing a strong media profile, with international, national, regional and specialist coverage.**

Over the last year, our academics have hit the headlines of the BBC website, *The Independent* and *Times* and *Times Higher*, and been interviewed by Radio Five Live, Heart FM and BBC Radio WM amongst many other media outlets.

Blogs, press releases and comment pieces all help to promote our researchers and a dedicated team is here to help. If you would like more information about how to promote your research work, please get in touch with Emma Pugh: [emmap@wlv.ac.uk](mailto:emmap@wlv.ac.uk)

Find out more about our research at: [wlv.ac.uk/research](http://wlv.ac.uk/research)