



## Faculty of Science and Engineering Cyfadran Gwyddoniaeth a Pheirianeg



### Sent on behalf of Professor Perumal Nithiarasu, Associate Dean for Research, Innovation and Impact

Dear Colleagues,

Please read below about some of the Faculty's most recent success stories. We would particularly like to see more from our Professional Services staff for the next email!

## STUDENT NEWS



### PhD students receive prizes at UKACM conference

Two PhD students from the Zienkiewicz Centre for Computational Engineering have won prizes at the [UK Association for Computational Mechanics \(UKACM\)](#) conference that took place in Durham.

Nathan Ellmer received the [Mike Crisfield prize](#) for best presentation for his work "Development of a novel Gradient Enhanced Kriging computational framework for large strain hyper-elastic constitutive models" while Callum Lock received the [Laura Annie Wilson prize](#) for the best presentation by a PhD student for his work "AI Mesh-Informed Techniques for Optimising the Design Process".

[Professor Rubén Sevilla](#) (UKACM president) said: "The success of our conference owes much to the outstanding presentations delivered by our esteemed participants. I am privileged to commend their exemplary efforts and congratulate them on their well-deserved recognition. It is remarkable to see two of the three prizes of our national conference being awarded to Swansea University PhD students."

### MSc student helps the Carbon Community

Geography MSc student Ellaline Luzby has used her GIS skills to prepare easy-to-use maps for volunteers at the Carbon Community in Carmarthenshire.

The Carbon Community is a World-leading trial, systematically investigating carbon sequestration in

trees and soil. With 6,400 trees in the scientific study, Ellaline's maps which were created using geo-positioning data, made fieldwork far easier for volunteers.

[More about The Carbon Community](#)



## STAFF NEWS



### Prestigious appointment with The Alan Turing Institute

Congratulations to [Professor Siraj Shaikh](#), Department of Computer Science, who has been appointed as an Independent Scientific Advisor (ISA) with the Alan Turing Institute (ATI) within the BridgeAI programme for his work on UK's telecoms security.

He will be working alongside Innovate UK, Digital Catapult, The Hartree Centre and British Standards Institution to advise organisations looking to adopt AI solutions or develop their own capability and capacity in AI. Typically, the organisations selected for ISA support are those whose specific challenges cannot be easily addressed by other parts of the BridgeAI programme, or other accessible training offers.



### Professor co-authored a whitepaper for The UK Telecoms Innovation Network

[Professor Siraj Shaikh](#) has recently co-authored, 'Future Capability Paper – Security', as part of the UKTIN Security Expert Working Group (EWG).

The whitepaper sets out a view of the UK telecoms ecosystem's strengths, weaknesses, opportunities, and threats around security. In doing so, it explores some of the major threats and risks, and some of the potential enablers, particularly around skills and diversity in building the technical capabilities for the UK to meet its own future telecom's needs. Both the telecoms and cyber-security sectors struggle with skills, and the intersection of these two areas is even more limited in skills.

[Read the whitepaper](#)



## 70k research grant from RSC awarded to Dr Sumati Bhatia

A 70k research grant from the [Royal Society of Chemistry](#), has been awarded to [Dr Sumati Bhatia](#), Department of Chemistry, to buy equipment and consumables for the development of simple and scalable glyco-tools. These glyco-tools will be used as synthetic models to correlate bacterial properties with the key changes in their surrounding microenvironment.

The healthy human gut provides a compatible environment for the growth of healthy bacteria and at the same time protects the gut lining from pathogenic bacteria. A slight change in the gut microenvironment can cause several complications such as inflammation and spread of bacterial infections.

[More about SAT](#)

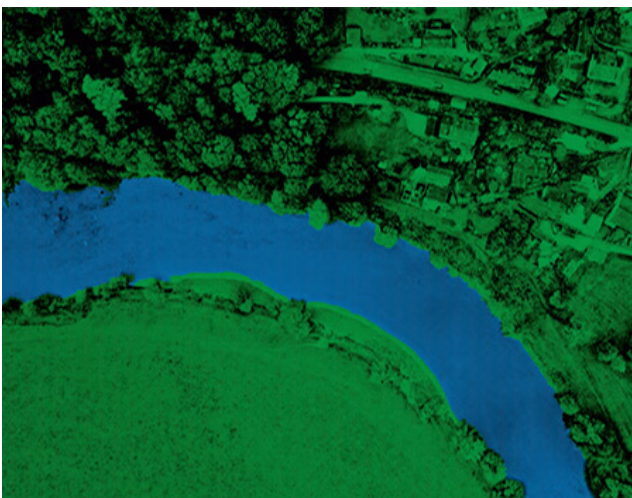
## Europe's most intact large river delta under threat

Professor of aquatic bioscience [Carlos Garcia de Leaniz](#) has contributed to an article published in [YaleEnvironment 360](#) on proposed plans to develop one of the only remaining pristine deltas in Europe.

Albania's Vjosë River and its lagoon is a haven for rare Dalmatian pelicans, flamingos, spoonbills, loggerhead turtles, frogs, and freshwater birds, but is now under threat as plans for luxury developments, spearheaded by Donald Trump's son-in-law Jared Kushner are moving forward.

If the urbanisation of the delta is successful, the Vjosë River, often called Europe's last undammed river outside Russia, will be a wildlife wipe-out.

[Read the full article](#)



## Should we remove the barriers along Britain's rivers?

Professor of aquatic bioscience [Carlos Garcia de Leaniz](#) has contributed to an article in the Guardian on the potential risks and benefits of allowing UK rivers to re-naturalise.

Only 1% of Britain's rivers are free from artificial barriers, such as dams, weirs and culverts and removing them is hugely beneficial to river-dwelling species, plants, and sediments by allowing them to move along the watercourse. These barriers are also costly to maintain, and researchers argue that managing our rivers and working with the landscape is the most sensible approach.

However, could removing these barriers create unpredictable water flows in flood-prone regions? Carlos commented: *'The risk of flooding is always context specific. Weirs and culverts can make flooding worse upstream because they slow the water in the river, collecting it in mini-ponds and stopping it from flowing downstream. It is also quite easy for culverts to be blocked by trees and debris'.*



[Read the full article](#)

## Academic delivers talk at the Royal Scientific Meeting

[Kathryn Monk](#), Honorary Professor in Biosciences and an independent member of Swansea University Council has recently published a commentary paper entitled [Enhancing environmental policy through evidence synthesis: a review of the Environmental Evidence for the Future \(EEF\) Initiative](#) in the open-access journal *Environmental Evidence*.

The paper explored the implications and challenges arising from a unique funding collaboration between NERC and a non-profit, the [Collaboration for Environmental Evidence](#). Having liaised with NERC staff on this commentary, they said that, from NERC's perspective, it was helpful to have this summary of the EEF and why systematic evidence mapping is so important.

[Find out more](#)



## Swansea University FSE showcase research work during Royal visit to Newport

[Dr Peter Dorrington](#), PD for MSc Virtual Reality, and [Xiaojun Yin](#) from Civil Engineering, recently presented their work on the Newport Medieval Ship to Her Majesty Princess Royal, during her visit of the Newport Landmarks.

Her Royal Highness was able to step back in time to experience life on a Medieval ship through a virtual reality experience developed by the VR team at Swansea University. She also showed great interest in all aspects of the work linked to the Newport Medieval Ship, including the structural design for the ship display supports, which forms several on-going research projects within the Civil Engineering Department.

[More on the research](#)

## Professorial Inaugural Lectures 2024

Upcoming Lectures:

[Professor Daniel Thompson](#) and [Professor Ian Mabbett](#) - Wednesday 11th September 2024

[Save your spot](#)

## KEEP IN TOUCH!

If you are aware of any recent achievements to share, either for yourself or for any members of your team, we would love to hear about them! We're interested in stories from academic and professional services communities. Please email any news to Anna Ratcliffe ([a.c.ratcliffe@swansea.ac.uk](mailto:a.c.ratcliffe@swansea.ac.uk)). **Deadline for submissions: 15th of each month.**

If you would like to promote a research event on the FSE Events webpage, please contact [fse-reception@swansea.ac.uk](mailto:fse-reception@swansea.ac.uk)

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