

# KNOWLEDGE EXCHANGE NEWS 37

## FIRST 100 DAYS: BUILDING CONNECTIONS, PARTNERSHIPS AND OPPORTUNITIES ACROSS BIOLOGICAL AND HEALTH SCIENCES

**Gaganmeet Singh Chadha, Business Development Manager  
(Biological and Health Sciences)**



Arriving at the University of York in this role is an exciting next step in a professional journey that has steadily evolved around building relationships, creating opportunities and connecting people across different sectors. I am keen to bring my experience from the last decade in facilitating research commercialisation in life sciences at a Research and Technology Organisation (Cell and Gene Therapy Catapult), a Russell Group University (Newcastle) and a world leading cancer charity (Cancer Research UK). I hope my previous

experiences and my research background in cancer research and parasitology would lend themselves to understanding the breadth of expertise that sits at this university.

One of the most rewarding aspects since joining the University of York as Business Development Manager for Biological and Health Sciences, has been meeting senior leaders across departments, centres, enterprise and professional services teams. A key priority during this period has been listening and learning — understanding the strategic priorities of Biology, Health and Environmental Sciences, identifying existing strengths, and exploring where there may be opportunities to expand external partnerships and increase impact. From conversations, it has become clear that the Faculty possesses an exceptional foundation for collaboration and growth.

There is significant interest externally in the work taking place at York and my current focus is to map out the needs of the external stakeholders to build partnerships that are not purely transactional, but instead based on shared priorities, trust and long-term collaboration. This approach has already been

put into action in conversations we are having with industrial partners or while exploring collaborative opportunities and wider engagement with local and national healthcare organisations.

An important ambition moving forward will be to help create a more connected external engagement landscape across the faculties, supporting interdisciplinary initiatives and creating opportunities — the ones that support researchers in developing sustainable partnerships, enhance opportunities for students and early career researchers, and strengthen the University's reputation as a collaborative and outward-facing institution.

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# SPACE MISSION LAUNCH ADVANCES UK STANDING IN QUANTUM COMMUNICATION



Photograph: Artist rendering of SPOQC in space

**The Satellite Platform for Optical Quantum Communications (SPOQC) mission, launched in March 2026, demonstrates how collaborative research and knowledge exchange can accelerate the UK's development of secure quantum communication technologies.**

Initiated through the University of York-led **Quantum Communications Hub**, the programme brings together expertise from multiple UK research institutions, including the Universities of York, Bristol, Heriot-Watt and Strathclyde, alongside national laboratory partners such as the Rutherford Appleton Laboratory (RAL) space. This coordinated approach combines capabilities in quantum communications, satellite engineering, atmospheric

science and optical infrastructure, strengthening the UK's position in next-generation space quantum technologies.

A key feature of the mission is the technical development of two complementary quantum payloads designed to evaluate different operational concepts for satellite quantum key distribution (QKD). The University of York developed the Continuous-Variable (CV) quantum payload, which uses coherent quantum detection techniques at telecom wavelengths and is compatible with existing optical communication infrastructure. In parallel, the University of Bristol developed a Discrete-Variable (DV) payload based on weak coherent pulse protocols. Together, these payloads provide a unique platform for comparing different quantum communication approaches under realistic space operating conditions.

The programme also establishes UK-wide research infrastructure through distributed optical ground stations located at partner universities. At

York, satellite downlink experiments will be conducted using the **York Optical Ground Station (YOGS)**, located on the rooftop of the **Institute for Safe Autonomy (ISA)** and equipped with twin telescope systems. The Institute provides a purpose-built environment for collaborative quantum experiments and the safe development of advanced autonomous systems. By uniting world-class expertise, facilities and infrastructure across UK quantum research hubs, the SPOQC mission highlights the UK's technological ambition in secure global quantum communications, in which the University of York will play a pivotal role.

**Source:** Content provided by Dr Rupesh Kumar, lecturer in experimental quantum communications, within the **School of PET**, at the University of York

# UNIVERSITY OF YORK SCIENTISTS SOLVE 40-YEAR BIOLOGICAL MYSTERY BEHIND SLEEPING SICKNESS

Researchers at the University of York have solved a four-decade-old mystery by uncovering how the Sleeping Sickness parasite successfully hides from the body's immune defenses.



Faria Lab

**Photo 1:** Trypanosome image: Custom made water colour painting

A study in **Nature Microbiology** by University of York researchers has resolved a decades-long mystery regarding *Trypanosoma brucei*, the agent of Sleeping Sickness. The team identified a novel mechanism of gene regulation that enables the parasite to control virulence genes with surgical precision, a process essential for navigating the hostile human bloodstream.

To evade the immune system, *T. brucei* wears a "molecular cloak" consisting of a single Variant Surface Glycoprotein (VSG). While its genetic wardrobe contains thousands of potential cloaks, survival depends on expressing only one at a time. The parasite's "printer", simultaneously generates genetic instructions for the VSG alongside several other virulence genes (helper genes needed for survival and immune evasion); however, the VSG is significantly more abundant.

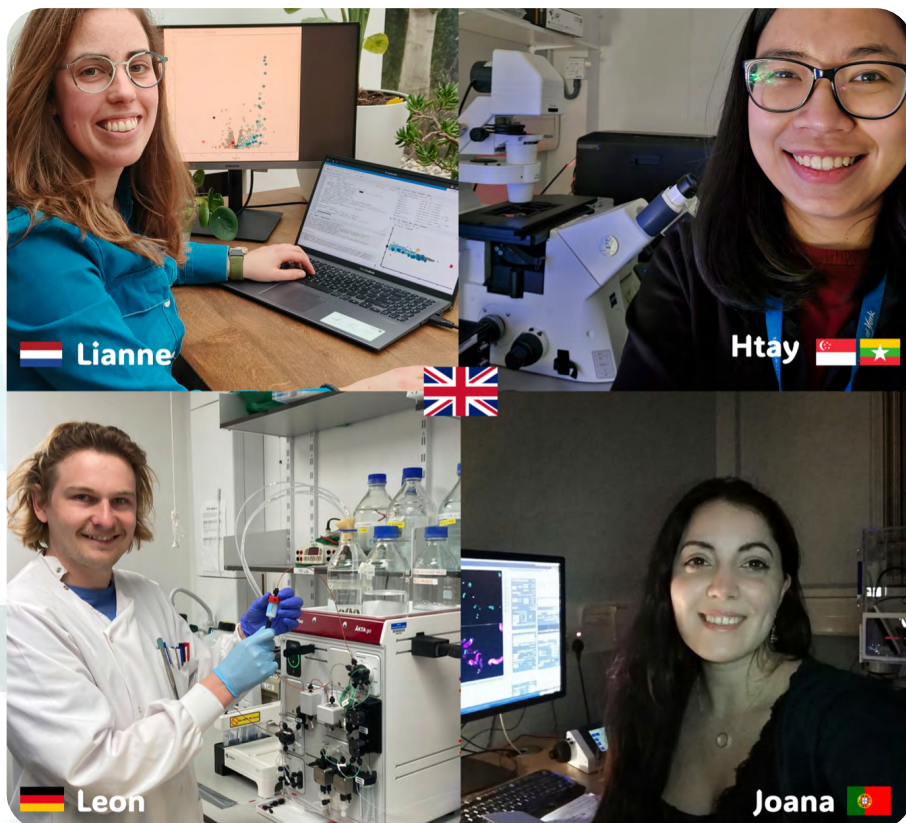
The machinery responsible for this stoichiometric asymmetry was unknown until now. It includes **ESB2**, which acts as a molecular filter by selectively degrading genetic material directly at the source within a specialised nuclear factory—like a shredder within a printing room, destroying specific pages in real time. This allows the parasite to fine-tune its genetic output and therefore prioritise the "molecular cloak" required for effective immune evasion.

This discovery was made by an international team at the University of York, led by **Dr Joana Correia Faria** and including researchers from Portugal, the Netherlands, Myanmar, Germany, the UK, and

Brazil. By translating this basic science into a clear understanding of host-pathogen interactions, the research opens doors for future treatments to benefit communities across sub-Saharan Africa devastated by the disease.

The project was funded by a Sir Henry Dale Fellowship, a partnership between the Wellcome Trust and the Royal Society and was supported by the Technology Facility at the Biology Department.

As the first major success for Dr. Faria's new laboratory, the study marks a milestone in building institutional capacity and cementing York's reputation as a global hub for the life sciences.



# BRIDGING WORLDS: HOW CREATIVE TECHNOLOGY IS TRANSFORMING BUSINESS ACROSS YORK AND NORTH YORKSHIRE

The University of York's Creative Technology Discovery Cluster (C3), led by Enterprise Works, is bringing together businesses, researchers, and innovators to explore how technologies born in the creative industries can solve real-world challenges across a wide range of sectors.



The project, part-funded by the York and North Yorkshire Combined Authority and supported by Mayor David Skaith, has been praised for bridging the gap between the University's world-class research and local businesses. Working in partnership with Tech York, the West and North Yorkshire Chamber of Commerce, and York Central, C3 connects companies with academics and cutting-edge facilities, including **CoSTAR LiveLAB**, to explore technologies that are reshaping how industries operate.

The first C3 event, held at York's historic Guildhall in March, brought together creative practitioners, technologists, and business leaders for an afternoon of talks, live demonstrations, and hands-

on exploration of state-of-the-art creative industry technologies. A keynote from Phil Adlam, Chief Technology Officer (CTO) of LiveLAB and **Production Park**, set the scene, mapping how live event technologies are likely to develop over the next two decades and what that means for businesses in the region today. The event has led to continued conversations with the rail, heritage, entertainment and space sectors on potential Research and Development.

What makes C3 distinctive is its cross-sector ambition. Technologies developed for film, performance, and immersive media, such as motion tracking and virtual production, are being adapted for healthcare,

manufacturing, tourism, and beyond, helping companies modernise, spot new opportunities, and develop better products. Participants are encouraged to see how other industries are using these tools, sparking ideas they might not have reached on their own.

The next C3 event takes place on 17 June, focusing on the future of the creative sector itself and how cross-industry collaboration can help it evolve and thrive.

Places are free - **[find out more and register your interest.](#)**

# INFLUENCING POLICY

The York Policy Academy Applications for 2026/27 are Now Open





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The York Policy Engine

**THE YORK POLICY ACADEMY:  
2026/27 APPLICATIONS  
NOW OPEN**

The York Policy Academy is an annual programme run by **The York Policy Engine** (TYPE) at the University of York. It helps staff to better understand policy engagement, expand their networks, and increase their impact by connecting them with civic and political leaders through interactive, expert-led workshops.

This leading initiative is unique to the University and offers a platform for staff to extend their influence beyond the institution. The York Policy Academy offers colleagues a space to develop their skills, deepen their knowledge of policy engagement and make meaningful connections to drive real-world change.

- **Find more about how you'll benefit, how it works and examples of previous programmes and speakers**
- **Apply by 5.00pm, Tuesday 21 July 2026.** You'll be asked to complete a short application form with a few questions and confirm your line manager's support.

The programme is open to **all professional service and academic staff** at the University of York, at any career stage, who have aspirations to influence policy through their work.

For an informal discussion or any questions you may have, contact [katie.heffron@york.ac.uk](mailto:katie.heffron@york.ac.uk).