

## Welcome and Notices

Please take note of the following events:

### Recent:

- **Feb 2<sup>nd</sup>**: online event for LHCS ALs (recording available via LHCS AC online room).

### Upcoming:

- **March 1<sup>st</sup> deadline**: currently 4 [Chemistry PhD Studentships](#) available at LHCS.
- **March 4<sup>th</sup>**: Learn about career options at the [RSB Bioscience Career Day](#) in Sheffield.
- **April 29<sup>th</sup>**: 'The Stress of the Heart: Can we really break it?' hosted by LHCS Biology Lecturers (to be streamed via youtube channel).
- **May 19<sup>th</sup>**: a campus-based Staff Development event for LHCS ALs (details tbc).

## Opportunities for Students



The **SNS annual student conference** brings together students, scientists and industry experts to talk about the latest interdisciplinary research. This is a great opportunity to expand your network of contacts across disciplinary areas!

The **6<sup>th</sup> Annual National Student Conference** is being hosted at University College London.

Date: **April 4<sup>th</sup>, 2023**

If you are a Natural Sciences student and would like to be considered for a funded place, please complete the form [HERE](#) by Monday, February 20<sup>th</sup>, 5pm.

## Introducing the Neuroscience Research Cluster

The **Neuroscience research cluster** was created in January 2020 and builds upon the long history of neuroscience research and teaching activity at the OU. We are an interdisciplinary community of academics, PhD students and technical staff from LHCS and looking to expand and welcome members from other schools. The group contains a wide range of neuroscience research expertise, encompassing everything from fundamental cellular and molecular approaches to the study of neural functioning through to behavioural analyses of complex cognition, mental health, and wellbeing. Members of the group are also involved in producing and delivering neuroscience-focused or related undergraduate modules including [SK298 Brain, Mind and Mental Health](#), [SDK100 Science and Health](#), as well as supporting the Taught Postgraduate Masters in Mental Health Science qualification. [and SD329 Signals and Perception: the Science of the Senses](#)



We have recently worked together on the organisation of the '50<sup>th</sup> years of Neuroscience at the OU' which was celebrated last May 2022. The conference was attended by 60 on-site, 42 online and was live streamed to colleagues around the world. It was delightful to bring together our colleagues past and present that have contributed to our neuroscience curriculum, teaching, and research over many years. Currently we are organising a Neuroscience Seminar Series funded by the British Neuroscience Association (BNA) and working towards the organisation of more events which will hopefully become a tradition like the celebration of the 'Brain Awareness Week'. If you would like to find out more about the neuroscience cluster, please contact the cluster coordinators [Dr Laura Lopez-Cruz](#) or [Dr Ilias Kounatidis](#).

# Career Planning – who knew there was an OU guide?

Over the next few issues of the LHCS Newsletter, we will introduce different aspects of how the OU supports career and employability options for both staff and students. This month, we're introducing the [Careers and Employability Services](#) and their 'Career Planning Guide'. The '[Career Planning Guide](#)' is neatly divided into six sections: knowing yourself, exploring possibilities, making decision & taking action, getting the job, equality & diversity issues, and next steps. It covers all the key stages that form part of planning and managing career progression. As such, this guide is equally fit to support both those of you looking to embark on and plan further study and subsequent career choices, as well as support on current career expectations and current settings. Associate Lecturers and or Staff Tutors may wish to signpost students to certain sections whilst staff and students alike currently pondering career-related questions, may find helpful hints and tips.

## Meet one of our students

When I had to drop out of school at fifteen with no qualifications to my name due to ill-health, I thought my hopes of following my passion for biology were over. Perhaps slightly dramatic, but journeys through life are



often not straightforward, and the OU is a wonderful world of opportunity that allows people to shine, even with barriers to success. I'm something of an OU veteran: in 2021 I completed my part-time Open University degree in Natural Sciences (Biology) and in October 2022 I began my studies as a full-time postgraduate research student on campus in Milton Keynes.

Life as a PhD student is very different to life as an undergraduate – this is my job now, I've moved home, and I get paid for it. Your supervisor is there to guide you and provide expertise, but ultimately, your project is yours and you make the decisions.

My biggest tip on success with the Open University would be to engage with opportunities as they come along; don't be afraid to try things out or say yes. As part of my final module, I worked on an optional research project and aside from the very important skills I learnt, I had opportunities to attend journal clubs, present my work and network with scientists from the OU and other universities. Just learning the facts and getting the grades is only half of what it takes to become a scientist, but, as an OU student, you will probably already have one very important qualification – self-motivation!

-Kayleigh Smith

BSc (Hons) Natural Sciences and PhD student

## Meet one of our tutors

I've been an AL for over 6 years supporting students with their studies of the brain, and mental health.



I tutor on [SK298](#) at UG L2, and at PG level, I support

the [MSc in Mental Health Sciences \(F78\)](#) qualification and tutor on [S826](#), which covers a range of psychological and neuro-biological research into anxiety and depression. I have also enjoyed supporting students with their final [MSc project module SXH890](#). The range and quality of student projects on important mental health-related conditions has been very impressive and informative!

Before joining the OU, I was active in cellular neuroscience research. I studied for a PhD at University College London investigating synaptic plasticity at inhibitory synapses in the brain and the functions of the GABA-A receptor – the site of action and an important receptor for a number of sedative and anxiety reducing drugs. I later moved to Imperial College and worked on projects investigating the actions of anaesthetics and the neurobiological mechanisms of sleep. An area of research I still find fascinating.

I have an interest in science communication and occasionally write on a range of science topics for a wider audience. I currently live in the Scottish borders and enjoy gardening and exploring the beautiful Scottish countryside with my border collie, Ginnie. I'm also interested in the mountain ponies of the UK and am the proud owner of a cheeky young fell pony, Nick.

-Catriona Houston

Associate Lecturer (tutor)

# Spotlight on BBC-OU Partnerships at LHCS

BBC

THE IDEAS

BBC Ideas is a collection of short films and explainers that aim to inspire new thinking and fresh perspectives across a broad range of topics and contemporary issues.



Released in October 2022, the [BBC Ideas Film – ‘Should animals be kept in zoos?’](#) was made in partnership with the OU with acting STEM academic consultant, [Dr Vicky Taylor \(LHCS\)](#). In under 7 minutes, this co-production explores and discusses whether zoos are a good way to teach people about nature and save species from extinction or rather a cruel way of using animals for entertainment.

Released in December 2022, the [BBC Ideas Film – ‘The misdiagnosis that sent me to psychiatric hospital’](#) presents the case of Hannah Farrell, a psychology student in her twenties, who had lost her ability to speak and function as the result of a physical cause, but who was originally misdiagnosed and sent to psychiatric hospital. This short film was produced in partnership with OU academic consultants [Dr Jitka Vsetekova \(WELS\)](#) and [Dr Caroline Hyde \(LHCS\)](#). The topic gives rise to a greater question around whether we should drop the distinction between body and mind. On the basis of this, the OU academics created additional content to highlight the bio-psycho-social model of health & wellbeing. This can be found on the [OU connect website](#).



## Enterprise & Knowledge Exchange – Simon Collinson

I am delighted to highlight some of the great work we support within LHCS. We have several full-time and part-time PhD students working on projects with external organisations. Some projects are based at the OU, such as [Chris Foster](#) who studies the cleaning of textiles with the V&A Museum, and [Katy Woodason](#) who is using agricultural food waste powders supplied by BioPower Technologies to develop compostable food packaging. While other students work mainly at a company, such as [Magali Goncalves Rego](#) working at TWI in Cambridge on developing a closed-loop recycling system for epoxy thermoset resin through a chemical design approach. Some students use data from their job towards their PhD, such as [Alistair Hines](#) at Astra Zeneca who is studying novel mass spectrometry approaches to improve the characterisation of current and next generation biotherapeutics, and [Sameer Ayaz](#), equally at Astra Zeneca, who studies the role of intersegmental RNA:RNA interactions on replication and genomic assembly of live attenuated influenza vaccine viruses. Similarly, [Dr Eleanor Crabb](#) has supervised several part-time PhD students at Johnson Matthey using the data from their work on new catalysts or the recovery of metals from acidic solutions.

It is not just PhD students working with industry, [Dr James Bruce](#) has supervised some projects with WJ a company that produces many of the markings on UK roads. James has also supervised projects with Shimadzu involving chromatography and staff working at the OU. All these projects really help us to demonstrate the wider engagement and impact from our research which is very important for our funders and for our success in several assessment exercises run by government agencies. The projects are also interesting and fun where the supervisors learn to address real-world problems, unusual questions, and work with new people.

-Simon Collinson

Enterprise and Knowledge Exchange Lead (LHCS)

# Introducing Key Changes to S390 – Starting in February

S390 is the science project module where students bring together all their knowledge and skills from previous undergraduate studies to investigate a topic area within their discipline. Students are supported by their tutor and guided by the module materials to design and undertake either a literature-based or research-based project. They develop and demonstrate a range of transferable skills including cognitive skills such as critical thinking, key skills such as written communication, and professional skills such as project management and oral presentation.



## SXB390: Biology (core in R58 BSc Biology)

Students undertake a practical or data-based investigation to research an area of biology such as animal behaviour, human or animal health, plant growth and physiology, biodiversity, or gene expression.



## SXC390: Frontiers in Chemistry (core in R59 BSc Chemistry)

Students undertake individual investigations covering topics such as combinatorial chemistry, fuel cells, nanotechnology, biopolymers, porous materials or transactinides, metals in medicine, drug design and synthesis, or chemical education.



## SXH390: Health Sciences (core in Q71 BSc Health Sciences)

Students undertake a data-based investigation to research an area of health sciences such as infectious disease, mental ill-health, or genetics.

## Our badged OpenLearn course on 'Academic Integrity'

Would you like to build your confidence in developing your academic voice? What is meant by my own work? When does collaboration become collusion? Do you feel unsure about referencing? Why not take the opportunity to brush up your understanding of academic integrity.

This [free OpenLearn course](#) was written to support the understanding of a range of topics relevant to good academic practice and should take around 6 hours of study time. Successful completion will earn you a digital badge, so why not give it a try!

Free course

All my own work: exploring academic integrity

Free statement of participation on completion



Do you have something to share or would you like to get involved in the Newsletter?

We are looking for students and ALs to join the editorial team!

We'd love to hear from you at [STEM-LHCS-Teaching@open.ac.uk](mailto:STEM-LHCS-Teaching@open.ac.uk)

Please include 'newsletter' in the e-mail subject header.

The LHCS Newsletter is brought to you by Fi Moorman, Caroline Hyde, Marisa Loach, Eleanor Crabb, and Simone Pitman.

## Valentine's Day chemistry

COMPOUND INTEREST



Dopamine

Dopamine levels in the brain increase when you're in love, giving feelings of pleasure. People repeat behaviours that lead to dopamine release.



Serotonin

Studies have shown serotonin levels to be lower in people who are in love. They suggest these lower levels can lead to anxiety and obsession.

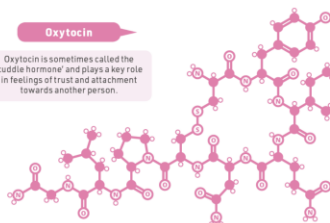


Adrenaline

Adrenaline, along with noradrenaline, is produced in stressful or exciting situations. It increases heart rate and contributes to the thrill of being in love.

Oxytocin

Oxytocin is sometimes called the 'cuddle hormone' and plays a key role in feelings of trust and attachment towards another person.



STRUCTURE KEY:

- Carbon
- Oxygen
- Nitrogen
- Sulfur
- Hydrogen