The Open University

Newsletter
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Life Health and Chemical Sciences

Introduction from our Head of School, Dr Robert Saunders

It gives me great pleasure to welcome this Life, Health and Chemical Sciences (LHCS) Newsletter. I hope this becomes a regular publication for LHCS and that it continues to provide a communication to all in the School, particularly with future expansion of our community.
Thank you to all who've submitted stories for this issue. It's great to see the piece from Eric on having completed 50 years with the OU. I'm pretty sure I was on a module team with Eric when I started with the OU, at which point he must have been a mere 30 years with the OU!
I strongly encourage everyone to share news items for future newsletters with the Editorial team!

UG and PG Science Study Sites

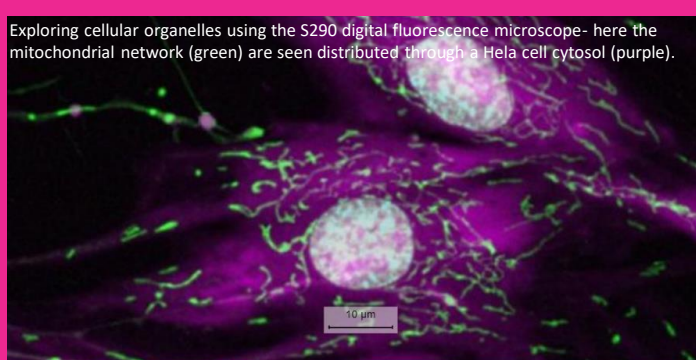
In these 'one-stop shops' for Undergraduate (UG) and Postgraduate (PG) science students, you can find information about our different modules and qualifications, as well as careers and employability tips and forums to connect with other science students. There are resources to develop skills and prepare for upcoming modules and we also host events open to science students in the online meeting rooms on these sites.

Introducing our new modules, starting in October

S285 Investigative approaches in biology and chemistry ***(core in R59 BSc Chemistry)***
S285 is a fascinating practical science module exploring aspects of biology and chemistry through the topics of food safety, pesticides, and drug metabolism. Students will conduct online and home investigations to develop investigative skills including experimental design, risk assessment/good laboratory practice, data handling, interpretation and reporting.

S248 Chemistry in life: food, water and medicines ***(core in R59 BSc Chemistry)***
S248 explores the role that chemists play in developing a more sustainable future and how they solve problems relating to human health. Throughout the module, students will see how chemistry is applied to the topics of food, water and medicines, learning about the fundamental chemistry related to these topics while developing problem-solving skills and undertaking a range of experimental investigations.

S290 Investigating human health and disease ***(core in Q71 BSc in Health Sciences)***
Focussed on cell and molecular science, S290 explores human health using the topics of cancers, rare disease, genetics, microbiology and autoimmune disorders.
From the ethics and governance of human studies through to clinical trials, reporting and data analysis, the module starts with an introduction to core underlying principles and skills that thread throughout the module. Key skills developed include information gathering, communication and investigational skills, with a focus on presentations and the use of statistical tests in the analysis of data, which is also the focus for the module's day-school.



Exploring cellular organelles using the S290 digital fluorescence microscope- here the mitochondrial network (green) are seen distributed through a Hela cell cytosol (purple).

Meet one of our student reps

I started my degree with the OU in 2015, initially doing Q71 Health Science. However, I soon discovered I had a passion for Chemistry, so switched to Q64 Natural Science (Chemistry) degree. I joined the OU Chemistry society, Alchemy, and went along to an event they were running. Inspired by a presentation from a previous student who was at the time doing a PhD, I decided that this was the route I wanted to take. Her advice was to try and obtain some research experience.

In 2017 I did a summer internship within the school of Life, Health and Chemical Sciences, which confirmed to me that I definitely wanted to do a research degree. The following year I applied for some funding to do another summer project, which led to me presenting at a couple of conferences. In the final year of my degree, I applied for an industry internship at Johnson Matthey. I was able to use the research I did there for my project for SXM390.

In 2019, using the research experience gained from these internships, together with my degree, I was accepted at the University of Oxford, where I am currently doing a DPhil in Inorganic Chemistry.

Charlotte (centre), Kate (left) and Kelly (right) in the OU teaching labs

-Charlotte Hancox
(former LHCS student, current AL/ tutor on S111 Questions in Science)

Who are our AL and student reps?

Associate Lecturer Representatives
Ray Jones, Keith Dakin-White, Jennifer Burgess Thomas

Student Representatives
Charlotte Hancox, Kelly Britton, Tala Al-Shafee

(Look out for the call for new student reps soon!)

A lifetime journey with the OU

We are so fortunate to have many long-standing ALs in our LHCS community. Eric Bowers offers his reflections:

"A fifty- year connection with the OU? I hardly believe it myself but, apart from a few 'blips' along the way, it has been an exciting and exhilarating journey. I was appointed as Science Staff Tutor at the OU in Wales but also with Faculty, and Biology Departmental responsibilities, at Milton Keynes in 1971. There, I contributed to the production of Biology courses and assessment material. With Faculty support I also managed to keep some research going in marine helminthology. Along the way, I did a considerable amount of teaching at Residential Schools' altogether over a hundred, spread between all three levels. I had made an early decision in 1971 that I would tutor a group in each academic year. This continued until my retirement in 2004, carrying on as an AL until the present time. What has been constant is the motivation, enthusiasm, and perseverance of our students, and I have met many amazing achievers, some with little previous educational experience. So, my present students share the same characteristics as those early learners in the 1970's. It is they who have made it all worthwhile. I thank them all! "

-Eric Bowers (LHCS AL/ tutor)

LHCS notices

- Preparing for your **remote exam**: 12 April 1-2pm in the Science UG online meeting room
- **Science AL staff development** event: 23-24 April
- **Online LHCS Summer school**: August (details to follow).
  Here's a quote from one of the participants in last year's summer school to give you a flavour: "*I absolutely loved this summer school…. The experience has been invaluable & given me an opportunity to do experiments & use equipment relevant to my future career ambitions*."
- Any suggestions for events? We'd love to hear from you at STEM-LHCS-Teaching@open.ac.uk

Spotlight on Professor David Male

David Male has been Professor of Biology at the Open University since 1999, leading a research group investigating different aspects of the blood-brain barrier and neuroinflammation. Much of the work has involved the use of human brain endothelium and glial cells in 3-dimensional models of the barrier, in vitro. These models, developed at the OU, have been used to investigate mechanisms of barrier breakdown, and the role of transcription factors, micro-RNAs and cytokines in establishing and modulating inflammation in the brain. More recent work has been on the development and targeting of nanocarriers for transport of therapeutic biomolecules (oligonucleotides cytokines and polypeptides) across brain endothelium in vitro and in vivo. DM is author and editor of a series of textbooks, which have been translated into 14 different languages.

He has contributed to many OU teaching modules, currently S294, SK320, S317, SS032, and is producing topics for two modules in preparation S290 and S285. Since the pandemic developed, he has produced articles on immune responses to virus infections and anti-viral vaccines, which are available in OpenLearn. David recently held a very topical Journal Club 'Can Covid-19 variants evade immunity following infection or after vaccination?' If you missed this session, you can view the recording in the Science Undergraduate online meeting room!

Forensics: the Real CSI with Dr Claire Kotecki

Forensics: The Real CSI was co-produced by The Open University and the BBC and was aired during February. Dr Kotecki, Lecturer at the Faculty of Science, Technology, Engineering and Mathematics, at the OU, was part of the team that advised the show's producers, she says anyone thinking about a career in forensics should definitely watch the series:

"Forensics: The Real CSI does an excellent job lifting the lid on the real science that underpins criminal investigations in the UK. It provides a compelling look at the people and techniques that support police investigations and has the potential to inspire the next generation of investigators. Working on this as an OU co-production brings together academic and educational expertise, cutting edge broadcasting and the often-unseen individuals who we rely on to help solve some of the UK's most challenging crimes."

The first episode follows investigators as they examine the home of a man who handed himself into the police covered in blood, declaring that he murdered his wife but has no memory of the incident. Exciting stuff! If you missed this, or our latest co-production 'The Secret Science of Sewage' why not watch now on BBC iPlayer?

Do you have something to share or would like to get involved in the Newsletter? We'd love to hear from you at STEM-LHCS-Teaching@open.ac.uk Please include 'newsletter' in the e-mail subject header.

The LHCS Newsletter, brought to you by Fi Moorman, Karen New, Eleanor Crabb, Sushila Rigas, and Simone Pitman.
With grateful thanks to Becky Kinge (SST) for design.

Do daffodils kill other flowers in vases? – Compound Interest (compoundchem.com)