Online Stirling Meeting 2021

17:00-18:00, Thursday, 13 May 2021
Using Astrobiology to teach science and schools and in prisons
Charles Cockell, Professor of Astrobiology, University of Edinburgh
Gayle Duffus, Education Officer – Primary Science, Education Scotland

In this talk, Charles Cockell and Gayle Duffus will explain their work with the Scottish Government's RAiSE programme (Raising Aspirations in Science Education) to use astrobiology to deliver science at primary to secondary transition. Charles Cockell will also touch on the Life Beyond programme, which engages the prison population in the design of stations for the Moon and Mars, thus improving science education and creativity in prisons.

Biographies:
Charles Cockell is professor of astrobiology at the University of Edinburgh. His research interests cover life in extreme environments, the habitability of extraterrestrial environments, and space biology, using laboratory, field, orbital and other space platforms to investigate fundamental and applied questions in microbiology. He currently sits on the science advisory committee of NASA's Center for the Utilization of Biological Engineering in Space (CUBES). Prior to this he was a research scientist at the British Antarctic Survey and held a National Research Council (NRC) Associateship at the NASA Ames Research Centre and a visiting scholarship at Stanford University.

Gayle Duffus is employed by The Wood Foundation and based within Education Scotland. Gayle is the strategic lead and programme coordinator for the Raising Aspirations in Science Education (RAiSE) programme.

17:00-18:00, Wednesday, 19 May 2021
Physics in the NHS and beyond
Lucy Kershaw

Medical Physicist is a job that is not commonly known about, but which includes a huge variety of roles within the NHS and in research. Lucy will chat about how physics fits into patient care, how she ended up with a job in Magnetic Resonance Imaging and her research.

Biography
Lucy Kershaw is a senior research fellow at the University of Edinburgh in the field of Magnetic Resonance Imaging (MRI). She completed her undergraduate degree in Natural Sciences, then enrolled on the NHS medical physics graduate training scheme which included an MSc in radiation physics with medical applications. Her PhD was in quantitative MRI at the University of Manchester, followed by postdocs in Toronto, Edinburgh and Manchester. Her role is research-focused but she is also an MR safety expert and chair of a research ethics committee. She enjoys talking to a wide range of audiences about MRI and science more generally, and has never really got over the excitement of working with a really big magnet. Outside work her skiing and climbing habit has been ruined by the pandemic, meaning that her knitting and sewing output has got seriously out of hand.

17:00-18:00, Thursday, 20 May 2021
We are all star stuff
Dame Jocelyn Bell-Burnell

Have you ever thought where the chemical elements in your body were formed; or how they got to be in you? This talk will describe our latest understanding of the answers to such questions.

Biography:
Dame Jocelyn Bell-Burnell needs little introduction as the discoverer of the first pulsar in 1967. During her distinguished career she has been president of the Royal Astronomical Society, Institute of Physics and Royal Society of Edinburgh. In 2018, she was awarded the Breakthrough Prize in fundamental physics, following which she donated the entire £2.3 million prize money to help female, minority and refugee students become physics researchers. This Bell Burnell Graduate Scholarship Fund is administered by the Institute of Physics.

17:00-18:00, Tuesday, 25 May 2021
From Scotland to Space
Robin Hague, Head of Launch, Skyrora Ltd
Matjaz Vidmar, University of Edinburgh

Space was never so close – with electronics getting smaller and smaller, so do satellites that can be deployed to observe the Earth's surface and carry communications across the globe. Similarly rockets taking them to space are now of a size that they can be deployed rapidly and from many new locations, including Scotland. In fact, across our engineering hubs, spaceports and data centres, Scottish Space Industry is soaring high amongst the newcomers to the new space race.

Biographies:
Matjaz Vidmar is a researcher, lecturer and strategist at the University of Edinburgh and at the Royal Observatory Edinburgh. He is an (Astro)Physicist by training, now examining innovation and (inter-)organisational change, as well as other social dimensions of Astronomy and Outer Space Exploration and Industry. In addition, he is involved in many international initiatives to develop the future of these fields as well as lecturing, tutoring, mentoring and delivering extensive public engagement programme. You can find more at https://www.roe.ac.uk/~vidmar/

17:00-18:00, Thursday, 27 May 2021
Tomorrow's World? Predicting the physics of 2121
Professor Martin Hendry, University of Glasgow

What predictions did the future-thinkers and science fiction writers of the past make for the physics of today? How might their successes – and spectacular failures – help us look ahead to the physics of the next 100 years?

Biography:
Martin Hendry is Professor of Gravitational Astrophysics and Cosmology at the University of Glasgow. His main research interests are in gravitational-wave astronomy: Martin is a senior member of the LIGO Scientific Collaboration, for which he currently chairs the LSC Communications and Education Division. Martin is a Fellow of the Institute of Physics, a member of IOP Council and chair of the IOP Scotland Education Committee.