Talking Science

Daresbury Laboratory
Stimulating talks on science, maths and
the Universe, for families, public and schools
In July 1969, Neil Armstrong and Buzz Aldrin took their first steps on the moon. It was a result of national pride and immense teamwork that transformed what was previously considered science fiction into fact and allowed them to arrive there safely. As a trainee astronaut herself, Jackie will talk us through that monumental moment 50 years ago and the progress and achievements human space exploration has made since. Will we go back to the moon? Join Jackie as she talks about her own experiences and the plans NASA and ESA have to return humans safely to the moon almost 47 years after we last set foot there…
Bring back the king: the extraordinary science of de-extinction

Dr Helen Pilcher, science writer, performer and author of ‘Bring Back the King: The New Science of De-extinction’

If you could bring back one living thing from the whole of the history of time, what would you choose? Author, comedian and former stem-cell biologist Helen Pilcher has thought about this problem a lot. Join Helen as she explains the cutting-edge science that makes the resurrection of extinct animals a very real possibility and explains how this can help us protect other endangered species from extinction. Hear her choices from eras gone by - from the king of the dinosaurs, Tyrannosaurus rex, to the king of rock ‘n’ roll, Elvis Presley.
The science of the circus

Dr Ken Farquhar, science presenter

Due to popular demand Dr Ken is back! Roll up, roll up and explore the science behind the thrills and spills of the circus. As Doctor Ken takes you on a voyage of discovery investigating how performers make use of many scientific principles in their tricks and stunts. Find out why jugglers love gravity, how clowns use the force like a Jedi and why unicyclists need to keep moving to stay still. It’s science but not as you may know it! Join us as we balance on a tightrope, learn to juggle on the moon and explore the forces of other circus props. Put on your science hats as this is going to be fun!
What is going on in his head?

James Piercy, science communicator, trainer and public engagement consultant
honorary lecturer in science communication

On 30 January 2011, James Piercy, 39, set out for an ordinary Sunday morning drive with this family. But after 30 minutes on the road, the day quickly turned into anything but ordinary.

A nail punctured the cars tyre causing the vehicle to spin off the road and smash into a tree. The whole accident took less than a minute to happen; just a few seconds in time that would change James’ life and in an instant as he suffered a severe traumatic brain injury. In this thought provoking talk we will hear James’ story of injury and recovery and what he has learnt about his brain.

James Piercy
20 NOVEMBER 2019, 7-8pm
Ages: 16+
Unravelling the double helix: the lost heroes of DNA

DNA. The double helix; the blueprint of life; and, during the early 1950s, a baffling enigma that could win a Nobel Prize. Everyone knows that James Watson and Francis Crick discovered the double helix. In fact, they clicked into place the last piece of a huge jigsaw puzzle that other researchers had assembled over decades. Researchers like Maurice Wilkins (the ‘Third Man of DNA’) and Rosalind Franklin, famously demonised by Watson. Not forgetting the ‘lost heroes’ who fought to prove that DNA is the stuff of genes, only to be airbrushed out of history.
Dr Mark Lewney

Rock guitar in 11 dimensions

Dr Mark Lewney, Famelab winner and guitar physicist

What causes the revolutionary, history-changing sound of rock guitar, and how does it help us to understand the nature of the stuff we’re made of? Famelab winner Mark Lewney explains the physics of rock, using riffs from Vivaldi to AC/DC, explains the secret of the Stradivarius, and shows how string vibrations might lie at the heart of the ‘big questions’ about the Universe.
We live in a material world. From stone and iron to plastic, human history and civilisation have always been closely intertwined with the understanding, harnessing and manipulation of matter. But never have our daily lives depended more on materials than in the modern era. New material growth techniques are used to build materials literally one atom at the time. Electron microscopy lies at the heart of new materials research by using electrons that can magnify materials more than 10 million times. This technique enables researchers to gain unprecedented understanding and insight into the properties of materials, paving new ways for atomic material design.
The physics of Star Wars

Professor Carsten Welsch, University of Liverpool / Cockcroft Institute

More than 40 years ago, on 25 May 1977, Star Wars began its world-wide success story with the first movie being launched at 32 cinemas in the USA. We will be discussing what is science and what is fiction in the Star Wars movies. This will include the physics behind the famous light sabers, hyperspace, and of course...the force. We will also link the Star Wars universe to current research into particle accelerators and show how this can be (at least) as exciting as what is shown in Star Wars. There will also be hands-on activities and opportunities to speak with our researchers. Disclaimer: This is not an official Disney/Lucasfilm event.

19 March 2020, 7-8pm
Ages: 12+
Drones: the brilliant, the bad, and the beautiful

Professor Andy Miah, University of Salford, Manchester

This talk examines the consequences of a society in which people live among drones. From the most spectacular and amazing applications to the most destructive ones, it charts a course in recent history which tells the story of how drones came to prominence and what they mean for humanity's future. Focusing especially on the scientific uses of drones, it examines how these flying machines are enabling new kinds of research to emerge, along with discussing some of the biggest technological challenges they present, which tell the story of how artificially intelligent robots will become a bigger part of our lives in the future.
Swarm engineering across scales: from flocking robots to nanomedicine

Laura Gemmell, PhD Researcher, University of Bristol

Swarm engineering allows us to make robots that work in large numbers (>1000), and tiny sizes (<1 cm). Swarm strategies are either inspired from nature (ant colonies, fish shoals, and bird flocks) or are automatically discovered using machine learning and crowdsourcing. Demonstrated applications include the deployment of swarms of flying robots to create outdoor communication networks, the use of 1000 coin-sized robots to form structures and explore their environment, and the design of nanoparticles for cancer treatment.
Making a brighter future through advanced accelerators

Professor Susan Smith, ASTeC Director & Head of Daresbury Laboratory

Particle accelerators do what it’s says on the tin, they accelerate particles! However they are also the biggest machines mankind has ever built, provide ever improving cancer therapies and can even operate as time machines. Join our Head of the Laboratory Susan Smith as she tells us about her exciting and varied career at Daresbury Laboratory studying and developing these amazing machines, and how they greatly improve the world we live in.
Unless stated, all events will take place in the Merrison lecture theatre at Daresbury Laboratory. The programme is subject to change therefore please visit the Daresbury Talking Science website for updates, further information on individual talks, how to book and travel information. A hearing loop is installed in the lecture theatre and disabled access is available. Please let us know at the time of booking if you require us to make any adjustments for your visit. Children under 16 must be accompanied by a responsible adult. Once your booking is made, you will receive a confirmation by email. Please bring an electronic copy (by smartphone) or paper copy of each ticket with you to gain entry. Due to the popularity of these talks, please let us know if you are no longer able to attend. Once the talks are full we will open up a waiting list and cancelled tickets will be released.

Science and Technology Facilities Council.
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