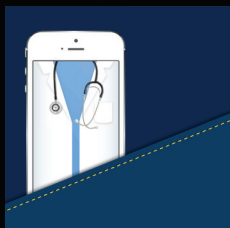


Monday 8 September



11:00–12:00

Lecture Theatre S02, Poynting Physics Building, University of Birmingham
Pocket doctor

Cheap phones are capable of recording voice, activity, movement, location – all data which can reveal signs of illness. Mathematical algorithms can detect problems such as depression, post-traumatic stress disorder and Parkinson's. New technologies will monitor vital signs continuously – a true doctor in your pocket.

Wednesday 10 September

13:00–14:30

Lecture Theatre WG5, Aston Webb Building, University of Birmingham

Life saving mathematics

Thomas Woolley and Helen Byrne and Gary Mirams from Oxford apply mathematics to biological problems in medicine: brain tumours, cancer and modelling of the heart.

Thursday 11 September



Image Credit: NASA/SDO

12:00–13:00

Elgar Concert Hall, Bramall Music Building, University of Birmingham

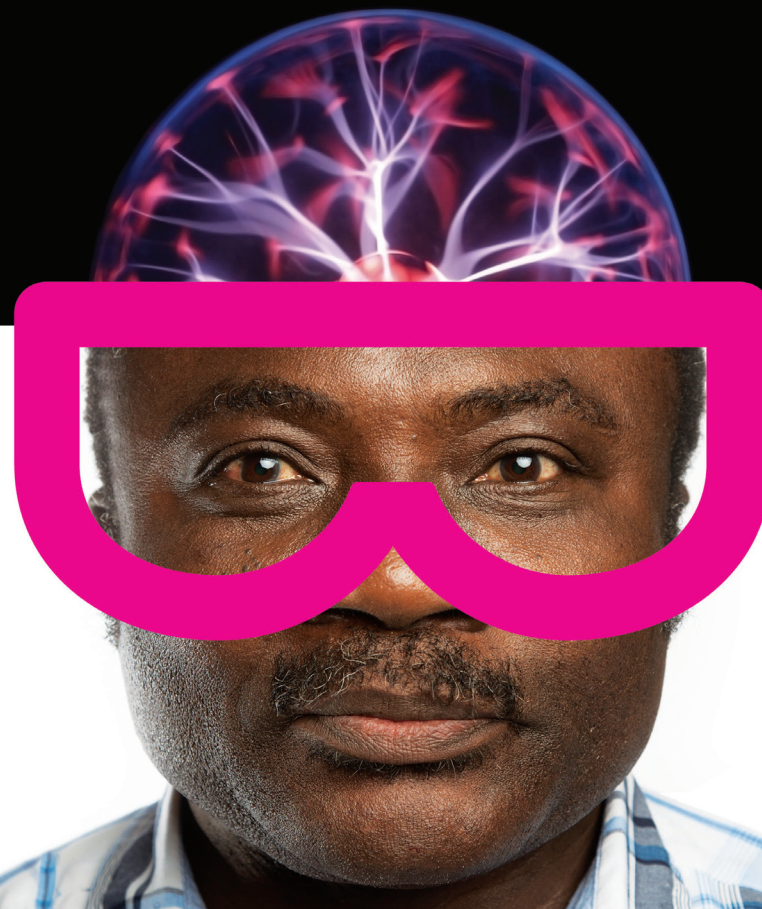
**The Rosalind Franklin Award Lecture:
Our dynamical sun: a 21st century view
by Ineke De Moortel (St Andrews).**

A journey from the Sun's nuclear core, through the solar surface, into its atmosphere, on towards Earth and finally out into space, showing how we can create mathematical models of solar activity.



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SIEMENS

Saturday 6 September

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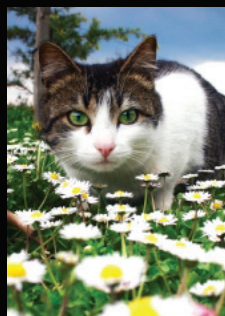
Fill in the magic square with numbers 1 to 16 so that every row, column and the two main diagonals add to the same sum.

10:00–11:30

Lecture Theatre S06, Poynting Physics Building, University of Birmingham

From Dürer to Sudoku: 500 years of recreational maths

Organised by Peter Rowlett from Nottingham Trent
Geometry and magic squares, inspired by the 500th anniversary of Dürer's Melencolia I, with John Sharp, Robin Wilson and Peter McOwan.



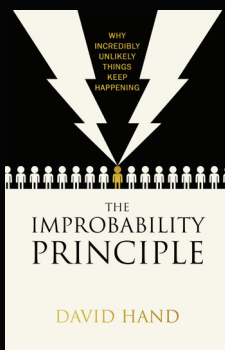
12:00–13:00

Elgar Concert Hall, Bramall Music Building, University of Birmingham

The Darwin Award Lecture: what can maths tell us about how an animal is feeling?

by Lisa Collins from Lincoln

Explore a wonderland of animal behaviours that are hidden to the human eye, but not to an algorithm. We will seek to explain how mathematics can help to understand some complicated and bizarre behaviours, and what it can tell us about the feelings of the animals performing them.



15:00–16:00

Lecture Theatre G15, Muirhead Tower, University of Birmingham

The Improbability Principle by David Hand from Imperial College

The improbability principle says extremely improbable events are commonplace. The five basic laws underlying the principle are all based on solid and well-understood probability theory, and there are many striking examples.

10:00–11:00

Lecture Theatre 6, Arts Building, University of Birmingham

Seventeen or Bust

by Iain Bethune from EPCC, University of Edinburgh

The Sierpinski conjecture, and what you can do to help. After an introduction to prime numbers and a look back at progress towards solutions of the Sierpinski problem, find out how you can join the PrimeGrid project to contribute to the solution whilst finding world-record sized prime numbers in the process.



13:30–14:30

Lecture Theatre 6, Arts Building, University of Birmingham

Sex, maths and the brain: where have all the girl scientists gone?

by Gina Rippon from Aston University

Is there such a thing as a maths brain? Are mathematicians born or made? Can brain imaging help us understand gender differences in the world of mathematics?

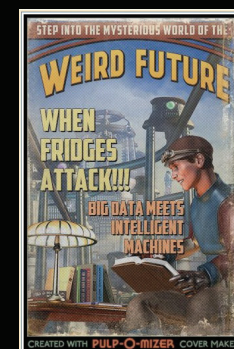


16:00–17:30

Large Lecture Theatre, Arts Building, University of Birmingham

When fridges attack: big data meets intelligent machines

The 2014 Mathematical Sciences Presidential Lecture by Peter McOwan and Louis McCallum from QMUL. Computers, and the maths powering them, are starting to link everything around us with the sea of personal data we all now swim in. What could happen when everyday things get smart? Followed by a wine reception sponsored by the OR Society.



Book online at www.britishsciencefestival.org

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