

# BIRMINGHAM POPULAR MATHEMATICS LECTURES

**Open to all who are interested  
in the study of mathematics. Particularly suitable  
at A-level and beyond. Hosted by the School of Mathematics at the  
University of Birmingham. All welcome to attend. The lectures are free of charge.**

## London Mathematical Society Popular Lectures

**Elgar Concert Hall, Bramall Music Building, University of Birmingham**

**21st September 2016 at 6.30 p.m.**

**Heather Harrington  
University of Oxford**

### **'The Shape of Data in Biology'**

From epidemics spreading across the globe to proteins interacting inside a cell, biological systems have complex interactions that can behave in unexpected ways and generate vast amounts of data. Branches of abstract mathematics such as algebra and topology in combination with computing and statistics, can help us understand these systems by looking at their data in new ways. Dr Harrington will focus on how computational developments in abstract mathematics can provide new insights to biological systems with data.



**Julia Wolf  
University of Bristol**  
**'One, two, red blue'**

Ever wondered why the popular game Noughts and crosses always results in a draw? Is the same true if we play on a larger grid, or one in three dimensions? In this talk Dr Wolf will explore the mathematics behind Noughts and crosses and its variants, which in spite of the frivolous starting point turns out to run surprisingly deep.

Attendees are asked to register at: [www.lms.ac.uk/events/popular-lectures](http://www.lms.ac.uk/events/popular-lectures)

## Future Lectures

**7.30 p.m., Watson Building, University of Birmingham**

- 19th October 2016, Will Perkins, 'Packing disks and spheres: the mathematics of water and ice.'
- 16th November 2016, Iain Johnston, 'Simulating evolution solves problems throughout the sciences'
- 7th December 2016, Nira Chamberlain, 'The Art of Simulation: Doing the mathematics that nobody else can do'
- 18th January 2017, Robin Wilson, 'The Story of Pi'
- 15th February 2017, Alan Lo, 'Sudoku - a special Latin square'
- 15th March 2017, speaker TBC