



## TALK TITLE

Session 1F: 0940-1100 Fermat	Sunsets Snowflakes Algebraic numbers and the Goormaghtigh conjecture Introduction to Quantum Mechanics
Session 1W: 0940-1100 Wiles	Building a Micromouse The perfect Eurovision entry What makes a good Doctor Who episode? Finding the lift and drag on an Airfoil
Session 1D: 0940-1100 Descartes	Saving the world from climate disaster: Applications of Game Theory in Politics The mathematics behind fermentation Optimal training and nutrition for effective gain Electromagnetism
Session 1P: 0940-1100 Poincaré	Modelling the spread of wildfires Electron orbits/wave functions Halving Earth Mathematics of protein folding
<b>SHORT BREAK</b>	
Session 2F: 1130-1250 Fermat	Archimedean Solids as Dice Strange Loops: The mathematics and art of paradoxes Geometric Algebra – The Solution to Transformations Hydrodynamics and its application to Pilot Gigs
Session 2W: 1130-1250 Wiles	A beginners Guide to Rocket Propulsion Science behind bubbles How the visual graphics and audio of games affect the popularity of a game Wave Prediction
Session 2D: 1130-1250 Descartes	Statistical analysis of roulette A statistical analysis of climbing Random number generator from a cloud chamber Analysis of Sci-fi power sources
Session 2P: 1130-1250 Poincaré	Investigating the impact of social restrictions on the spread of COVID-19 The maths behind noughts and crosses The Brain's Clock: How we perceive time Improving the efficiency of traffic light systems



TALK TITLE

LUNCH

Session 3F: 1320-1440 Fermat	Control theory Mini supercomputers: Using Clusters to Optimise Mathematical Computing The physics of golf and trying to get a hole in one
Session 3W: 1320-1440 Wiles	Understanding inflation Gravitational Lensing Exploring procedural Generation
Session 3D: 1320-1440 Descartes	The Realities of Building a Dyson Sphere Building circuits in Dwarf Fortress An exploration of Quantum Computing Cellular Automata
Session 3P: 1320-1440	Modelling beaches for surf or flooding New method of combatting period pain with use of TENS-machines & heating pads Knot Theory and Seifert Surfaces
Session 4F: 1500-1600 Fermat	An analysis of Load Carriage whilst hiking on Dartmoor Space Junk The physics of a MotoGP engine
Session 4W: 1500-1600 Wiles	The Maths behind Quantum computing The mathematics behind music and its composition Complex analysis and the Riemann zeta function
Session 4D: 1500-1600 Descartes	Fluid mechanics Simulating and training an AI to land a rocket Galaxies and Dark Matter
Session 4P: 1500-1600 Poincaré	Optimising spinning tops The effect of nuclear radiation on humans and environments Simulating the stock market and creating AI powered strategies