

Department of Mathematical Sciences

Winsten Day 1st February 2012

Opening Lecture



The shortest distance between two points separated in space and time

Dr Andrew Harrison

University of Essex

The shortest distance between two points on a flat plane is a straight line. If a person stands still they do not move through space but they do move through time. If a person moves at a constant speed to another position then they will move in a straight line through space and time.

But what happens to the space-time geometry when an object is free-falling? And why do free-falling objects feel weightless? Find out why Albert Einstein described his insight into how these two questions are related as the "Happiest thought of his life".

Afternoon Lectures



Are Large Databases Good For Your Health?

Dr Paul Baxter

Leeds Institute of Genetics, Health and Therapeutics

Royal Statistical Society Guy Lecturer 2011

The big increase in computing power over recent years has made it possible to routinely record large volumes of information about our daily lives (and especially our health) – as an example see the [government website](#). Statistics is the essential tool for making sense of the huge quantities of data available. There are many exciting challenges – often the data that are missing or poorly recorded are at least as informative as the data that are present. The real strength of such databases comes when they are linked together to see the bigger picture, but how do we do this, and should we worry that our privacy is being invaded? In this talk we look at these issues through examples ranging from goals in world cup football to survival following a heart attack.



How To Win By Cheating

Dr Martin Griffiths

Department of Mathematical Sciences

University of Essex

In this session, Dr Griffiths is going to look at some potentially competitive situations in which we can use mathematical ideas to help us make correct decisions. The mathematics that will be covered is not difficult, and from a technical point of view is certainly not beyond A-Level. What is interesting, however, is the way in which the mathematics is applied to the situations that will be covered. Indeed, it is hoped that some of the activities we carry out might inspire further reading.