

FREE PUBLIC LECTURES

UNIVERSITY OF CANTERBURY



C1 LECTURE THEATRE UNIVERSITY OF CANTERBURY

DUNCAN STEEL
7PM SUNDAY
14TH APRIL

JENNI ADAMS
7PM MONDAY
15TH APRIL



Duncan Steel

Centre for Space Science Technology

SPACE 2.0: HOW SATELLITES ARE REVOLUTIONISING OUR WORLD

The Space Age began sixty years ago with the launch of the first Earth-orbiting satellites, but now we are entering Space 2.0 as the commercialisation of space becomes big business. The global economic turnover associated with space is now reckoned to be more than a trillion dollars per annum, with all manner of benefits accruing to everyday users who are largely unaware of what space is doing for them. Duncan will discuss the different types of Earth-orbiting satellite – from communications relays 35,800 km above the equator through the global positioning system constellations to low-Earth orbit platforms flying only a few hundred km above our heads – and what sorts of services they are making feasible.

Duncan works at the Centre for Space Science Technology in Alexandra, analysing Earth observation imagery obtained from satellites, aircraft and drones. Duncan's research has focused largely on asteroids, comets and meteors, but he has also been involved in planning missions to Mars and the search for life elsewhere.



Jenni Adams

University of Canterbury

UNDERSTANDING THE HIGH ENERGY UNIVERSE

Nature is capable of accelerating particles to energies exceeding a million times that which is possible in particle accelerators on Earth. However, until recently, the origin of these cosmic bullets was unknown. Recently the IceCube neutrino telescope in Antarctica provided a break-through in our understanding. Using neutrinos as unique messengers from the high-energy Universe, the relativistic jets emanating from supermassive black holes have been identified as a birth-place of the highest-energy cosmic particles. These exciting new results will be presented in this talk.

University of Canterbury Associate Professor of Physics Jenni Adams is part of a large-scale scientific mission using an intriguing elementary particle, the neutrino, to understand the highest energy processes in the Universe.



New Zealand Institute of Physics
The institute for professional physicists

These public lectures are supported by the University of Canterbury and the New Zealand Institute of Physics. The public lectures are associated with the NZIP & PHYSIKOS 2019 Conference taking place 15-17 April in Christchurch. For more information: <http://confer.nz/nzip2019>

