

Accelerate! Accelerate! is an exciting, live-action lecture all about particle physics. Through a series of hands-on demonstrations, you'll learn how to drive a particle accelerator, from the thousands of small machines which are used in medicine and industry, to the enormous 27 km ring of the Large Hadron Collider in Switzerland.

Astrodome: The University's Physics and Astronomy department have a Mobile Planetarium. Exclusively at the Reunion Experience 2015 you will have a chance to see a 45 minute show presented by PhD astronomy students who will take you on a tour of the night sky.

Campus Walking Tours: Join one of our Student Ambassadors on a tour of Highfield Campus and have an opportunity to see all the things that have changed – and all the things that haven't – since you were last with us!

Chemistry: Visitors to Chemistry will learn about some of the cutting-edge research going on in the department as well as some of the nationally-leading teaching innovations employed in our programmes. There will also be the opportunity for visitors to tour the department, meeting current PhD students and engaging in hands-on activities in the teaching laboratory.

Dementia and Neuroscience – Dr Roxana Carare: Associate Professor Roxana Carare has received international recognition for her leading interdisciplinary research into the prevention of neurodegenerative diseases such as Alzheimer's Disease. Having graduated in general medicine in 1994 in Bucharest, Roxana completed her PhD in experimental neuropathology in 2006, at the University of Southampton.

Roxana's main international recognition has come from demonstrating the unique pathways by which metabolic waste products, such as amyloid, are eliminated from the brain along membranes within the walls of capillaries and arteries. This presentation will give you an introduction to Roxana's research into manipulating these pathways to improve the clearance of these waste products from the ageing brain, in the hopes of preventing neurodegenerative diseases.

Engineering@Southampton: The University of Southampton is one of the leading universities in the UK for engineering. Our academics are working at the forefront of their fields creating cutting-edge solutions to some of the world's biggest problems. Join us for a relaxed lunch and catch-up with old friends and lecturers, followed by a tour of some of our exceptional facilities, including our acoustic chambers and state-of-the-art cleanroom complex, as well as those at our new multi-million pound Boldrewood Innovation Campus. There will also be the opportunity for guests to view current student design work.

Hartley Library: Access to the Hartley Library will be available all day.

Health Sciences: In the Faculty of Health Sciences, you will be able to see our state-of-the-art skills laboratories and hear about how we have been using simulated practice as a platform for research. The facilities are equipped to a clinical standard and incorporate a sophisticated CCTV recording system, which allows the students to review their performance with the guidance of a lecturer to enhance their learning. These simulated exercises utilise a range of clinical equipment, actors and computer controlled mannequins which talk, breathe, have pulses, heart and chest sounds. The reality of the environment allows the students to perform a range of clinical interventions and procedures, from honing communication skills to managing emergencies.

High Voltage Laboratory: The Tony Davies Voltage Laboratory is a unique facility which has put the University at the forefront of innovative research in power supply conduction and distribution. As a centre for test and simulation it is highly valued by the UK's power industry, and its research in dielectric materials has given it a global reputation. Visitors will have the opportunity to tour the Lab and view a demonstration of high voltage phenomena, which will include arcs, discharges, plasma generation and high voltage breakdown.

Humanities: Humanities welcomes you to the beautiful Avenue campus to hear from some of our most esteemed academic colleagues including our speaker Professor Mark Cornwall, Professor of Modern European History and academic lead for the 'Great War: Unknown War' series of lectures and events that mark the anniversary of the First World War. The reunion lecture will be the final lecture of the series entitled 'The Hunt for Treason and Traitors in the Great War'. You will also have the opportunity of meeting some of our current students and enjoy a tour of the campus, which will include Archaeology and its fine bone collection.

Psychology: Welcome back to Psychology! We hope you get a chance to take a trip down memory lane but also get a feel for what our department has become. This year marks 50 years of the BSc programme and we are delighted you can join us to celebrate. We are very keen to hear how your experience with us has shaped your future career and your stories from your time at the University of Southampton. Activities on the day will include exhibition and research stalls representing different areas of Psychology, tours of the Shackleton Building and presentations on the history of Psychology and current research.

Social Sciences 50th Anniversary: Social Sciences was established in the academic year of 1962/3. Over the years the academic unit has evolved to our current suite of Departments in Economics, Politics & International Relations, Social Statistics & Demography, Sociology, Social Policy & Criminology and our most recent addition, established in 2005, Ageing/Gerontology. We have built up a successful national and international reputation over the last five decades and we look forward to celebrating this with you on 11 July. On the afternoon of reunion there will be a series of mini-lectures in Building 58, the Social Sciences building, delivered by a member of each of our Departments in the Social Sciences Academic Unit on the theme of 'Global Challenges' which will illustrate some of our innovative research in this area.