



DISCOVERY ***DAYS 2016***

Thursday 14 January • 1.30pm – 4.40pm

Friday 15 January • 9.30am – 4.20pm



“It is ultimately right that the public that funds this great institute should see University projects that impact the community, the wellbeing, the hopes the quality of life and the benefit of the whole world.”

Stephen Fry

At the inaugural University of Dundee Stephen Fry
Away for Public Engagement, January 2012.





Welcome to the University of Dundee's thirteenth annual Discovery Days.

The annual Discovery Days began in 2004, and since that time they have brought the work of over 200 new Professors at the University of Dundee to the attention of different audiences, including members of the public, schools, students, academics and support staff from across the University.

These presentations have, over the years, given us the rare privilege of observing the process and the impact of discoveries across a wide range of topics and issues from the latest economic thinking, through innovations in design, forensics and politics to nursing, drug discovery and healthcare. This is the work that is helping us transform lives around the world.

At Discovery Day 2016, we will be welcoming a further ten new Professors, talking on subjects as rich and varied as Child Dentistry, Law, Forensic Anatomy and Teacher Education.

The event also hosts three presentations from our leading learning and teaching practitioners, who will also give us insight into new and innovative teaching methods and technology.

The achievements of our staff and students in communicating their research to a public audience will be recognised by the presentation of the fifth Stephen Fry Award for Excellence in Public Engagement with Research.

Discovery Days 2016 promises to be a fascinating whirlwind tour through the outstanding achievements and future plans of our staff, and I hope very much that you will join me on what will be a voyage of discovery for us all.

I look forward to seeing you there.

Prof Sir Pete Downes,
Principal and Vice-Chancellor

WELCOME

Thursday 14 January 2016

COFFEE 1.30 - 2.00PM

***WELCOME FROM THE PRINCIPAL
2.00 - 2.05PM***

SESSION 1 2.00 - 3.10PM

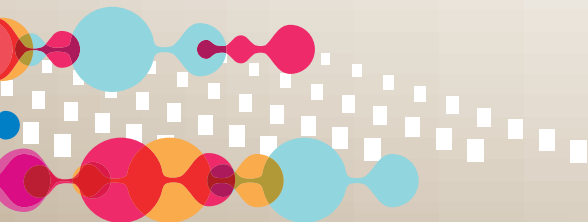
Chair • Professor Sir Pete Downes • Principal and Vice-Chancellor



Wendy Alexander • Vice Principal (International)

Taking Dundee to the World

The University of Dundee's International strategy is built around the twin pillars of 'bringing the world to Dundee' and 'taking Dundee to the world'. This talk explores how we are already taking Dundee to the world and how that global engagement can be expected to grow in the coming years.





Prof Fordyce Davidson • Chair of Mathematics

Mathematics – The Framework of Life

Biological processes are complex and critically rely on the transfer of information from one spatial scale to another. Prof Davidson will highlight how mathematical tools are being developed at Dundee that help address a wide range of problems from how microbial communities interact with their environment to designing effective drug dosing regimes.



Dr Martine van Ittersum • Winner of Best Teacher for Assessment and Feedback - Student-Led Teaching Award

Hands-On History: The Role of Feedback in Teaching

In my teaching, I try to create as many opportunities as possible for providing formative feedback to students, and for engaging students in reflective practice. A teacher's feedback should not be limited to grading coursework and exams. Indeed, written feedback is frequently wasted on those occasions.

In my experience, it makes much more sense to provide feedback early on by reviewing student's draft materials (blogs, essays and PowerPoint presentations etc.). Where possible and appropriate, I involve other students in the peer review process. This does not just result in better student performances, but also in greater student reflection on the learning process.

COFFEE 3.10 - 3.30PM

SESSION 2 3.30 - 4.40PM

Chair • Wendy Alexander • Vice Principal (International)



**Prof Nic Beech • Vice-Principal
(Academic Planning and Performance)**

Towards a Culture of Collaborative Advantage

The theory of collaborative advantage is the outcome of a body of research in commercial businesses and other forms of organisation where performance is achieved through selective collaboration and a particular approach to project work. A culture of collaborative advantage includes particular understandings of innovation, roles and rules. How well can such a set of ideas and practices apply to a university? This talk will draw on examples from the Schools to explore where we are on the journey towards collaborative advantage.





Prof Tim Croudace • Chair of Applied Health Research

Patients, the Public and Health Psychometrics

I set out to be an engineer, trained as a psychologist, and then as an assessor of health technologies – eventually becoming a health scientist.

I am inspired by the different perspectives that science, technology, art and design can reveal about human development, people, populations and places over time and the lifecourse.

In this talk I will reflect on my research using assessment and quantitative psychology to contribute to a wide variety of health projects working with scientists, the public, and practitioners from many professions and organisations. These are related to improvement in health outcomes, but with a particular focus on mental or public health.



Prof Teresa Moran • Chair of Teacher Education

Disco Ut Doceam - Learn in Order to Teach

Leaders in the profession; this short presentation will outline the development and influence of teacher education in the city of Dundee from a provincial teacher training college in 1906 to an internationally recognised teacher education institution in 2016.

Friday 15 January 2016

COFFEE 9.30 - 10.00am

SESSION 3 10.00 - 11.10am

Chair • Prof Nic Beech • Vice-Principal (Academic Planning and Performance)



Prof Karl Leydecker • Vice-Principal (Learning & Teaching)

Learning and Teaching: Recent Successes and Future Plans

In recent years the University has made excellent progress across a range of measures in learning and teaching, such that we can now make a strong claim to be the leading University in Scotland for student experience. This talk will briefly outline these successes, which played a major part in the University being named Scottish University of the Year by the Sunday Times/Times Good University Guide 2016. This will be followed by an exploration of the next challenges that we should seek to address in learning in teaching in pursuit of our goal of being Scotland's leading University.





Prof Maurice van Steensel • Chair of Genetic Dermatology

Discovering New Treatments for Skin Disorders

The skin is the largest organ in the body and subject to no less than 3000 different disorders. Many are chronic and cause a great deal of suffering. Yet, we have no proper treatment for most skin diseases. I want to change that situation.

My current research interest is in figuring out the molecular basis of common skin diseases, using very rare genetic disorders as a starting point. Our ultimate goal is to help identify the next generation of dermatological treatments.



Prof Nicola Innes • Personal Chair of Paediatric Dentistry

Something to Smile About - Dentistry Without Needles or Drills!

Dental decay is the most common disease in the world, burdening billions of people. Treatment traditionally involves injections in the mouth, drilling and filling - often unpleasant and difficult to cope with, especially for children.

However, our research shows that managing decay by sealing it into teeth, without injections or drilling, works better than traditional treatment and children prefer it. Who wouldn't want minimally invasive, predictably successful, low cost dentistry?

COFFEE 11.10 - 11.30am

SESSION 4 11.30am - 12.50PM

**Chair • Prof Tim Newman • Vice-Principal
(Research, Knowledge Exchange and Wider Impact)**



Prof Stuart Cross • Chair of Law

Wigs or Algorithms: Legal Education at a Crossroads

Over the last 50 years the shape and content of what law students learn has been increasingly influenced and shaped by the requirements of professional bodies, such as law societies.

As society in general becomes increasingly reliant on digital technologies and services, and legal service providers start to reflect that trend in the way they provide services and the types of legal service they deliver, Professor Cross considers whether the time has come to reconsider how and what 21st century law students should study.



Prof Russell Petty • Chair of Medical Oncology

Developing New Medicines for Cancer: The Importance of Being Precise

There has never been greater focus on the development of new cancer medicines. However to successfully treat and reduce cancers we need the ability to precisely match patients with the medicines that work best for them. This talk will discuss how our research is making personalised cancer medicine a reality in our clinics and hospitals. It will cover our leading role in the first demonstration of an effective precision medicine for the treatment of cancer of the oesophagus.



Nicola Long • Graduates' Council Award for Inclusive Practice

Healthy Body, Healthy Mind

Physical activity is undoubtedly the best medicine for health and well-being. The Institute of Sport and Exercise work towards supporting this every day. This presentation will highlight the on-going success of projects in exercise and sport within the Institute that exemplify this ethos, giving a glimpse into the impact this work has in transforming lives within the University and in the wider community.



iGEM team 2015

CSI Dundee: New Forensics

Forensic science is used across the World to provide evidence in courts and can have a strong influence on the court's decision. A team of undergraduates from the University of Dundee, the iGEM team, aim to create a set of devices known as the 'Forensic Toolkit' that will improve the efficiency at which crime scene investigators detect and analyse evidence.

HOLOSSES



COFFEE 12.50 - 1.30PM

SESSION 5 1.30 - 2.40PM

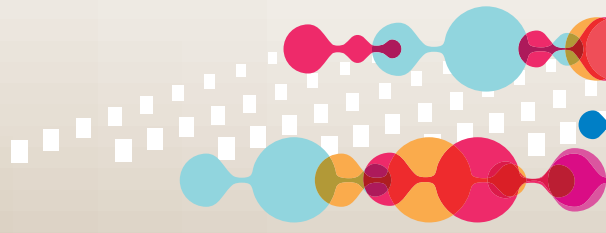
Chair • Prof Karl Leydecker • Vice-Principal (Learning & Teaching)



**Prof Tim Newman • Vice-Principal
(Research, Knowledge Exchange and Wider Impact)**

The Prescient Research Culture of our University

For some, the ideas that research excellence arises from crossing disciplines, that research should deliver impact to society, that research should be conducted with a range of external partners, are seen as recent dramatic shifts to the higher education sector. Not so for the University of Dundee, which has in its institutional DNA the aim of “transforming lives” through its research, and tremendous examples of this throughout its history. In this short talk I will celebrate our “modern research heritage” and also discuss how Dundee continues to be prescient as we look to the research challenges of the future.



COFFEE 2.40 - 3.00PM

SESSION 6 3.00 - 4.20PM

Chair • Professor Sir Pete Downes • Principal and Vice-Chancellor



Prof Gordon Simpson • Personal Chair of Molecular Genetics

Genes - What is the Message?

Our genes are coded in the DNA sequence of our chromosomes. But the copying of DNA into the related molecule RNA is crucial to controlling how gene functions are expressed. Our work on flower development has unexpectedly shed light on the importance of modifying these RNA copies, not only in plants, but in people too. Since we cannot yet interpret DNA sequences to predict the fate of RNA copies, we may know the DNA sequence of many genomes, but not yet what they really encode.



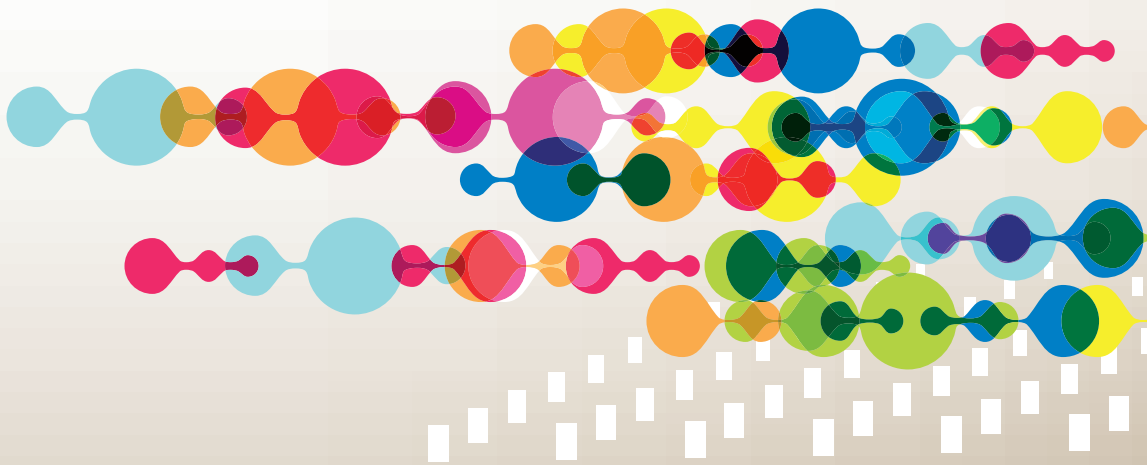
Prof Tracey Wilkinson • Cox Chair of Anatomy

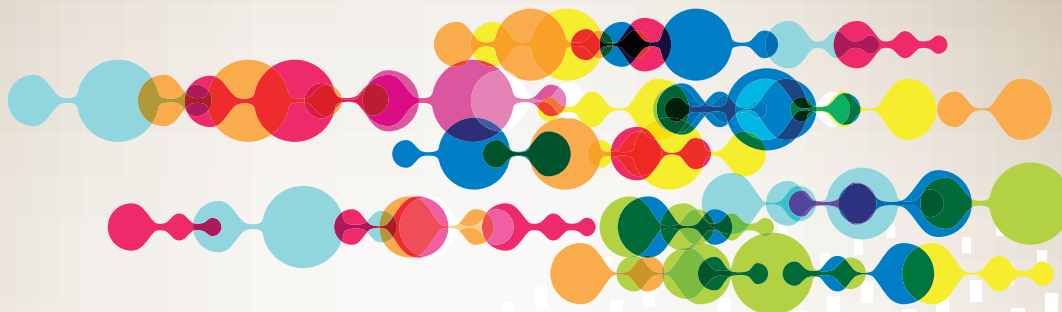
Student Learning – What's Important?

I teach functional and clinical anatomy, with present research investigating treatment of bunions and post-operative pain in patients undergoing knee replacement surgery. I also investigate the effect of dissection on anatomy learning. This talk will discuss student learning, investigating influences thought to have a clear effect on learning, and others where the evidence is less obvious.

Presentation of the Stephen Fry Award for Excellence in Public Engagement with Research

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**Discovery Days 2016 will be hosted in the
Main Lecture Theatre Dalhousie Building |
Old Hawkhill | Dundee | DD1 5EN**

The Dalhousie Building is located on University of Dundee's city campus University, on the corner of Old Hawkhill and Hunter Street.

Overflow theatres may be in use if lectures are heavily subscribed. Please arrive early if you would prefer to be seated in the main lecture theatre, as seating in the main theatre will be filled on a first come-first served basis.

You are welcome to attend the whole event, a session or a number of sessions.

Coffee and lunch will be provided and the event closes with a free wine reception.

Free tickets are available

online at **www.dundee.ac.uk/discoverydays**

by emailing **revealingresearch@dundee.ac.uk** or on **01382 386660**

Discovery Days are co-ordinated by: Revealing Research, Events Office
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www.dundee.ac.uk/discoverydays



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