



University College Dublin (UCD) is a dynamic, modern university based in Ireland, but with a global focus.

For over 150 years, UCD has produced graduates of remarkable distinction including famous surgeons, architects, entrepreneurs and five of Ireland's Taoisigh (Prime Ministers).

The past five years have seen extraordinary growth in research activity at UCD, which is now ranked among the top universities globally. In line with international principles of doctoral education, UCD has introduced a suite of structured doctoral programmes devoted to particular themes.

PhD students on these programmes benefit from advanced education, training and research focused on an identified theme. Students gain a deeper sense of community through shared seminars, taught modules and supervision.

In the area of research and PhD training, UCD has prioritised four major research areas: Earth Sciences, Energy and the Environment; Health and Healthcare Delivery; Information, Computation and Communications; along with Global Ireland

Find out more about our people, our research and our 320-acre campus at: www.ucd.ie

UCD Thematic Doctoral Programmes

Opportunities in Health, Healthcare Delivery & Related Fields

(Bio)pharmaceutical & Pharmacological Sciences Programme

This programme aims to address a international shortage in manpower in (Bio)pharmaceutical Sciences by providing PhD students with high quality training in a structured PhD programme in the area of (bio)pharmaceuticals and pharmacological sciences and to foster inter-institutional collaborations nationally and internationally. Visit: www.bps.ie

Bioinformatics & Systems Biology

This programme takes graduates from diverse undergraduate disciplines (mathematics, statistics, computer science, engineering, chemistry, and physics) and provides them with training in interdisciplinary areas of computational biology, bioinformatics and systems biology. A strong focus on interdisciplinary supervision is key to this programme, typically an experimental 'wet' and a computational 'dry' supervisor will be assigned to each student. Visit: www.bioinformatics.ucd.ie/PhD

BioNanoInteractions

This programme offers PhD projects in a number of research areas including Nanoparticle synthesis, Nanoparticle dispersion in biological fluids, Nanoparticle-protein interactions, Nanoparticle-cell interactions, Ecotoxicology & Toxicology. Visit: www.cbni.eu/sections/GraduateProgram

Infection Biology

Infection biology encompasses the broad disciplines of microbiology, immunology and genetics. This thematic doctoral programme brings together basic and clinical research teams in veterinary and human medicine from the three research-intensive UCD Schools of Biomolecular and Biomedical Science, Medicine and Medical Science and Agriculture, Food Science and Veterinary Medicine. Visit: www.ucd.ie/infectbio/infectionbiologyinbrief

Drug Delivery

UCD are collaborating with the three Pharmacy Schools of Ireland (Royal College of Surgeons, University College Cork and Trinity College Dublin) in the provision of a unique PhD Programme in polymer technologies for non-injected delivery of biotech molecules/novel biotech formulations for oral and pulmonary delivery, based on living polymerization production model. Together, the investigators in the partner institutions have a critical mass of expertise to provide core and optional taught modules in all aspects of Drug Formulation and Delivery to the PhD students. Visit: www.ucd.ie/iddn/

Food & Health

The UCD Institute of Food and Health brings together several subject areas within UCD: Food Science, Nutrition, Biosystems, Food Safety, Food Law, Consumer Science and Food Production. The Thematic doctoral programme on Food and Health draws on existing UCD PhD training modules and those established within the National Agri-Food Graduate Development Programme. Visit: www.ucd.ie/foodandhealth

Molecular & Cellular Mechanisms in Biology

The unifying research theme for this programme is to uncover the molecular and cellular mechanisms underlying inflammatory processes that spans Immunology, Neuroscience and Cancer. This programme has a strong inter-institutional and interdisciplinary component. The structured programme harnesses and integrates the combined research and academic expertise of internationally-recognised experts in cell and molecular biology of inflammation. Students are provided with the skills to make them effective leaders in the science-driven economy of the future. They graduate highly-educated, business-aware with innovation and leadership capacity. Contact: Stephen.gordon@ucd.ie

Molecular Medicine Ireland (MMI) Clinical & Translational Research Scholars Programme

PhD students on this programme undertake innovative patient- and disease-focused research and crucially develop an understanding of how to bring research results to the clinic. The PhD programme leveres the teaching, research and clinical expertise and resources of the MMI partner universities, their affiliated hospitals and clinical research facilities. Practical placements in industry, clinical research facilities and patient or disease-oriented research groups will broaden their research skills. This programme provides the scholars with research training of the highest quality and an in-depth understanding of the clinical and regulatory environment essential for careers in academic or commercial healthcare research. Contact: douglas.veale@ucd.ie

Promoting Epidemiological and Research Methods in Irish Training (PERMIT)

This Doctoral Programme has four strands: Food and Health; Health and Society; New Perspectives on Chronic Disease and Evidence-based Practice. The Programme offers maximum flexibility to the student; core training in public health methodology is provided for all students along with the possibility to specialise. PERMIT produces graduates that have a balance of topic specific and methodological expertise that maps to appropriate postdoctoral and academic employment possibilities. Visit: www.ucd.ie/phpps/postgraduateprogrammes/phd/permit

Reproductive Biology

PhD students on this structured programme receive training in reproductive biology, genomics, proteomics, experimental design & data analysis, project development skills and statistical methods. PhD students fully participate in the Reproductive Research Group Seminar series and Master Classes where they have the opportunity to interact with national and international experts. Visit: www.ucd.ie/reproduction

Earth Sciences, Energy, The Environment & Related Fields

Dublin Chemistry

A collaborative programme of research and learning excellence between UCD, Trinity College Dublin and Dublin Institute of Technology. This programme provides world class facilities, structured taught courses, and active communication through collaborative seminars and training workshops. Students of Dublin Chemistry participate in the research areas of synthesis and chemical biology, functional materials and nanotechnology and computational modeling. Visit: www.dublinchemistry.ie

Earth Systems Institute (ESI)

ESI and its partners bring together research leaders, policy makers and industry to create an interdisciplinary, innovation-focused, structured PhD programme drawing together a wide range of relevant disciplines and expertise at UCD (e.g. agriculture, biofuels, climate and simulation modelling, environmental biology, risk analysis and prediction) and its partner institutions. Students will benefit from comprehensive interdisciplinary training preparing them for a career in industry, academia or government agencies. Visit: www.ucd.ie/earth

UCD Thematic Doctoral Programmes

Information, Computation, Communications & Related Fields

Complex Systems & Computational Social Sciences

Innovative computational experimentation using computational modeling allows us understand complex social systems including dynamic systems of technological innovation, diffusion processes such as those in the spread of disease and hidden networks of crime and terrorism and many others. This four year interdisciplinary PhD programme offers training in various computational science techniques, computational social network analysis, agent-based simulation, as well as techniques for mathematical and statistical modeling and analysis. <http://geary.ucd.ie/cscs/>

Graduate Research Education Programme in Engineering

The focus of this programme is on current areas of national/global, social and economic importance, namely Bioengineering & Medical Devices and Sustainable Energy & Energy Efficient Devices. Interaction with industrial partners both in Ireland, Europe and worldwide is an integral part of the programme to ensure an understanding of how their work can be integrated into the market place. This is a new departure from existing practice and provides a focused, coordinated education geared towards enabling the student's creativity and research skills whilst enhancing the impact of their research through technology transfer and potential for "start-ups". David.FitzPatrick@ucd.ie

Physics Graduate Programme

This joint programme with Trinity College Dublin provides PhD students with the knowledge, skills, confidence and focus to drive new enterprise creation and successful industry employment. The programme brings together the internationally renowned expertise of the two partners in a number of interdisciplinary themes underpinned by strong disciplines. The programme offers lectures, journal clubs and workshops to its members. Current research strengths are nanoscience, magnetism, photonics, soft matter, astrophysics, bio-physics, atomistic modelling, theoretical spintronics, atomic, molecular and plasma, particle physics and environmental radiation. Gerry.osullivan@ucd.ie

Simulation Science

Advances in the speed of computers, mathematical modelling and computational algorithms, together with the data explosion mean that Simulation is emerging a new paradigm in Physical, Biological, Social and Economic Sciences. This programme presents a major change in education in this key area providing graduates with a knowledge of simulation techniques and their value in driving forward science, technology and innovation. The PhD students on this programme will be embedded in thematic research programs in Systems Biology and Systems Medicine, Complex Systems and Computational Social Networks, Atomistic Modelling, Extreme Events and Risk, but will cohere around a core graduate experience providing computational skills. Contact: Adrian.ottewill@ucd.ie

Telecommunications Graduate Initiative

In this inter-institutional and interdisciplinary programme, students receive comprehensive training in physical layer communications, network layer, system level, and specialist mathematics. Modules in all strands are delivered by world-leading experts drawn from academia and industry, from Ireland and abroad. Links with industry are an intrinsic part of the programme. Every student will benefit from a three-month internship with a suitable national or international company. agnieszka.wisniewska@ucd.ie

The International Centre for Graduate Education in Micro & Nano Engineering (ICGEE)

ICGEE is an inter-university, inter-disciplinary and international organisation providing a student-centric doctoral research and education experience with a unique international flavor and perspective. It brings together nine Irish partners, one professional engineering accreditation body and five international partners. The ICGEE Graduate Education Programme aims to produce a new cadre of world-class engineering doctoral graduates able to not only participate but play a future leadership role in a diverse, globally-engaged engineering workforce and 21st century innovation society. Visit: www.icgee.ie/programme

The Lero Graduate School in Software Engineering (LGSSE)

The main education initiative of Lero - the Irish Software Engineering Research Centre, offers a four-year PhD programme provided jointly by the four leading Irish Universities involved in Lero (Dublin City University, Trinity College Dublin, University College Dublin and University of Limerick). The first year of the programme includes taught modules in research theory and practice, and technical software engineering, as well as training in developing their research plan. www.lero.ie/lgsse