



Wellcome / Health Research Board

**ICAT**  
Irish Clinical Academic Training

# Prospectus



Trinity College Dublin  
College on University, Belle St John's  
The University of Dublin



FORUM OF IRISH POSTGRADUATE  
MEDICAL TRAINING BODIES





Wellcome / Health Research Board

**ICAT**  
Irish Clinical Academic Training



*A unique all-Ireland cross-institutional clinical PhD programme, integrated with the health services and university clinical research centres, which will prepare graduates for exciting and rewarding careers as clinician scientists.*

The Wellcome – Health Research Board Irish Clinical Academic Training (ICAT) Programme is a unique all-Ireland cross-institutional, comprehensive national programme for Clinician Scientists based at six major Irish academic institutions and their affiliated hospital groups.

The partner institutions include Trinity College Dublin, University College Dublin, National University of Ireland Galway, Queen's University Belfast, Royal College of Surgeons in Ireland and University College Cork.

At its core is an integrated programme spanning 6-7 years of seamless, supported and mentored academic and clinical training targeting future academic and clinical leaders. We have selected the best supervisors from research-intensive universities with a biomedical focus that collectively demonstrate research excellence. Ireland has a well-developed national infrastructure to support biomedical and translational research, and has invested in multi-institutional collaborative research activities. A central principle of the ICAT Programme lies in the fact that funding follows the trainee and their chosen PhD, making this a unified programme focused on building human capital. The programme is managed by Molecular Medicine Ireland, created by the academic partners to promote collaborative research and education.

## What is Clinical & Translational Research?

Translational research applies ideas, insights and discoveries generated through basic scientific inquiry to the treatment or prevention of human disease. Clinical research is research conducted with human subjects, or on material of human origin. It encompasses studies and trials that increase knowledge about how well a diagnostic test, treatment or medical device works in particular patient populations and ensures compliance with safety and other regulatory requirements.

Up to forty fellowships will be awarded over a 5-year period which commenced with the first intake of eight ICAT fellows in July 2017. The ICAT Programme is funded by Wellcome, the Health Research Board, the Health Service Executive - National Doctors Training and Planning in the Republic of Ireland (RoI), the Northern Ireland (NI) Health and Social Care Research & Development Division and the partner higher education institutions.



## Features of the ICAT Programme

The ICAT Programme arises from the collaboration of established structures for clinical specialty and academic training in Ireland, which provides a strong platform for integrated clinician scientist training.

### This programme provides a linked structure between:

1

The postgraduate medical training bodies across the island of Ireland, structured around basic specialist training (BST) and higher specialist training (HST) and coordinated through the Forum of Irish Postgraduate Medical Training Bodies (FoI) and the Northern Ireland Medical and Dental Training Agency.

2

The Health Service Executive – National Doctors Training & Planning (NDTP) and Health and Social Care Research and Development Division (NI), which work with the training bodies to provide accredited training positions.

3

The six participating academic institutions, with strong established international reputations, oversee research and academic training.

In establishing these collaborations, the ICAT Programme shifts the paradigm for academic, clinician scientist training from a parallel “out of programme” approach, to one that is truly integrated. ICAT’s mentorship scheme spans the entire duration of specialist medical and postgraduate academic training. At the time of completion, ICAT fellows will have graduated with a PhD at their chosen university/ institution and achieved CCST (FoI) / CCT (NI) in their chosen specialty.

The ICAT Programme adopts a dynamic training focus whereby the emphasis shifts and leads the ICAT Fellow from (i) learning how to start a research career as a PhD candidate, (ii) to successful completion of a PhD, (iii) to establishing independence through novel thought and independent research funding. Peer-interaction, integrated study days, collaboration and knowledge exchange with our affiliated panel of international advisors lie at the core of the programme and how it achieves these training goals.

### Candidates embarking on the ICAT Programme will be offered the following:

- Choice of research opportunities with internationally renowned investigators.
- An innovative national structured curriculum with taught modules in both discipline-specific and transferable skills.
- A comprehensive research/training meeting structure including monthly training days within the participating institutions and an Annual Scientific Retreat.
- An annual salary based on level of training, laboratory expenses, travel allowance and PhD fees.



## ICAT Research Projects

Research projects in this structured PhD programme will focus on the strengths of our participating institutions and will be in the general area of:

- genetics, genomics and molecular biology
- infectious disease and the immune system
- cell and developmental biology/regenerative medicine
- physiology and non-communicable disease
- cancer/oncology
- neuroscience and mental health
- bioengineering/medical devices
- epidemiology/population health research

Please refer to [www.ICATprogramme.org](http://www.ICATprogramme.org) for a list of supervisors, together with details of their research interests, and descriptions of indicative projects. Please note that the list of ICAT supervisors are updated annually and applicants are encouraged to browse this list carefully and extensively when considering the programme.

### Candidates embarking on this programme will be offered the following:

- Choice of research opportunities with internationally renowned investigators
- An innovative national structured curriculum with taught modules in both discipline-specific and transferable skills
- Annual Scientific Meetings
- An annual salary based on level of training; laboratory expenses; travel allowance and PhD fees



## Structure of the ICAT Programme

### Year 1

Clinical (70%)  
Academic (30%)

During the first year, ICAT Fellows are appointed at Clinical Lecturer grade or equivalent within their chosen university/institution. They also carry out normal clinical duties within their chosen specialty at the grade of specialist registrar. This year is fully accredited for clinical training. Fellows are provided with a clinical mentor and trainer by the relevant postgraduate training body; an academic mentor is assigned by the ICAT Executive Team and the institutional ICAT Director is a local point of contact.

ICAT Fellows begin year 1 with a collegial induction event during which Fellows, trainers and ICAT Directors and Programme Manager become acquainted. At this event, the core principles of the programme are imparted and the ICAT Fellows get their first opportunity to interact as a group and with the larger research community in RoI/NI. The ICAT Fellows are encouraged at this point to begin focussing their research interests, designing mini-projects, communicating with potential PhD supervisors and writing their PhD proposal.

During year 1 ICAT Fellows can experience academic environments through dedicated, protected research time and by taking educational modules offered by the partner institutions and further afield (a selection of available modules can be viewed via the Molecular

Medicine Ireland online curriculum portal). ICAT Fellows are supported throughout this year to make their final choice of PhD supervisor and with his or her assistance, submit a well-written, thoroughly planned research proposal, including a research budget that outlines their three-year PhD studies. Submitted research proposals each undergo rigorous external and internal peer-review and the ICAT fellow will be required to defend the proposal at interview prior to approval of the PhD project and funding release for years 2-4 of the ICAT Programme.



## Programme Structure

### Year 2-4

Joint Clinical (10%)  
Academic (90%)

From years 2 – 4, ICAT Fellows are fully immersed in their research activity and pursue a PhD under the guidance of their chosen supervisor. An additional but minimal clinical training component is incorporated into these three years, and, with prospective approval of the relevant training body, part of the three years of the PhD can be accredited towards clinical training. Additional support and advice is available from clinical and academic mentors when deciding upon clinical training and accreditation during these years. Importantly, clinical training should not disrupt research activity and academic training during years 2-4 of the ICAT programme.

ICAT Fellows retain the title of Clinical Lecturer or equivalent during their PhD. Fellows undertake training modules focused on their chosen research area to meet any structured training requirements for PhD studies within their chosen institution. Fellows are also expected during this period to present their research findings locally, nationally and internationally

and are expected to publish in peer-reviewed international journals.

Throughout these years the ICAT Fellows maintain the collegial and supportive atmosphere of the programme through monthly meetings and annual scientific meetings.

### Year 5-7

Joint Clinical (80%)  
Academic (20%)

ICAT Fellows will return to clinical training positions in hospitals aligned with their training bodies under the guidance of their clinical and academic mentors. Fellows must complete clinical training requirements during this time to be CCST (RoI) or CCT (NI) eligible.

Support is given to candidates during this phase of the programme in taking steps that re-integrate them into a predominantly clinical environment, while importantly continuing their participation in research. In order to facilitate this transitional phase of the programme, ICAT Fellows have 20% of their overall time protected for academic activity. Early in this stage the PhD is written up and each ICAT Fellow will take their viva voce examination.

Additional training is provided to ICAT Fellows during their final years in the programme, with a focus on attaining research funding, grant writing, establishing independence and the varied career paths leading to a successful academic career. ICAT Fellows are expected to continue publishing the research findings from their PhD and to work towards postdoctoral fellowships and sub-specialty training. This period of training is critical for the success of ICAT Fellows as future clinician scientist leaders, and guidance and mentorship is offered throughout this phase of the ICAT Programme.



## Training

During year one fellows will have 10-12 weeks for dedicated research education, consisting of the following:

- Induction event (July): presentations from the ICAT Programme directors, workshops, opportunities to meet current ICAT Fellows and PhD alumni, visit research institutes and social events.
- Monthly cohort meetings within each of the partner institutions. These events are organised by the ICAT Fellows and include research presentations.
- Monthly meetings with clinical and academic mentors.
- Educational modules, chosen by ICAT Fellows to suit their needs, offered by all partner institutions and other selected programmes.
- Annual Scientific Meeting / Retreat: presentations of mini-projects and PhD projects by ICAT Fellows, interaction with Independent Advisory Board Members and keynote presentations by leading international academics.
- During their PhD (years 2-4), ICAT Fellows will complete an average of two modules per year, dependent on the requirements of their host institution. These will be delivered by e-learning or as hands-on workshops, selected to align with Fellow requirements.
- Fellows will participate in annual reviews of clinical training and competencies as required by the relevant postgraduate training body as well as structured reviews of their research progress as required by their host academic institution.

## Supervisors

ICAT has a panel of more than 200 supervisors, selected from the participating universities/institutions for their research excellence. This list is updated on a yearly basis. More information on individual supervisors is available, searchable by postgraduate area, institution and other key words. Please go to [www.ICATprogramme.org](http://www.ICATprogramme.org) to explore further. All ICAT Fellows and prospective applicants are encouraged to carefully inspect this list of supervisors, their research areas, proposed projects and collaborations.



## ICAT Partner Academic Institutions



### University College Dublin (UCD)

University College Dublin (UCD) is the largest university in Ireland with a strategy for 2015- 2020 focused on international engagement and excellence in research. The UCD School of Medicine has developed a rich research culture, organised into 8 Institutional Academic Centres and a further 7 research groups that define its research strengths in areas including Systems Biology, Infectious Diseases, Maternal, Fetal and Perinatal Health, Diabetes Complications and Translational Oncology, supported by significant research infrastructure including the UCD Clinical Research Centres and the Conway Institute of Biomolecular and Biomedical Research. The School of Medicine produces more than 1,000 publications annually with a total of 183 PhD and 127 MD degrees awarded in the past 5 years.



**Trinity College Dublin**  
Coláiste na Tríonóide, Baile Átha Cliath  
The University of Dublin

### Trinity College Dublin (TCD)

Trinity College Dublin (TCD) is the highest ranking Irish University. Its strategy prioritises life sciences; particularly immunology/infection, neuroscience, aging and cancer – and the translational/clinical interfaces of these areas. Trinity attracts 25% of Science Foundation Ireland research funding and its Medical School accounts for more than 20% of TCD's research income and 40% of its top rank publications. Trinity is a partner to some of the largest and most progressive hospitals in Ireland with co-localisation of clinical and research facilities. St. James's Hospital, the largest in the state, contains on its campus the Trinity Translational Medicine Institute (TTMI); the Centre for Advanced Medical Imaging (CAMI) with its 3T magnet; the Mercer's Institute for Research in Aging (MISA); a national cancer treatment and research centre, and the Wellcome Trust/HRB Clinical Research Facility. The National Children's Hospital, a €700M development on the St. James's campus, and will contain a paediatric research building. Life Sciences research at TCD is supported by three complementary Institutes: The Trinity Biosciences Institute, the Trinity Translational Medicine Institute and the Trinity College Institute of Neuroscience. These Institutes have interactive programmes of basic and applied research in which clinician scientists and basic scientists work closely together. More recently, TCD and UC San Francisco (UCSF), two leaders in brain science, obtained a €177M philanthropic grant to create the Global Brain Health Institute to train a new generation of health leaders in aging and dementia.





## ICAT Partner Academic Institutions



### National University of Ireland Galway (NUIG)

National University of Ireland Galway (NUIG) focuses on research themes including medical devices, regenerative medicine, cancer biology, neuroscience and population health science with a strong emphasis on translation through early phase clinical trials and technology transfer. These strategies are supported by €300m of infrastructural investment since 2011, including the Biosciences Research Building, Lambe Institute for Translational Medicine and HRB Clinical Research Facility, housing the Centre for Chromosome Biology, SFI Centre for Research in Medical Devices (CÚRAM), the National Centre for Biomedical Engineering Science (NCBES), Regenerative Medicine institute (REMEDI), the Network of Excellence for Functional Biomaterials and the Centre for Pain Research. NUIG's central strategy champions translational research through collaboration between medicine, science and engineering in partnership with industry. This paradigm is exemplified through the CÚRAM programme for the development of medical devices, biomaterials and novel therapeutic systems which is based at NUIG.

Individual researchers and research programmes at NUIG have achieved independent funding, greater than €135 million in 2015/16 through the Wellcome Trust, EU Horizon 2020, Science Foundation Ireland, National Institutes for Health and Industry Development Authority. NUIG also has a strong track record in training clinician scientists through previous programmes such as the National SpR/SR Academic Fellowship Programme and the Molecular Medicine Ireland Clinician Scientist Fellowship Programme.



### Royal College of Surgeons in Ireland (RCSI)

Royal College of Surgeons in Ireland (RCSI) has a strategic emphasis on clinical and translational research in the fields of cancer, respiratory, cardiovascular, infectious and neurological diseases together with regenerative medicine and population health. RCSI's strategies align with the Wellcome Trust's articulated challenges, including those associated with ageing and chronic diseases, understanding the brain and maximizing the health benefits of genetics and genomics. RCSI has been the lead institute for developments including the Programme for Human Genomics and is the lead organization in a National Biophotonics and Imaging Platform. RCSI has world-class core facilities in proteomics, genomics, bioinformatics, a Centre for Systems Medicine and a Clinical Research Centre based in specialist facilities on the campus of Beaumont Hospital. The College is rapidly expanding research under the Strategic Academic Recruitment (StAR) programme, which includes major new infrastructural developments at both the St Stephen's Green and Beaumont Hospital campuses.



## ICAT Partner Universities



**UCC**

Coláiste na hOllscoile Corcaigh, Éire  
University College Cork, Ireland

### University College Cork (UCC)

University College Cork (UCC), the Irish Times University of the Year 2016, was founded in 1845; it provides over 120 degree and professional programs, has over 20 thousand full time enrolled students, a 5-year total research income of €401 million and is ranked in the top 2% of Universities worldwide based on the quality of its research output and peer esteem. The College of Medicine and Health is one of its 4 constituent colleges; in 2015 the College had 230 PhD students and a research income of €22.6 million. Its five-year strategic plan prioritizes research on the Microbiome (APC Institute), on Perinatal Health (INFANT centre), Simulated Research and Learning (ASSERT Centre), Cancer (Cork Cancer Research Centre) and Epidemiology & Public Health, with a particular focus on Academic Clinical Trials. This Clinical Trial focus builds on the recent investment in clinical research infrastructure in Ireland by the Wellcome Trust and the Health Research Board supporting Clinical Research Facilities in Dublin, Cork and Galway. Linking these in an overarching structure is the HRB Clinical Research Coordination, Ireland (CRCI, hosted by Molecular Medicine Ireland) with the goal of enhancing Ireland's capacity for conducting innovative high quality clinical research for the benefit of people's health and the economy. Critical to the long term success of this endeavour is the ability to provide rigorous training in bedside translational research in general and in Clinical Trials in particular.



Queen's University  
Belfast

### Queen's University Belfast (QUB)

Queen's University Belfast (QUB) is a member of the Russell Group of leading UK research-intensive universities providing high quality education underpinned by world-class research. QUB has invested in co-locating researchers to fully integrate basic science with translational and clinical research across several faculties on a single Health Sciences Campus. This has enabled a critical mass of clinical and scientific investigators working in a cross-school, multidisciplinary manner. QUB's four priority disease areas are respiratory, ophthalmology, diabetic vascular complications and cancer which have been chosen because they represent global and nationally-relevant health challenges and reflect existing research strengths. The clinical academic research infrastructure has been significantly enhanced in the last 5 years by important investments e.g. the establishment of the Wellcome Trust-Wolfson Northern Ireland Clinical Research Facility (NICRF) in 2013, based at the Belfast City Hospital (adjacent to QUB medical school) and the Wellcome Trust-Wolfson Centre for Experimental Medicine at QUB (2015). The ICAT Programme is fully supported by both the Northern Ireland postgraduate deanery (NIMDTA) and the Belfast HSC Trust.



## ICAT Intake Procedures

The ICAT programme recruits Fellows on a once-yearly basis through a competitive recruitment process, which opens in September and closes in late October. All applications are peer-reviewed prior to shortlisting in December. Shortlisted candidates are invited to interview in January and will be interviewed by a national and international panel chosen from the ICAT Executive Team, ICAT Steering Committee and International Advisory Board.

Competitive recruitment will be undertaken through submission of a completed application form and checklist, a detailed C.V., and two academic references by the closing date.

The panel will select outstanding national and international candidates.

### Selection criteria will include:

1. Academic endeavour, evidenced by undergraduate achievements and awards and / or research electives, including peer-reviewed publications and / or conference presentations.
2. Demonstrated suitability to undertake postgraduate PhD research: intellectual capability, problem-solving skills, creativity, motivation and pursuit of excellence.
3. A personal statement outlining a clear vision for career progression within their specialty both during and after completion of the ICAT Programme, including a clear strategy to translate research to a clinical setting and an understanding of the requirements for progression to a senior academic clinical appointment.
4. Demonstrated understanding of the basic principles of audit, quality improvement, clinical risk management and evidence-based practice. Understanding of basic research principles, methodology & ethics, with potential to contribute to research commensurate with level of appointment.
5. Alignment of the candidate's interests with the postgraduate specialty and the participating academic institutions' areas of research excellence
6. Applicants are not expected to have a defined research project prior to application or during the application process, but are expected to have researched potential supervisors and institutions that align with their areas of interest. The final selection of supervisors and approval of PhD projects will take place during year 1 of the programme.
7. Evidence of contributing to both undergraduate and postgraduate teaching & learning.

Candidates will be selected on merit, irrespective of gender, age, full/part-time or country of origin, but must be eligible for or accepted onto a recognised clinical training path (see eligibility criteria). Successful candidates will be notified in early spring of each year, and their ICAT Fellowship must be approved by the relevant postgraduate training body in advance of taking up a position on the ICAT Programme.



## Eligibility

Candidates will be eligible for enrolment at various points between basic and higher specialist training. Due to differences in training structures across specialities, a key reference point is eligibility for CCST (RoI) or CCT (NI). **At the completion of their PhD, ICAT Fellows should normally have 2 to 3 years of specialist training (with the exception of ICGP trainees) remaining before becoming CCST/CCT eligible.**

### Eligibility criteria include:

#### *Qualifications*

1. MB BS, MB BCH or equivalent medical qualification.
2. Successful completion of relevant College/Faculty Membership exam or part thereof (e.g. MRCP (UK) or MRCPI (RoI)) or equivalent relevant postgraduate certifications necessary for participation in the relevant specialist training programme.
3. Candidates should not be registered as a PhD student at the time of application to the ICAT Programme.
4. The ICAT Programme will not provide funding to students who wish to extend a Masters or MD to PhD – applicants must be eligible for and commit to the complete ICAT Programme.

#### *Medical registration:*

1. (a) Eligible for full or limited registration with the Irish Medical Council (IMC) or General Medical Council (GMC) at time of application with the necessary license to practice;  
*or*  
(b) Full or limited registration at time of appointment with the IMC (for fellows intending to work in the RoI), or with the GMC (for fellows intending to work in NI), with the necessary license to practice.
2. Documented evidence from the relevant training body (e.g. GMC, IMC, RCPI or equivalent) of achievement of appropriate competencies for stage of training by time of appointment in line with relevant national regulatory requirements (including satisfactory outcome at ARCP (NI)).
3. Eligibility to work in the Republic of Ireland or United Kingdom at time of application.
4. Satisfactory completion of relevant Vetting/Barring Scheme.
5. Hold a current medical indemnity policy that is valid in the jurisdiction where training will occur.
6. Either (a) hold a National Training Number in a GMC approved UK Specialty Training programme at ST3 level or above (ST1 or above for General Practice trainees) (NI);  
*or*  
(b) Be eligible to apply or already be appointed to a recognised Higher Specialist Training Scheme or approved 'run through' Specialist Training programme overseen by an approved training body (RoI).
7. Hold a current fitness-to-practice certificate, registration with license to practice (or equivalent) from the relevant regulatory authority.