



Governing Authority Election 2025: Candidate Profile – Professorial cohort



Professor Cathal Seoighe
School of Mathematical & Statistical Sciences

Candidate Biographical Details / Sonraí Beathaisnéise an Iarrthóra

I obtained a degree in Theoretical Physics and PhD in Bioinformatics from TCD. After a year of a combination of voluntary work, postdoctoral research and part-time teaching I took up a role as Director of Training at the South African National Bioinformatics Institute in Cape Town. During that time I also led the Biotechnology component of a national technology roadmap exercise for the South African government. Following a year in those roles, I took up a lectureship at the University of the Western Cape and then an associate professorship at the University of Cape Town, where I worked with HIV researchers, developing and applying models of viral genome evolution. In 2009 I returned to Ireland as Stokes Professor of Bioinformatics in the School of Mathematical Sciences. My research interests are in genomics, particularly cancer genomics and the development of computational methods to study the relationships between genetic variants and molecular phenotypes. I have supervised 16 PhD students to completion as primary supervisor and a further 5 as co-supervisor. In 2019 I obtained a €13.3M grant from SFI to establish the Centre for Research Training in Genomics Data Science, which has enrolled over 100 PhD students in universities across Ireland.

Candidate Statement / Ráiteas an Iarrthóra

The requirement to adapt to a rapidly changing world and continuously reinvent what we do across teaching and research is part of what keeps university life interesting. But it is also extremely challenging. We operate within an internationally competitive sector, with institutions vying with one another both for students and prestige, the latter forged largely through the quality of our research and calibre of the ideas generated within the University. It is essential that these challenges are fully appreciated when university policies and strategies are established.

As Director of the CRT in Genomics Data Science, a large-scale national doctoral training programme, and through managing several other funded research projects, I have extensive experience of leadership in research. This experience will enable me to provide a perspective to



Údarás on the challenges and opportunities in research and the critical importance of PhD students in a research-intensive university.

Having worked in units focused on science, medicine and mathematics at various career stages, I appreciate how diverse academic cultures and practices can be. This breadth of experience will be an asset, given the limited number of academics on Údarás. My experience with science in the developing world and as co-investigator on a Grand Challenges project using machine learning to predict severity in childhood pneumonia in Malawi will enable me to contribute perspectives on the University's sustainable development vision. Although I appreciate the importance of a clear strategic focus, it is the breadth of our activities that make us a university and not all our activities will align with that strategy at any given time. I believe I will be able to contribute valuable perspectives to Údarás on achieving a balance between breadth and focus that will help the University to navigate its way through the challenges of the years ahead.

Gné shuntasach den obair in earnáil na hollscolaíochta ná go mbíonn orainn a bheith ag déanamh athnuachana orainn féin de shíor i gcúrsaí taighde agus teagaisc. Cuid den spreagadh é sin a bhaineann leis an saol acadúil. Ag an am céanna is earnáil thar a bheith dúshlánach í agus ollscoileanna in iomaíocht lena chéile go hidirnáisiúnta le haghaidh neacha léinn agus an urraim a thagann le barr feabhais taighde agus scoláireachta. Ní mór na dúshláin seo a thabhairt san áireamh agus straitéisí agus polasaithe na hOllscoile á bhforbairt.

Mar stiúirthóir an Lárionad Traenála um Thaighde sa Sonreolaíocht Géanómaíochta agus tríd thograí eile, tá an-taithí ceannasaíochta thaighde agam. Beidh an taithí seo mar áis don Údarás agus plé á dhéanamh ar fhéidearthachtaí agus dúshláin atá romhainn i gcúrsaí taighde. Tugann sé tuiscint dom chomh maith ar an tábhacht a bhaineann le neacha léinn dochtúireachta san Ollscoil.

Thug na sealanna a chaith mé i ranna ollscoile éagsúla idir eolaíocht, mata agus leigheas, léargas dom ar an éagsúlacht chultúir agus cleachtais sna réimsí léinn difriúla. Beidh sé seo ina bhuntáiste, i bhfianaise a laghad acadóirí atá ar Údarás na hOllscoile. Tá taithí agam, leis, ar an eolaíocht ar son na forbraíochta a réitíonn leis an mbéim atá ag an Ollscoil ar an bhforbairt dhomhanda. Is maith a thuigimse an tábhacht a bhaineann le straitéis shoiléir a bheith ag an Ollscoil le fócas a thabhairt dár ngníomhaíochtaí. Ag an am céanna, tá an uilíocht mar shaintréith na hollscolaíochta agus ní féidir a bheith ag súil go mbeadh ár ngníomhaíochtaí go léir faoi straitéis amháin. Bheadh súil agam a bheith in ann cabhrú le hÚdarás na hOllscoile le cothromaíocht a aimsiú idir fócas agus cuimsitheacht agus muid ag dul i ngleic leis na dúshláin os ár gcomhair sna blianta atá amach romhainn.

Candidate Outline of Relevant Competencies / Cur síos an Iarrthóra ar Inniúlachtaí Ábhartha

The key competency I would bring to Údarás na hOllscoile is extensive experience of research, teaching and other academic activities through my role as a professor here since 2009 and prior to that as an associate professor and lecturer in the University of Cape Town and University of the Western Cape, respectively.

I have experience of research leadership, both through the CRT in Genomics Data Science and as a past Director of Research for the School of Maths. I was also acting Head of School in



Maths for 6 months in 2023 and will become Head of School early in 2025. These roles have given me insights into academic practice and leadership within this university and elsewhere.

I am an Irish speaker and have led a strategic project to promote Irish within STEM subjects in the College of Science and Engineering. This experience will enable me to provide advice to Údarás na hOllscoile on how the university can deliver on its mandate to be a university for the Irish language in a way that enhances rather than distracting from the need to be inclusive, international and ambitious. I am also the chairperson of a company established to promote Irish in the East Galway Gaeltacht. This has enhanced the financial management competencies I gained through research grant management.

My research and teaching have a strong emphasis on data analysis and the data analytical and statistical modeling skills I have developed are likely to be helpful for the work of Údarás na hOllscoile. I have recently taught deep learning (including large-language models) to postgraduate students. The technical knowledge I have developed in this area will enable me to provide insights to Údarás on the implications of current and potential future developments in that domain for the University.