

Overview of the Irish Research System in 2021



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Despite the severe challenges of Covid-19, the research and innovation system in Ireland continues to grow in exciting new directions. This article takes a broad view of the main current themes and developments in Irish research. It also provides context for the research chapter's individual articles and looks at how structure and policy changes will affect the research landscape in the coming years.

I'm delighted once again to introduce the research chapter of *Ireland's Education Yearbook* by Education Matters. Indeed, the Irish Research Council (IRC) is pleased to be supporting this unique publication that spans the entire education system, from preschool to advanced learning and scholarship. For research, it has been a year of continued resilience and, despite the challenges of Covid-19, some notable advances.

2021 has seen the research and innovation system continue on the path to recovery after a hugely challenging 2020, but there is no doubt that the impacts will be felt for some time, and in complex ways. Researchers in disciplines from architecture to zoology have continued to provide vital expertise to government and the public during this 'second pandemic year', and COP26 was a further reminder of how important research and science will be for decades to come.

In the introductory chapter to this Yearbook, Professor Philip Nolan, chairperson of the National Public Health Emergency Team (NPHET) Irish Epidemiological Modelling Advisory Group and former president of Maynooth University, gives a striking account 'from the inside' of two years waging war on Covid-19. I concur entirely with his positioning of the pandemic in the wider context of our global ecological crisis, and indeed I concluded my research overview in last year's volume with the remarks:

To look at the virus as an isolated incident and not further evidence of the broader impact of humanity's encroachment on and exploitation of the natural world would be myopic. Our greatest challenges lie ahead of us, and research and innovation will be more important than ever in successfully overcoming them.


The present overview covers some of the hot topics in the research system this year, drawing on the excellent articles from the chapter contributors.

Resilience and progress

2020 was hugely disruptive for research and innovation, and all stakeholders worked closely together to minimise the damage and impact for research projects and especially for early-career researchers. Some level of normality returned for the 2021–22 academic year, with the reopening of campuses across the country. In this chapter, Dr Siobhán Nic Fhlannchadha, project manager of StudentSurvey.ie, outlines the key findings of the Irish Survey of Student Engagement for Postgraduate Research Students in relation to the impact of Covid-19. There is much food for thought in the findings, and the insights will be valuable for higher education institutions as they move forward.

Separately, the IRC looks forward to engaging with the results of a wider survey of the research community on the impact of Covid-19, jointly commissioned with Science Foundation Ireland (SFI) and the Higher Education Authority (HEA). Of particular importance will be the insights into how factors such as gender and disability have mediated the impact of Covid-19 on researchers.

For early-career researchers funded by the IRC, 2021 brought very good news with the announcement in January that the IRC postgraduate stipend and postdoctoral salary would both be increased. A long-standing priority for the Council and a key action in our strategic plan, the move received strong endorsement from Minister Simon Harris and the new Department of Further and Higher Education, Research, Innovation and Science, and additional funding of €3.2m was made available.

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The postdoctoral salary is now aligned with the national Irish Universities Association (IUA) scale, while the postgraduate stipend funding for the two research agencies of the Department (IRC and SFI) are now aligned. Critically, the increase, which took effect from 1 January 2021, applied to all awardees within the normal funding period of their award as at that date, thus benefiting close to 1,300 early-career researchers in the system. The IRC recommended in its submission for the next national research and innovation strategy that for the longer term a national minimum stipend be adopted for postgraduate students and independently reviewed at regular intervals.

Also of particular significance in 2021 was the addition of another technological university (TU) for the new academic year, namely Technological University of the Shannon: Midlands Midwest (TUS). The three existing TUs will be followed in 2022 by the establishment of TUs for the west/north-west and south-east. Attracting, developing, and retaining excellent researchers in these new institutions will be key to driving research intensity and achieving statutory targets. The IRC was pleased to be able to respond to this agenda in 2021, delivering over 40 additional postgraduate research scholarships to the technological sector,

representing an additional investment of €4.4m. The IRC plans to make a further round of awards in 2022.

A supportive and open research environment

Reflecting and driving good practice is a recurring theme of the IRC strategic plan. Nowhere is this more important than in the research environment. A safe and supportive research environment is essential to allow researchers to flourish across the career spectrum and to ensure that the outcomes from public investment in research are fully realised.

Bullying, harassment, or sexual harassment (BHS) are not acceptable in any workplace, and the publication of the IRC's new policy in June 2021 reflects its responsibility to support a safe research environment, both as an individual funder and in collaboration with stakeholders in the higher education and research system. The policy sets out clearly the IRC's expectations about host institutions' responsibilities to deal appropriately, promptly, and sensitively with any allegation of BHS involving an IRC awardee. The policy also places new requirements on applicants and other applicant parties when applying for an IRC award, and this is being rolled out across the IRC's programmes. Minister Harris welcomed the new policy as another important step in the right direction to collectively tackling this issue.

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The IRC's policy underpinning support for awardees who have family or caring responsibilities was also expanded this year. Covering both paid and unpaid leave, the policy introduces a new layer of support for postgraduate students who have parental or caring responsibilities. This is important for individual awardees, but also more broadly to promote diversity and inclusion in the postgraduate research community. There continue to be large gender disparities in the distribution of caring responsibilities that disadvantage women in their careers. The IRC expects to publish the external review of its Gender Strategy and Action Plan by the end of 2021 or early in 2022, and this will be the starting point for developing the next strategy.

The IRC continues to engage with national structures on open research, in collaboration with a wide range of stakeholders across the system. It is timely for this year's *Yearbook* to have a welcome contribution from Daniel Bangert, National Open Research Forum (NORF) coordinator. As Daniel notes, the Covid-19 crisis has highlighted the importance of open dissemination of scientific research.

From an IRC perspective, with a mandate to support excellent research across all disciplines, the challenge will be to achieve progress on open research in a way that works for all, including the arts and humanities. Open social science data received a major boost with Ireland's new membership of CESSDA (EU Consortium of Social Science Data Archives), underpinned by the Irish Social Science Data Archive (ISSDA) in University College Dublin (UCD) as national service provider, funded by the IRC.

Research and public policy

If ever one needed reminding of the importance of scientific and scholarly expertise to inform the development of evidence-based public policy, the Covid-19 crisis provided that reminder in spades. Mary Doyle, former deputy secretary general of the Department of Education, contributes to the research chapter again this year on this important topic. Her article lays down a challenge to researchers and policymakers alike to take steps that strengthen the connecting tissue between them.

The IRC was delighted to collaborate with the Royal Irish Academy this year, launching in September 2021 a joint outline roadmap for research for public policy informed by Mary's work. We were particularly pleased to have the endorsement for the paper of key agencies and groups, including the IUA, Technological Higher Education Association (THEA), SFI, Health Research Board (HRB), Campus Engage, and the Irish Humanities Alliance. The paper sets out recommendations for action for policymakers, higher education and research-performing institutions, and funders.

In November, Minister Harris announced his intention to begin reform of Ireland's scientific advisory structures, and the Council looks forward to engaging with the Department and stakeholders on creating a strong, agile, and durable statutory architecture for research- and science-informed policymaking.

Professor Jane Ohlmeyer, who completed her second term as Council chair in early December (see below), brings together the learnings of the Horizon 2020-funded SHAPE-ID project, of which she was principal investigator. Moving beyond lip service to interdisciplinarity and creating effective collaboration between disciplines and sectors continues to be a significant challenge, but one we must overcome to develop effective long-term solutions for the complex challenges that we face.

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How research missions are developed and articulated; the design of funding calls, institutional culture, and policies; and support for research careers are all areas that require sustained focus on action if we are to create a vibrant interdisciplinary and transdisciplinary research system, whose benefits will be seen in the quality of the solutions we seek.

Professor Yvonne Buckley, Irish Research Council laureate and Researcher of the Year 2021, and colleagues from the All-Island Climate and Biodiversity Research Network (launched by An Taoiseach in November 2021) pick up these themes in their contribution to this year's *Yearbook*. The authors put it succinctly thus:

A strong research ecosystem is needed to support policy and action for the societal transitions in decarbonisation and maintenance and restoration of biodiversity needed to underpin future economic activity. Research across multiple disciplines has several roles to play in the biodiversity and climate emergency.

The IRC continues to play a lead role in promoting interdisciplinary and intersectoral research collaboration, with another round of projects announced this year under COALESCE (Collaborative Alliances for Societal Challenges) and New Foundations civil society strand. We were particularly pleased this year to make awards once again in collaboration with strategic partners, including the Department of Foreign Affairs, An Taoiseach's Shared Island Unit, and the Policing Authority.

As we look to the next research and innovation strategy to succeed Innovation 2020, this year's *Yearbook* features a very timely piece from IRC member and Moore Institute director Professor Daniel Carey and colleague Steven Hadley. The article discusses the need for greater insights into the role and national contribution of the creative and cultural industries, and the opportunities for further development and innovation. These agendas, the authors argue, should be brought together and progressed as a distinct theme in the next research strategy, with investment in a centre dedicated to research, evidence, and policy in this area.

A vibrant and broad-based research system

Now, more than ever, we need a vibrant and broad-based research ecosystem, and the next national research and innovation strategy will be key to achieving this. Diversity of ideas, funding instruments, people, and places are all important aspects, as is collaboration between stakeholders, with excellence the common denominator.

“All-island collaboration is shifting up a gear with the roll-out of the new research programme funded by the Shared Island initiative.”

Adequate, clear, and stable funding opportunities for individual researchers in any discipline are critical to delivering a broad-based and vibrant research system. Such opportunities enable researchers to develop their track record, consolidate their independence and international standing, and be competitive for key European or international grants, such as the European Research Council (ERC). The IRC opened a new Starting and Consolidator Laureate call for frontier basic research in 2021, open to all disciplines. The number of applications for this second Starting/Consolidator call represented a 49% increase on the first call, reflecting the growing ambition of excellent researchers in our system. The IRC looks forward to making the awards in mid-2022.

2021 saw an innovative collaboration between IRC and SFI with a pilot joint programme for early-stage investigators, across all disciplines. The call represents a welcome €23m commitment in emerging research leaders of the future, and there was considerable interest in the programme, with over 247 applications received. The programme provides researchers who are ready to transition to research independence with the opportunity to do, enabling them to pursue their specific research idea and fund an early-career researcher. Funding has been awarded under the 2021 call to 25 STEM (science, technology, engineering, and mathematics) and 17 AHSS (arts, humanities, and social sciences) researchers with world-class potential. The agencies will be reviewing this collaborative call in 2022 and seeking feedback from the research community. This will inform future development in this area, subject of course to budgetary scope.

Collaboration continues to be strong across the system. Examples include the launch of the second phase of PPI (Patient and Public Involvement) Ignite, led by the HRB and supported by the IRC. Strong collaboration between stakeholders is evident across several areas of policy and practice (e.g., Equality, Diversity, and Inclusion; Campus Engage) and in the *Creating Our Future* campaign to engage the public and societal partners in a dialogue about research and innovation. All-island collaboration is shifting up a gear with the roll-out of the new research programme funded by the Shared Island initiative.

The Marie Curie Skłodowska-Curie Actions (MSCA) pillar of Horizon 2020 continues to be the largest source of drawdown for Ireland across the H2020 portfolio and, along with ERC, plays a very significant role in supporting a broad-based research system in Ireland. The IRC is pleased to have signed a new partnership agreement with the IUA this year, with enhanced funding to target the engagement of new constituencies in MSCA opportunities. Dr Yvonne Halpin, head of the Irish office, outlines in this chapter how we can 'aim even higher' for MSCA for Horizon Europe.

Closing acknowledgements

I would like to firstly thank the contributors to the research chapter for this volume of *Ireland's Education Yearbook*. All articles provide much food for thought as this year closes and a new year beckons. I look forward to further engagement with contributors as part of the Education Matters summit in 2022.

Secondly, I do not wish to miss the opportunity in this chapter overview to acknowledge the contribution of the outgoing chair, Professor Jane Ohlmeyer, to the Irish Research Council over the last six years, together with outgoing members Professor Emma Teeling (UCD), Professor Felicity Kelliher (Waterford Institute of Technology), and Professor Rob Kitchin (Maynooth University).

Among the best facets of this job is the opportunity to work with people of the calibre of the Irish Research Council. Emma, Felicity, and Rob were immensely committed members, and they truly reflect what is best about the people in our research system – their creative thinking, their desire to see the system reach its full potential, their support for early-career researchers, and their commitment to research benefiting society and enhancing all our lives. As chair of the Council, Jane epitomised these values also, combining them with a business-like efficiency, a relentless energy, and responsiveness and willingness to help at all times. I wish her well in her many projects going forward.

Finally, I want to pay tribute to the staff of the Irish Research Council, including those who both left and joined the team this year. The staff work incredibly hard, mostly behind the scenes and out of the spotlight, to ensure that the agency continues to play a critical and unique role in the Irish research and innovation landscape across all disciplines and career stages.