

# The Next National Research Strategy Submission

## Introduction

The Taoiseach understands the need for new knowledge and stated that "a deep knowledge-base and a commitment to expanding knowledge is essential if Ireland is to thrive in a world which is constantly throwing up new challenges" (1. 1 IUA Future of Ireland, An Taoiseach Micheál Martin 27 May 2021)

Intellectual capital is the sum of everything everyone knows within an organisation. Intellectual capital is an intangible asset that organisations can and should harness, leading to creating new knowledge and innovation, enhancing higher education institution (HEIs) efficiency and the PGR experience. Our HEIs encourage unrestricted experimentation, investigation and contemplation and serve as economic growth engines at the provincial and national levels. Being competitive in a knowledge-based global economy requires the local availability of knowledge and skills. Therefore, developing ways to create sharing processes in academia is essential for sustained innovation and transformation. Although research in knowledge management is scarce among HEIs, there is a substantial body of work in both private and public sectors in knowledge management and knowledge sharing, which can be analysed and used within HEIs.

The importance of cultivating the postgraduate researcher (PGR) experience and utilising knowledge transfer needs to be considered nationally. To live and work in a digital world, we need to be digitally connected. Virtual communities of practice (vCoP) are underutilised in the PGR experience. Communities of practice (CoP) are widely used within enterprises for connectivity, building trust, locating knowledgeable people, harnessing collective knowledge, and knowledge transfer. For HEIs, knowledge sharing promotes creativity, competition, and economic development critical to global positioning. It promotes development through cooperation, networking, exposure, and stakeholder involvement. These communities are where factual, conceptual, procedural and metacognitive knowledge can be collected, shared. Knowledge sharing can be used in the research and innovation (R&I) sector for collaboration on research.

The Irish publicly-funded R&I system is now ranked 10<sup>th</sup> globally. The National Strategy should work on maintaining and improving our global ranking. Our PGRs are the future of the R&I system and should be nurtured to support them reach their full potential for the R&I sector in Ireland. Research Development and Innovation is a key economic differentiator, and it enables Ireland to develop innovative solutions to challenging problems. Ireland need the Government to commit to support PGRs through their research stage and to develop careers in this challenging climate.

## The Role of the Union of Students Ireland

The Union of Students in Ireland is the national representative body for students and Students' Unions. Membership of the organisation is open to all Students' Unions for third-level institutions in Ireland. The objectives of USI are laid out in Article 3 of the USI Constitution: Basic Principle of AMLÉ:

"3.1 The basic principle on which the students in Ireland build their Union is for the defence, promotion and organisation of the fundamental educational, welfare, economic, political, social, cultural and other interests of all the students in Ireland on a national and international level.

3.2 To realise this fundamental principle, the Union shall work to foster an education and training system open to all the people on the island of Ireland, irrespective of any consideration, and which truly serves their interests.

USI is a democratic organisation. The supreme authority of the Union is the congress, which is representative of each affiliated Students' Union, apportioned according to the number of students represented by each member Union.

Between congresses, each Union also sends one voting member to the National Council – the organisation's executive body, which establishes working groups and subcommittees for the detailed work of the Union, including governance and financial oversight.

Management and policy execution are delegated by the USI Congress to an elected committee of sabbatical student representatives sitting as an Executive team (known generally as the 'Coiste Gno'). A trilateral arrangement exists between USI, the National Union of Students in the United Kingdom and NUS-USI, the Student Movement in Northern Ireland. NUS-USI was formed in 1972 to ensure that all students in Northern Ireland could be members of the national union movement without distinction in personal political or religious beliefs.

### Q1.3 How can the Strategy articulate the value of human capital from the research system in meeting high-end skills needs? What should the objective of the next strategy be in relation to identifying human capital needs from the research system?

Attracting, keeping, and developing strong PGR candidates should be the foundation of the next National Strategy. Our PGRs serve an ever-growing and more diverse student body as new knowledge producers and disseminators. They provide society and enterprise with the capacity to tackle complex problems and exploit new opportunities. Putting our PGR students at the heart of developing the National Strategy for research and innovation should be a commitment to the Government's Economic Recovery Plan 2021. PGR is a significant factor in driving our economy by creating new knowledge and developing existing knowledge. PGR are the future, providing academia, enterprise and society with highly-skilled, critical thinkers. The strategy must adequately identify areas in the system that need improvement to support HEIs in developing transferable skills, engaged research and career-building for their PGR. Many PGR undertakes academic duties such as lecturing, student supervision, administration, service to College. These working hours should be for students who want to progress in these areas, and they should be paid as they are work hours on top of an already heavy research workload. The working hours should not come at the expense of the postgraduate researcher's primary devotion to the subject of their research.

There seems to be a meagre chance of PhDs fulfilling their aim to work in academia. A key issue here is that the rate of research students graduating is increasing exponentially. It is not sustainable within the current model to retain large numbers of PGR's. There is also the lack of permanent academic roles, and research contracts can be short, and there is no permanency. PGR and HEIs would benefit from working on this area and developing a strategy to retain some of this talent or redirect it. Implementing education to PGR's in non-academic employment or developing programmes of study could be a way for them to create their own employment within HEI's as the

provision could support their salary. PGR's contribution to the economy through lifelong learning should not be underestimated. Ireland should be fighting to retain this talent.

Alternatively, the National Strategy must identify areas where PGRs can work with societal issues and enterprise initiatives. Incorporating funding bodies, supervisors and HEI's to support PGR's with a guide to plan more meaningful research which will channel it towards improving the national landscape of society and economy. R&I has been shown to improve productivity, innovation and growth in an economy. Colin Hunt, the chairman of the National Strategy for Higher Education 2030, has recognised how crucial research and development is to create innovative transformation in Ireland's economy (National Strategy for Higher Education to 2030, 2011). Colin Hunt said he foresees serious challenges in human resource practices, funding and operational procedures as HEIs continue to grow.

New structures and practical solutions should be put in place now to deal with students' diverse learning requirements as postgraduate numbers grow by an estimated 30% by 2030. The strategy needs to focus on building a structure that can grow with the research system as a whole. People-focused plays result in the most value. The broader use of advanced technologies supports robust value creation, and bridging the business-technology chasm is critical to exponential performance. The development of a vCoP enables PGRs to have open communication channels outside their HEIs to funding bodies, enterprises, society, research teams, other HEIs and PGRs supporting communication, collaboration and career growth. Through interconnected vCoP, information is provided, knowledge sharing, and research collaboration amongst all agencies, society, enterprise, and PGR. The vCoP will enable PGRs to develop connections with external bodies to empower them to collaborate on research and build careers from early career researchers. Funding bodies can use this space to promote the work they do and the funding they have available for PGR. It can enable all funding bodies to communicate in one space, making it easier for a PGR to avail of funding opportunities. The vCoP can promote enterprise projects, PGR can browse these projects in one space and apply for these projects. It may allow PGR to upload their research to engage and collaborate with enterprises, society, research teams, other HEIs and PGRs. Think of a LinkedIn type community for Irish research.

The IUA has done a detailed econometric analysis. The report entitled Irish universities socio-economic impact reported €8.9Bn return per annum from Irish Universities from government investment of €1Bn. The return from Irish Universities proves that that investment in public sector research generates a multiplier effect. In the report entitled Irish universities socio-economic impact, undergraduates have a wage premium of up to 43%. This wage increase yields a €62,000 benefit to the exchequer over the graduates lifetime. Net lifetime earnings increase with the level of education and will yield more income for the exchequer. An undergraduate's net lifetime earnings gain is €106k, for a Master's degree holder is €146k, and for a PhD, holder is €222k. For the economy to keep growing, the National Strategy should outline that more investment in education will yield better results and is fundamental in the economy's growth. Supporting the HEI and research system financially to deliver highly trained PGR to meet industry needs will build on our economic growth. Enterprise stakeholders have identified that diverse teams with varied skills are essential to new product development, research, and enterprise. There should be funding across all disciplines to meet this need. This will enable Ireland to become a Global Innovation Leader driving a robust and sustainable economy and a better society, focusing on excellence, talent, and impact. The PGR consultation is critical to inform this strategy. The Government's ambition for Ireland to become a global innovation leader needs to nurture early career researchers as they will be the future of this ecosystem.

## *Q2.3 How do we deliver a pipeline of talent for academia, industry and public service? How can we best support researchers on their career pathway?*

There has been a strong emphasis in national research strategies on increasing the numbers of PGR. To deliver this outcome effectively, support structures need to be in place in HEIs to deal with the influx putting systems under severe pressure. There needs to be an adequate number of supervisors to PGR and time for these supervisors to support the PGR with their research. Develop a framework where the PGR nationally are learning the basics of research, research tools and implementing their research through structured taught modules. Engagement between HEI to develop a PGR learning structure Nationally, so all PGR are receiving the same level of education. As PGR are the basis of the research framework, a focal point within the next National Strategy should support these individuals by setting up development academies. Numerous European HEIs have PGR academies set up to nurture PGR throughout their research to develop professionally and creates opportunities for them to work externally to academia. Connections made with PGR and their research to academia, industry, public service, and society must be addressed to seamlessly cover their transition from PGR to researchers with sustainable careers. PGR needs to be informed about where their research can fit in the ecosystem to support the transition more smoothly into their chosen research fields and careers. The Researcher Career Framework and the work of the National Advisory Forum on Doctoral Education (NFDE) have a vital role in supporting institutional best practices in researcher career development. The NFDE currently only has one PGR voice, and there may be an opportunity here where more PGR voices have board representation at working groups or sub-groups. Integrating PGR voices into working groups and having PGR representation in crucial decision-making will deliver a more informed outcome. The EUA report echoes this and advises the improvement of PGR representation and involvement in governance. The EUA also recognises that the current NFDE Advisory Forum needs a revamp and suggest building a community of practice; this is a project that the VP for Postgraduate Affairs of the Unions Students in Ireland would like to work on and give input.

Delivering talent requires supporting the PGR from early career researchers to develop career prospects in society, enterprise and academia. This also requires that enterprise and society are aware of the value a PGR can provide within an organisation, and closing this knowledge gap is essential.

### Financial Support

The next National Strategy needs to increase expenditure in education and research to support HEIs to attract and retain talented researchers. The next National Strategy needs to ensure we have a stream of highly skilled researchers coming into the system by funding PRGs to at least the living wage so they can effectively work on their research full-time. Supporting PGR financially will enable them to finish their research on time, develop careers, and contribute to the economy efficiently. We are losing researchers to the European Union because of their funding systems. During a consultation with Non-EEA PhD students' who are PGR in Ireland, they advised that they have

advised any colleagues from home to look for PGR placement in Europe because the funding is more substantial than in Ireland. The same sentiments were echoed amongst Irish PGR and those who have gone to study in Europe because of the funding they can avail of to complete throughout their research. To eliminate losing excellent PGR talent, Ireland's treatment of PGR should be in line with the rest of Europe. A national minimum stipend should be introduced for all funded PGRs, which is adjusted annually in line with inflation and reviewed systematically. A PGR stipend can be as low as €6,000 per year, the average is €12,000 per year and the funding bodies are now paying a stipend of €18,500 per year. This is a National problem, and PGR should be entitled to a fair system where their research is funded the same across the board. There is a huge gap in these two figures and raising the national stipend can have a subsequent effect on the talent attracted into research, the quality of the research, living conditions and mental health of PGR. Another objective of the National Strategy should be to support female researchers to take statutory maternity during their research. Statutory maternity will ensure a diverse, educated group into the future. According to a Harvard study entitled "The impact of gender diversity on the performance of business teams: evidence from a field experiment", teams with fewer women had lower sales and earnings than teams with a more balanced gender mix. This is why the National Strategy must support females in completing studies, working in enterprises, research and academia, and having families. Non-EEA PhD Student Spouses cannot access employment despite their high qualifications. When they come to Ireland, their spouse cannot work to supplement the family income and need to register as a student, registering for funded courses like springboard so they can undertake a course to be able to work 20 hours a week. The system would work more economically if spouses were given visas to be able to work without having to register as students and then study and work. Non-EEA PhD students' children are not allowed to attend public schools. They are required to attend fees paying schools. This is counterproductive to encouraging talent to come to this country to do PGR.

## Educational Support

The National Strategy needs to develop educational supports by building a National framework for postgraduate learning and career development across HEIs as it is inconsistent and varies between HEIs greatly. The EUA report advised that HEIs improve their collaboration in the delivery of PhD training. There needs to be a National teaching framework with modules for developing a research plan, writing, research methods, teaching, supporting publishing etc. The EUA recommended working with alumni and employers more closely to support the development of soft skills training for PGR. Adequate spaces need to be provided for PGR so they can learn and develop their research. The lack of designated spaces for PGR is an issue that should be resolved. PGRs would benefit from more engagement with their HEI and PGR cohorts. The biggest issue facing PGRs is isolation, this needs to be eradicated because of the effect it has on the PGRs education, research, health, well-being, and future teamwork. The next National Strategy should develop interaction within the PGR curriculum. Shared modules being taught to PGR would help relieve this issue. The development of cutting-edge modules based on the most recent advancements to support PGR study as part of their career development.

## Careers Support

To build, support and develop PGR career opportunities, PGR needs to be aware of career opportunities available. A large number of PGR enter the system with the belief that they will work

in academia. Career development where there are programs developed for PGR to work in industry and with industry. Developing programs with Enterprise Ireland educating PGR in alternative ways to work, such as self-employed consultants. Work experience for PGR in their chosen field of research, but this should not be a tick the box exercise. Development of an online platform for enterprise and research centres to work directly with PGR. This will enable enterprises and other research centres to find suitable candidates to develop research in their space. Development for PGR to collaborate with other PGR and institutions nationally and internationally to build on their research. Support to work on small projects within their research with research teams. The next National Strategy needs to provide well-paid employment where researchers are contributing to the growth of the Irish economy. EUA also suggested that Ireland establish a system for tracking research graduates' careers to inform changes in research degree programs. The VP of Postgraduate Affairs of USI has already made some suggestions on a system for tracking research graduates' careers in the NFDE working group and would be interested in developing this initiative more.

## Community Support

Postgraduate researchers are individuals who are innovative and can support and drive change in our current climate. However, PGR may not always have time to engage in extracurricular activities and may lack the opportunities that undergraduates have to meet and communicate with peers. This risk of isolation can significantly impact a PGR development. Postgraduate students' intellectual, geographic, and perceptual isolation often work against knowledge sharing, but technology may help resolve some of these barriers. PGR students are looking for a connected, collaborative community to support them throughout their research. vCoPs within research cohorts and enterprises have been shown to produce positive outcomes. These vCoP can be used locally, nationally, internationally to develop strong working PGR research groups. vCoP will support a recommendation from the EUA to improve the promotion of Irish doctorates nationally by being the world leader in vCoPs in education and will support prospective international students and partners.

## Summary

USI and our members want to be included in further conversation and policy work. The organisation has 374,000 members Nationally and believe their input is beneficial to the education system. Collaboration of this kind is good practice and denotes a better outcome.

Prioritising PGR in this ecosystem is imperative. PGR need financial, emotional, educational supports' available to them at all times throughout their research. They need structures around knowledge provided and guidance to develop a career post research. More transparency between PGR, funding bodies, enterprises and society can support a more innovative system. The current system can discourage talented individuals from doing postgraduate education because of a lack of supports'. Research should be seen as a priority rather than a privilege. Investment into research should not only be based on projects but also for PGR to put their research first and in the given timeframe and contribute to the economy.

In 2019 according to HEA there were 9,114 PGRs (HEA, Thea, USI, IUA. (2020) The Irish Survey of Student Engagement for Postgraduate Research Students National Report). The report entitled Irish universities socio-economic impact reported €8.9Bn return per annum from Irish Universities from government investment of €1Bn. If all 9,114 PGRs were paid €18,500 in line with funding bodies, it would cost the Government €168.5M. The return from Irish Universities proves that that investment

in public sector research generates a multiplier effect. In this case investing €168.5M to PGR would see a return of €1.5BN to the economy.

To support PGR financially in their research

- Increasing expenditure in education and research for the PGR cohort
- National Stipend to the living wage
- Support female PGR by introducing statutory maternity leave
- There should be transparency of PGR funding across the board.

To develop educational supports for PGR

- Build a National framework for postgraduate learning across HEIs
- Provide adequate workspaces within HEIs for PGR
- Develop communities of practice to support their learning and develop supports amongst a wider PGR cohort.

To build, support and develop postgraduate career opportunities

- Awareness of career opportunities available academic and non-academic
- Career development for PGR to work in industry and society
- Work Experience for PGR in their chosen field of research.
- Online network to support communication amongst PGR and agencies nationally
- PGR supports to collaborate with other PGR and HEIs nationally and internationally to build on their research.
- Support to work on small projects within their research area with research teams

To develop collaboration

- vCoP or CoP for NFDE as recommended by EUA report
- More PGR voices at the table
- More collaboration between VP Postgraduate in USI and organisations making PGR decisions
- VP Postgraduate in USI consulted on PGR issues going forward
- Support to work on small projects within their research area with research teams

**To highlight the EUA recommendations which supports recommendations made in the submission**

The report makes a number of recommendations regarding the future course of doctoral education:

- Enhance collaboration between higher education institutions in the delivery of doctoral training;
- Improve the Postgraduate Research (PGR) student representation and involvement in governance;
- Improve the career development supports offered to postgraduate researchers students;

- Work more closely with alumni and employers in developing modules in "soft skills" training;
- Develop a system to track the careers of research graduates, to inform improvements in research degree programmes;
- Revamp the current NFDE Advisory Forum to build a community of practice;
- Improve the promotion of the "Irish doctorate" internationally, specifically targeting prospective international students and partners.