National College *of* Ireland

RESEARCH STRATEGY

2023 -2027

FOREWORD TO THE STRATEGY

Research is at the heart of NCI's Strategic Plan 2022-2027, building upon the existing 2019-2023 Academic Strategy to ensure that research is strategically planned and adequately resourced. Its Research Strategic Priority states that NCI "will invest in a step change in research and innovation capability in a manner that is closely aligned to our distinctive offering."

We aim to create a research environment that supports our distinctive provider status, attracts, and retains good staff, and enables productive employer relationships. In line with the vision of national research initiatives, NCI is committed to addressing current challenges, seizing future opportunities, and contributing to Ireland's competitiveness and societal needs.

This Strategy embodies activities that support our commitment to mission-aligned research and to our commitment to excellence, sustainability, and societal impact. It includes a commitment to work closely with employers and other stakeholders. In addition, this strategy recognises the importance of good research in shaping sound educational pedagogies.

We embrace the challenges and opportunities presented by the rapidly changing research landscape, with a firm belief in the power of research to shape our future. By nurturing top talent, collaborating with diverse stakeholders, and anticipating emerging areas of science, we will continue to position NCI as a Global Innovation Leader, advancing Ireland's economy and society.

To achieve our goals, this Research Strategy becomes an integral component of our overall institutional strategy. It ensures that our current and future research endeavours are aligned with best national and international practices, elevating NCI's reputation, relevance, and impact both in Ireland and abroad. By closely aligning with national and international academic guidelines, we position ourselves as a key player in driving research excellence.

Under the strategic academic goal of Excellence in Research in the Academic Strategy, and as incorporated in Strategic Priority 4 in the 5-year Institutional Strategy, NCI aims to cultivate a vibrant, collaborative research community that generates ideas,

advances knowledge, and creates a positive impact on local, national, and global communities. Not only do we acknowledge the importance of the HEA Principles of Good Practice in Research for enabling academic freedom, sustainability, inclusiveness, integrity, and ethics, but we also emphasise the core role of research in creating new knowledge and driving innovation aligned with the Impact 2030: Ireland's Research and Innovation Strategy. NCI has undertaken a solid resolution to fostering impactful and applied research that addresses societal, cultural, environmental, and economic development

At the European level, the European Commission's Strategic Plan 2020-2024 has recognised the transformative power of research and innovation in boosting economies and enhancing global competitiveness. Therefore, NCI's pursuit of research excellence aligns with our ambition to actively contribute to the local, national, and international research landscape. Moreover, as an Athena SWAN Bronze institution, NCI has been one of the first institutions to release a Gender Equality Action Plan aligned with Horizon Europe principles. We recognize that impactful research outputs are crucial for leading higher education institutions in Ireland, necessitating the establishment of tangible metrics to realize our aspirations for research excellence.

In presenting this framework for guiding NCI's research activities, we introduce principles that incorporate the NCI Sustainability goals and reflect the national objectives for research. These principles emphasize the importance of research and innovation in addressing key sustainability issues facing humanity, contributing to the UN's Sustainable Development Goals (SDGs), providing evidence-based insights to policymakers, and furthering public understanding of sustainability. We are committed to embedding relevant research outcomes in the NCI campus, throughout the wider Dublin City region, and nationally via our Early Learning Initiative (ELI) leveraging a "living labs" approach to test and implement sustainable solutions.

Furthermore, we recognise that knowledge exchange and impact are integral to our mission, and we aim to foster a culture of innovation that addresses the world's most pressing challenges. Our research practices adhere to the highest standards of integrity and ethics, promoting open research culture and adhering to the FAIR principles (Findable, Accessible, Interoperable, and Reusable) for societal benefit. Together, let us forge an open path towards a sustainable and prosperous future through programmes of research that will make a difference.

The central questions addressed by this Strategy are:

- how can Research be clearly positioned as a core part and purpose of NCI as a whole?
- how can Research contribute to increase the NCI's national and international standing?
- how can Research best contribute to changing lives through education, in turn forming future leaders who are prepared to work creatively to improve the communities in which they live?
- how can Research help to bring sustainable ideas and knowledge that inspire staff and students to be innovative, responsive, and enterprise-focused?

In conclusion, research challenges may be dynamic and the approaches with which we meet them may be novel, but those institutional values upon which our success depends—Inclusiveness, Community-orientation, Integrity, Dynamism, Learner Centricity, and Excellence—those have long remained constant and true. They have been the driving force of our progress throughout our 70+ year history. What is required of NCI now is a new era of sustainable academic responsibility, a research-informed era, and a recognition on the part of every NCI stakeholder, that through a steadfast commitment to our mission, vision, and values, we have an important duty to ourselves, to Ireland, and the rest of the world, a duty that NCI is uniquely suited to address through its teaching and research.

Sincerely

Prof. Jimmy Hill
Vice President Academic Affairs and Research
Dublin, 18 September 2023.

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MISSION, VISION, AND VALUES: RESEARCH

MISSION:

Everything that we do is shaped by the NCI Mission: To change lives through education.

In respect of research this means generating ideas, discoveries, and solutions to real-world and societal problems, while actively promoting sustainability and knowledge exchange embedded into our Dublin campus, city region, and nationally through ELI using a "living labs" approach.

VISION:

Carry out mission-aligned, value-driven, applied multidisciplinary research to foster innovation and to address key sustainability challenges facing humanity.

VALUES:

- **Excellence:** We are committed to conducting high-quality research that breaks down disciplinary barriers and addresses global sustainability challenges. We strive for excellence in research integrity, ethics, and best practices.
- **Impact:** We aim to make a tangible difference by contributing to the SDGs and providing research that informs and influences policies, helping society achieve a sustainable and equitable future.
- **Collaboration:** We value interdisciplinary collaborations, partnerships with academic, industrial, government, and community stakeholders to drive innovation and address complex societal issues.
- **Sustainability:** We are environmentally conscious, embedding sustainability principles in our research practices and promoting sustainable development within our campus, city region, and beyond.
- **Equality,** We embrace and celebrate diversity, promoting equality and inclusivity in our research community and ensuring all voices are heard and respected.
- **Ethical Conduct:** We are committed to conducting research with the highest ethical standards, adhering to the FAIR principles for the benefit of society.

At NCI, we foster interdisciplinary collaboration to develop solutions for real-world problems that impact all aspects of our lives. Our research strategy has been aligned with our sustainability goals, and our researchers are actively engaged in finding solutions for a sustainable future. We are committed to connecting our research to the wider world, influencing policy, and adopting sustainable research practices. We aim to be at the forefront of public policy and debate on sustainability, ensuring that our research benefits local and national governments and wider society.
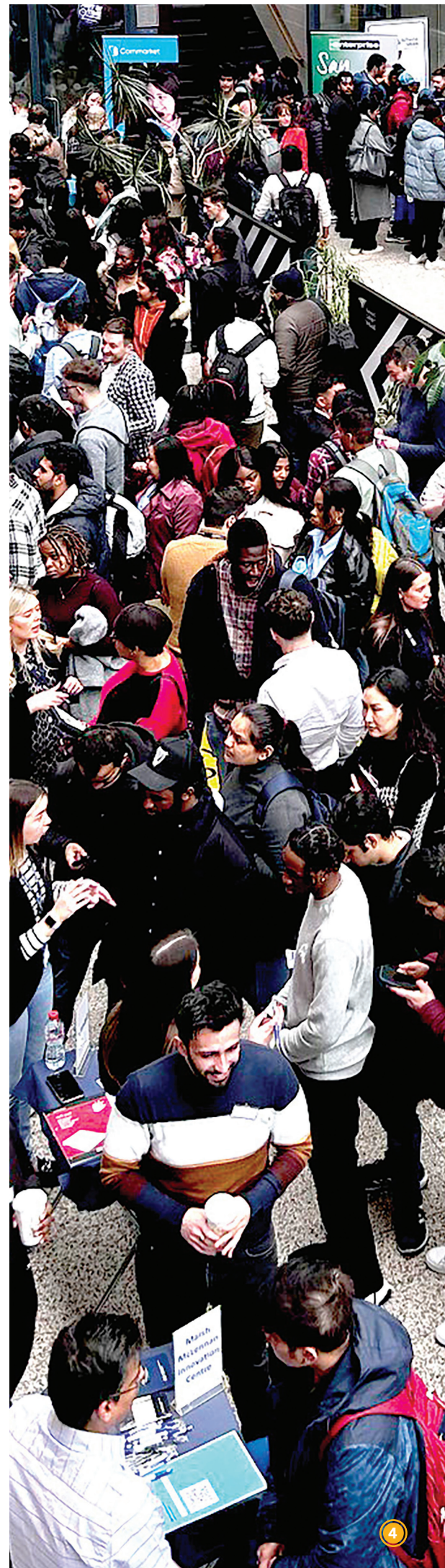
STRATEGIC GOALS: RESEARCH

This Research Strategy is structured around five sustainability goals. In addition, in line with Strategic Priority 4 in our Institutional Strategy, we will invest in a step change in research and innovation capability in a manner that is closely connected to our distinctive offering. We anticipate that, over time, the strategic goals will remain essentially unchanged, with specific actions being modified in response to changes in the overall academic and societal environment in which we operate and changes in our ongoing performance.

1. **Drive Research:** Increase the number of Early Career Researchers (ECRs) and encourage research activity at NCI by consolidating the institutional doctoral programme and attracting top research scholars. By building upon different funding sources aligned with staff research strengths and interests, we will focus on interdisciplinary collaborations that address key sustainability challenges and contribute to the SDGs.

2. **Engage with Partners:** Nurture a collaborative partnership to work closely with industry, academia, community, and government stakeholders, fostering innovation and developing sustainable solutions that address societal and environmental needs.

3. **Attract Funding:** Empower academic staff to apply for, obtain, and manage external funding sources that support research projects aligned with sustainability and the SDGs.

4. **Create a Research Office:** Bring up ethical applied research, responsible data management, intellectual property protection, and knowledge transfer practices that promote sustainability and social impact.

5. **Communicate & Disseminate:** Collect and showcase staff research accomplishments fostering a culture of high achievement and facilitate the formation of research clusters and production of high-impact quality publications.
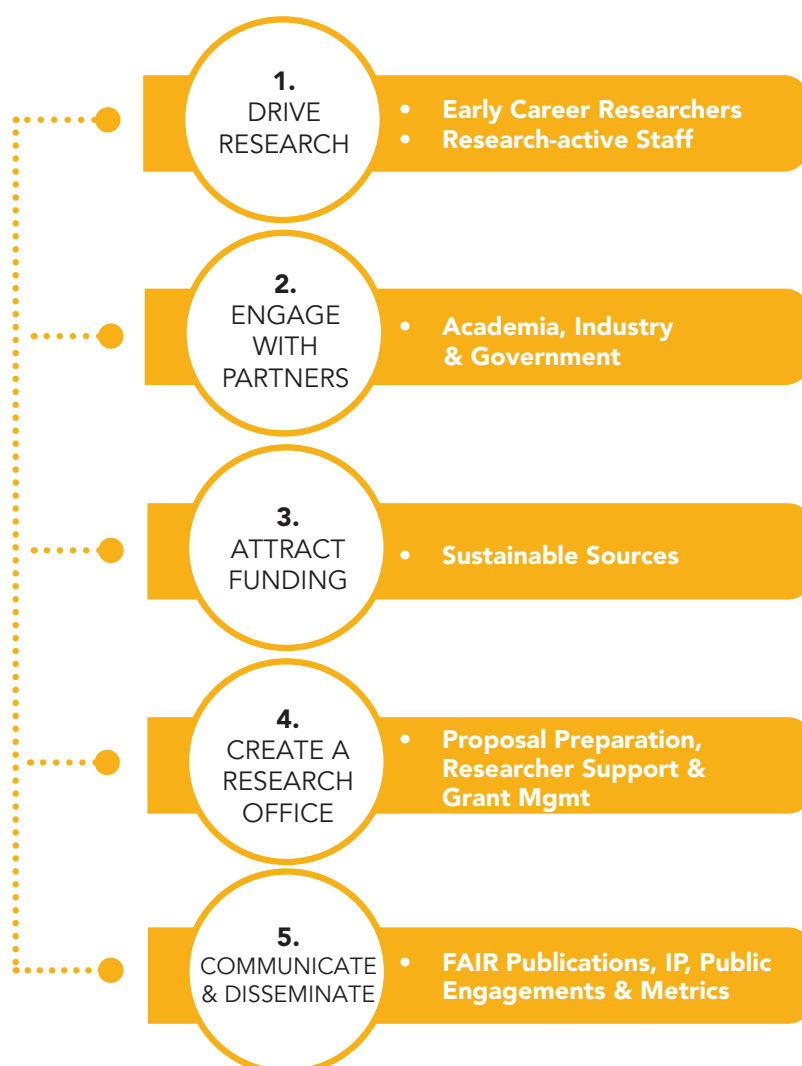

1. DRIVE RESEARCH
- Early Career Researchers
- Research-active Staff

2. ENGAGE WITH PARTNERS
- Academia, Industry & Government

3. ATTRACT FUNDING
- Sustainable Sources

4. CREATE A RESEARCH OFFICE
- Proposal Preparation, Researcher Support & Grant Mgmt

5. COMMUNICATE & DISSEMINATE
- FAIR Publications, IP, Public Engagements & Metrics

Figure 1: Five Goals of the Research Strategy

GOAL 1: DRIVE RESEARCH

Our institution recognises the importance of "critical diversity" alongside critical mass in fostering innovation and generating powerful ideas. We believe that breakthroughs often emerge from unexpected areas of study, and therefore, we strive to attract the best minds not only from Europe but also from the global talent pool. By nurturing a diverse ECR and research-active staff community at NCI, we encourage interdisciplinary collaboration and systemic thinking, recognising that addressing the major challenges of our time requires drawing upon a variety of disciplines.

A powerful and internationally competitive research base, essential to the present and future vitality of Ireland, depends fundamentally on a strong cohort of highly creative ECRs. Aligned with EU average of 2.3%, Ireland invests 2.1% of their GNI in research and, according to Ireland's Research and Development Budget: 2020 to 2021, HEIs spent over €1 billion on research and employed over 11,000 people to carry it out. To significantly drive research, NCI should crucially attract ECRs considering our commitment to sustainability and the 2030 Agenda for Sustainable Development proposed by the United Nations, which guides our efforts to address key issues facing humanity and contribute to the achievement of the SDGs.

A core ambition of this strategy is the creation of a dedicated research space in the College where ECRs, research students, faculty, research assistants and research officers can work together. This will help to drive research through cross-fertilisation of ideas and will inspire the development of new research projects.

This Strategy identifies the following categories of ECRs that we believe must exist amongst research-active staff not holding a full-time professorial position:

- PhD Students funded through a specific bursary.
- Research Associates/Scholars paid through research grants.
- Enterprise Fellows developing commercial applications from their research.
- Active Members of specific community projects, e.g., ELI

PhD students: From 2019, NCI offers a research-based interdisciplinary doctoral programme with Maynooth University which pairs research students with supervisors at both institutions in areas such as Business, Computing, Education, Prevention & Early Intervention Childhood Education, and Psychology. By recognising and mentoring PhD students as ECRs, current research-active staff should arguably have additional opportunities to conduct world-class research, influence policy and practices, and generate global impact. The joint PhD programme will also be aligned with the National Framework for Doctoral Education (NFDE). Established in partnership with the HEA, QQI, and HEIs, NFDE aims to underpin excellence in all forms of doctoral education in Ireland and provides a set of principles that Irish HEIs are committed to embedding in their doctoral programs, ensuring consistent excellence in postgraduate education and training. It also emphasises the development of transferable skills and the maximisation of employability for doctoral graduates across various employment sectors, and should allow NCI to continue increasing some of the KPIs described in the HEA's System Performance Framework 2018-2020 such as percentage of staff qualified to PhD level and percentage of PhD awards involving employer partners.

Research Associates/Scholars: NCI is committed to attracting and nurturing innovative ECRs as research associates who can design, plan, conduct, and coordinate experiments and disseminate results as part of a given funded project. By actively enabling such individuals to undertake this attractive and rewarding career pathway, we realise that the true impact of research lies not solely in the outcomes it produces but in the individuals it cultivates. This inclusive perspective aligns with the SDGs, serving as a shared blueprint for a better future.

Enterprise Fellows: Many individuals at the start of their research careers often assume that success can only be achieved through obtaining a permanent lecturing post. However, we at NCI empower commercially minded ECRs to make significant contributions outside of academia and effectively translate research-derived insights into tangible societal benefits.
By nurturing a strong cohort of highly creative ECRs and aligning their efforts with sustainability principles and the UN's 2030 Agenda, NCI is committed to driving impactful research, innovation, and knowledge exchange that contribute to a sustainable and prosperous future for all.

Specific Community Projects: NCI manages many research projects and initiatives that are rooted in the communities within which we work locally and nationally. NCI is committed to increasing and expanding the scope and impact of such research projects internationally. Much of this work sits within NCI's Early Learning Initiative.

GOAL 2: ENGAGE WITH PARTNERS

Partnerships are essential for NCI to fulfil its vision, mission, and values. We recognise the interconnectedness of academia, industry, government, and community and the need for collaboration to drive research and innovation. By actively engaging with partners, we can leverage their unique expertise and resources to address sustainability challenges and contribute to the SDGs.

In partnering with academia, we aim to foster a vibrant research environment that breaks down disciplinary barriers and encourages multidisciplinary collaboration. Through interdisciplinary academic collaborations, we can tackle complex sustainability challenges and provide evidence-based insights to policymakers, governments, and the public. By aligning our research with the SDGs, we can make a tangible difference and contribute to a sustainable and equitable future.

Collaboration with industry and community is crucial to fostering innovation and developing sustainable solutions. By nurturing collaborative partnerships, we can work closely with industry and community stakeholders to understand their needs and co-create solutions that address societal and environmental challenges. These partnerships can facilitate technology transfer, knowledge exchange, and the commercialisation of research findings. By incorporating industry and community perspectives and expertise, our research becomes more relevant and impactful, driving economic growth and creating a positive societal impact.

Partnerships with government are key to influencing policies and promoting sustainable development. We aim to be at the forefront of public policy and debate on sustainability, ensuring that our research informs and influences decision-making processes. By actively engaging with government stakeholders, we can advocate for evidence-based policies that align with the SDGs and address pressing sustainability challenges. Our research can provide policymakers with the necessary insights to design effective strategies and interventions, leading to a more sustainable and resilient society.

With a clear view to reach out to external stakeholders, NCI is setting up a dedicated interdisciplinary collaborative space with the purpose of advancing scholarly activities. Modelled as an on-campus scholarly and creative network inspired by industry, the space will bring together faculty, those engaged in research projects, ECRs, and external stakeholders to address the world's most pressing challenges, including sustainability, via transformative research and enterprise partnerships.

The space will also serve as a home to any research endeavours e.g., training, open talks, conferences, fund-raising events to showcase our research impact. Interdisciplinary in nature, the Space will have, but not limited to, a few thematic areas (in alphabetic order): Computer Science, Data Science, Management Sciences, Psychology & Medicine, and Social Sciences & Education.

In conclusion, we acknowledge that research is a global enterprise and must engage with global partners and perspectives. In line with our commitment to sustainability, we aim to develop research partnerships that transcend national boundaries, fostering a sense of global citizenship among our researchers. Our focus on competitiveness by international standards is motivated by the understanding that national interests are best served through collaboration and a shared commitment to excellence.

GOAL 3: ATTRACT FUNDING

To successfully attract external funding, we will empower our research-active staff to apply for, obtain, and manage research grants. We will provide comprehensive training and support to enhance their grant writing and project management skills. By encouraging and equipping our staff to pursue external funding opportunities, we will increase our chances of securing grants that align with our research strengths and sustainability objectives, and funded under relevant calls in Ireland, such as Enterprise Ireland, Health Research Board, Higher Education Authority, Irish Research Council, and Science Foundation Ireland; and Europe, such as CHIST-ERA, Cohesion Fund, Digital Europe, Erasmus+, ERDF, Eureka, and Horizon Europe.

We will place specific emphasis on:

- Allowing ECRs, faculty, and research-active staff to gain early experience in grant writing by observing and reviewing drafts of grant proposals within NCI. This mentorship approach will provide valuable guidance and support to ECRs and research-active staff, helping them develop strong grant writing skills.
- Nurturing individuals to explore diverse funding opportunities, such as travel grants, equipment grants, and public engagement activities, before tackling larger proposals. By diversifying our funding sources, we can enhance our research capacity and increase our chances of securing larger grants in the future.
- Working with staff to determine their funding needs, whether it is dedicated time for research, travel expenses for fieldwork, or organising workshops to advance their research. By understanding and addressing these needs, we can support our staff in their pursuit of external funding opportunities.
- Advising staff on how different funding bodies have distinct priorities and criteria, ensuring that proposals are tailored accordingly. This targeted approach will maximise our chances of success by aligning our proposals with the specific interests and objectives of funding organisations.
- Fostering interdisciplinary proposals that involve authentic and intellectually stimulating partnerships. By encouraging collaboration across disciplines, we can tackle complex sustainability challenges from multiple perspectives and enhance the potential impact of our research.

Another important aspect of attracting external funding is establishing a dedicated Research Office infrastructure that will scale up in line with research funding. This office will be responsible for ensuring ethical research practices, managing intellectual property protection, promoting responsible data management, and facilitating knowledge transfer. By embedding sustainability and social impact into our research practices, we will not only attract funding but also enhance the value and impact of our research outputs.

Communicating and disseminating our research accomplishments is essential for attracting external funding. We will actively collect and showcase the achievements of our staff, fostering a culture of high achievement and excellence. By promoting the visibility and impact of our research, we will attract the attention of funders who recognise the value of our work in addressing sustainability challenges.

In summary, NCI should stay up to date with the evolving landscape of research funding opportunities and adapt our strategies accordingly. We will regularly review and revise our research strategy to align with changes in the academic and societal environment. By continuously refining our approach and staying informed about funding trends and opportunities, we can maximize our chances of securing external funding and advancing our research agenda.

GOAL 4: CREATE A RESEARCH OFFICE

Irish higher education is undergoing significant changes in research policy and funding, and NCI will evolve and respond to these developments while staying true to our core values. To support the research component of our mission, NCI plans, as our research collateral grows, to establish an institutional research office which will focus on underpinning research activities and attracting more funding while also decreasing faculty burden in applying for it. Research sits under the Vice President's portfolio and the financial management of all research will sit within the portfolio of the Director of Finance.

This Office will have three functions:

Proposal Preparation: To support researchers to secure external funding and enhance our institutional competitiveness. The key activities include:

- Assisting faculty and research-active staff in finding relevant funding opportunities and in writing effective proposals.
- Identifying national and international funding opportunities aligned with the SDGs.
- Providing expert advice on application procedures, eligibility, and evaluation criteria.
- Offering feedback and guidance on grant applications, including writing style, structure, and content.
- Assisting with the submission of applications through the EU funding systems.

Researcher Support: To provide professional assistance in a proactive and researcher-centric manner. The key activities include:
- Providing research integrity training and support.
- Ensuring that NCI's Intellectual Property can be accessed by a broad audience through various channels, including conventional commercial licensing and FAIR/Open Access agreements.
- Maintaining research governance including servicing the Research Committee (and its sub-committees) as well as the administrative management of any research culture and outreach activities such as events, newsletters, website content, media interactions, etc.
- Delivering training on research information systems and tools.
- Assisting with post-award processes, including the processing of award documentation in conjunction with NCI's Company Secretary and LEAR (Legal Entity Appointed Representative), and addressing post-award issues.
- Reviewing and facilitating collaborative research agreements.
- Facilitating ethical review processes through the Ethics Committee.
- Offering research metrics to support institutional reporting and cooperating with the Library to register research grants and outputs in the institutional scholarship repository.

Grant Management: To manage externally funded research projects. The key activities include:
- Providing end-to-end grant administration including all matters pertaining to budget creation and eligibility, timesheets for research teams, financial reporting, and overheads allocation.
- Implementing efficient financial management practices for externally funded projects.
- Ensuring adherence to institutional and funding agency policies and regulations.
- Supporting academic staff in project planning, reporting, and compliance.
- Administering the financial aspects of the NCI-Maynooth PhD programme liaising with The Registrar's Office and QIE.

These three functions within the Research Office will facilitate excellent research outcomes, promote research impact, enhance NCI's research reputation, and establish strategic national and international partnerships. We aim to provide sector-leading professional support for our research community and ensure that NCI's research adheres to the highest standards. Our fundamental objective is to empower NCI's researchers to transform lives and societies locally, nationally, and globally while contributing to the SDGs.

GOAL 5: COMMUNICATE & DISSEMINATE

At NCI, we believe that research should not only contribute to the advancement of knowledge within academic circles but also foster meaningful connections with the wider community, policymakers, industry partners, and the public. We are dedicated to enhancing the accessibility and visibility of our research outputs, promoting dialogue, and ensuring that the value of our research is recognised by all stakeholders.

While complementary, Communication and Dissemination are different. On the one hand, Communication encompasses sharing research and innovation results with audiences **outside** the scientific community, including but not limited to industry, SMEs, policy makers, the media, interest groups, standardisation bodies, community, and public. On the other hand, Dissemination entails sharing research results **within** the scientific community, not necessarily limited to the field(s) or discipline(s) covered by the NCI researchers.

Our communication and dissemination efforts are guided by the following principles:

- **Openness and Transparency:** We are committed to embracing open science practices and encouraging our researchers to disseminate their findings in reputable, peer-reviewed journals and conference proceedings. Furthermore, we support the FAIR (Findability, Accessibility, Interoperability, and Reusability) principles to facilitate the sharing and reuse of valuable research outputs. NCI currently manages and maintain research data and staff profiles via the institutional NORMA repository, and there are plans to evolve this repository in line with sectorial developments to cover all aspects of research information, including funded research, projects, research staff, organisational units, external relationships, research outputs, and more.

- **Engaging with the Public:** We strive to communicate our research in a manner that is understandable and relevant to the public. Through public lectures, exhibitions, and other interactive platforms, we seek to engage with diverse audiences, foster curiosity, and inspire the next generation of researchers. We are dedicated to bridging the gap between academia and society, ensuring that our research findings are accessible and beneficial to all. NCI currently maintains a Research Landing Page on the main portal.

- **Intellectual Property and Commercialisation:** We recognise the value of intellectual property generated by our researchers. While promoting the open dissemination of research outputs, we also understand the importance of protecting inventions, patents, and other intellectual assets that have the potential for commercialisation. Through our Technology Transfer Office and the Dublin Region Innovation Consortium (DRIC), NCI supports researchers in navigating the complexities of intellectual property rights, encouraging entrepreneurship, and facilitating the transfer of knowledge to industry for societal and economic benefit.

- **Evaluation and Impact Assessment:** We believe in the importance of assessing the impact of our research activities. Aligned with sectorial reports such as HEA's Towards a Performance Evaluation Framework: Guiding principles for higher education in Ireland, we will develop robust evaluation framework to measure the reach, engagement, and societal impact of our research outputs, allowing us to report aggregated numbers of citations, numbers of outputs, downloads, journal percentiles, and other relevant indicators, used in global rankings, annual reports, and other institutional documents. This data should eventually inform our future strategies and ensures that our efforts align with our institutional goals and values.

Research Clusters

To foster innovation, address societal challenges, and contribute to the advancement of Ireland's economy and society, we propose the establishment of research clusters at NCI. These clusters will bring together experts from various disciplines to collaborate on research projects that align with our institutional research and sustainability goals and contribute to the achievement of the SDGs.

1. **Management and Enterprise:** This research cluster will focus on exploring innovative approaches to management and enterprise that promote sustainability, ethical conduct, and inclusive growth. By studying topics such as sustainable business models, responsible leadership, and social entrepreneurship, this cluster will contribute to SDGs related to sustainable economic development, decent work, and responsible consumption and production.

2. **HR Management:** This cluster will investigate sustainable practices in human resource management, such as promoting diversity, inclusion, and employee well-being. By examining topics such as talent management, healthcare accessibility, work-life balance, and organisational culture, this cluster will contribute to SDGs related to gender equality, reduced inequalities, and good health and well-being.

3. **Computer Systems:** This research cluster will focus on sustainable research and innovation for the design, implementation, analysis, evaluation, and use of computer systems and systems software. It will encompass operating systems, systems architecture and hardware, parallel and distributed systems, optimising compilers, and the interaction between systems and computer networks. This cluster will contribute to SDGs related to affordable and clean energy, industry innovation and infrastructure, and sustainable cities and communities.

4. **Intelligent Systems:** This cluster will explore the application of artificial intelligence, machine learning, and robotics in solving complex societal problems. By researching topics such as autonomous systems, natural language processing, and ethical AI, this cluster will contribute to SDGs related to quality education, sustainable cities, and responsible consumption and production.

5. **Technology Enhanced Learning:** This research cluster will investigate the use of technology to enhance learning outcomes and promote lifelong learning. By studying topics such as online education, educational technology, and personalised learning, this cluster will contribute to SDGs related to quality education and reduced inequalities.

6. **Prevention & Early Intervention Childhood Education:** This cluster will focus on research in early childhood development, inclusive education, and educational policies. By examining topics such as early intervention programs, educational equity, and teacher training, this cluster will contribute to SDGs related to quality education, reduced inequalities, and sustainable cities and communities.

7. **Social Justice and Diversity:** This research cluster will explore issues of social justice, diversity, and inclusion, aiming to understand and address inequality and discrimination. By studying topics such as social policy, social activism, and intercultural communication, this cluster will contribute to SDGs related to reduced inequalities, peace and justice, and strong institutions.

8. **Psychology and Health Economics:** This cluster will investigate the intersection of psychology and health economics to understand the social and economic factors influencing health outcomes. By researching topics such as mental health, cognition, and health policy, this cluster will contribute to SDGs related to good health and well-being and reduced inequalities.
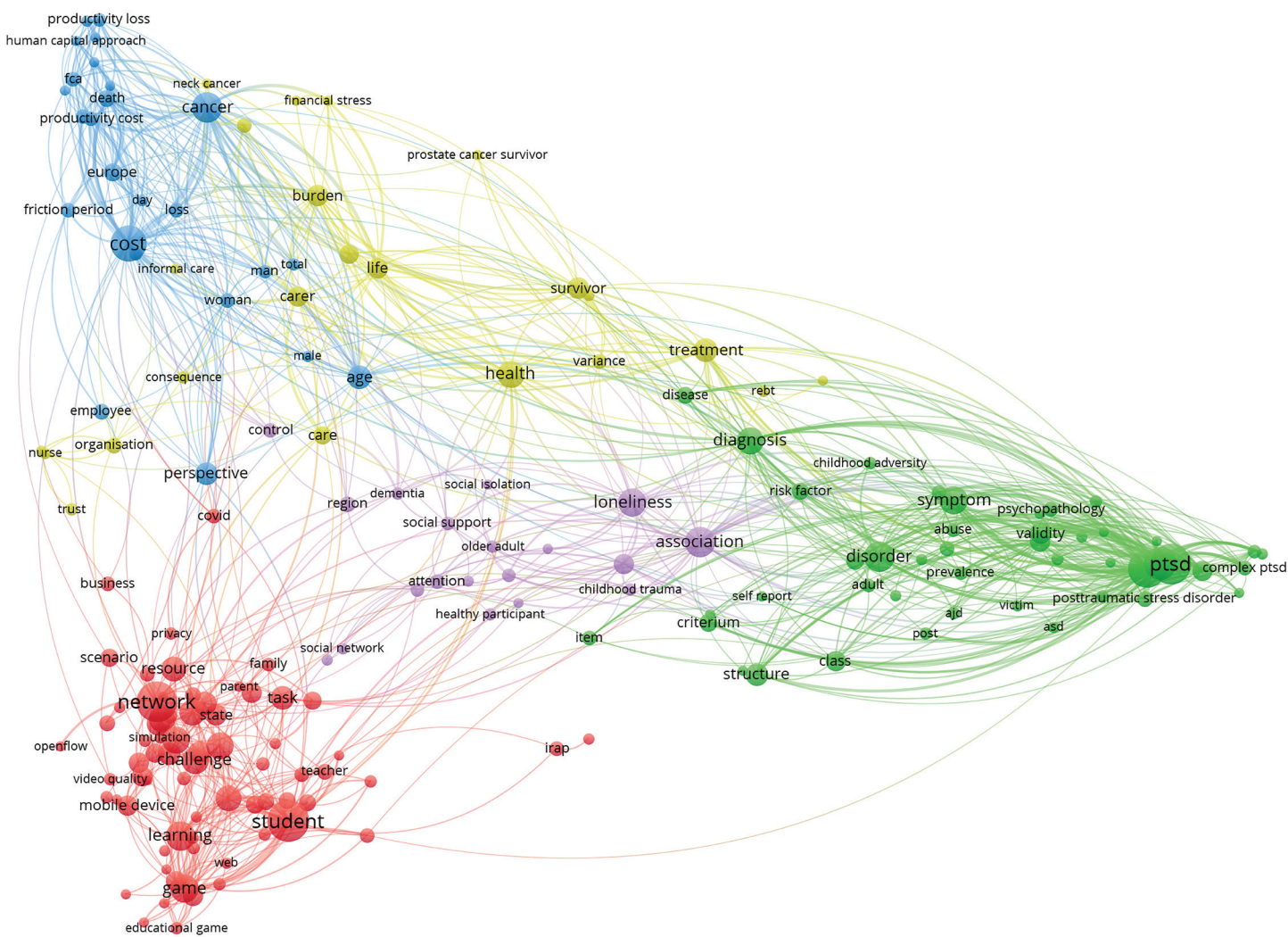
Figure 2: NCI Research topic visualisation based on 459 Scopus-indexed publications (2012-2022)-
Visualisation generated with VOSViewer

Figure 3: Suggested Research Clusters at NCI

CONCLUSIONS

We at NCI recognise the growing potential for new research collaborations and the importance of aligning our research efforts with the core values of NCI. Research is a key strategic priority in our 5-year Institutional Strategy. In this research strategy, we highlight the significance of research in higher education and emphasise the alignment with NCI's core research values, including being industry-focused, considerate of equality, diversity, and inclusiveness, environmentally conscious, mission-aligned, ethically minded, and globally influenced.

Industry-Focused Research: To remain competitive and relevant in today's rapidly evolving world, NCI must prioritise industry-focused research. By collaborating closely with industry partners, we can address real-world challenges, drive innovation, and contribute to economic growth. This strategy calls for fostering strong relationships with industry stakeholders, establishing research centres and labs that focus on industry-specific domains, and encouraging faculty to engage in applied research projects that have practical implications for industries.

Equality, Diversity, and Inclusiveness: Promoting equality, diversity, and inclusiveness in research is vital for fostering an environment of creativity, innovation, and social impact. This strategy emphasises the importance of diverse perspectives, interdisciplinary collaborations, and inclusive research practices. We will actively support and encourage faculty and staff from underrepresented groups to engage in research, promote inclusive research environments, and ensure that research outcomes address societal challenges and benefit all members of our community.

Environmental Consciousness: As an institution, NCI must prioritise research that is environmentally conscious and contributes to sustainability. This strategy encourages research projects that address the UN's 2030 Agenda for Sustainable Development. We will promote research collaborations that aim to reduce carbon footprint, minimise waste, and create a positive impact on the environment. Additionally, we will strive to incorporate sustainability principles into our research infrastructure and practices.

Mission Alignment: Research efforts at NCI should align with the mission and goals of the College. This strategy emphasises the importance of research that supports NCI's mission to provide high-quality education, foster innovation, and contribute to the advancement of knowledge. We will prioritise research projects that directly align with NCI's academic programs, focus on areas of strategic importance to the College, and have the potential for significant societal impact.

Ethical Considerations: Ethical considerations are paramount in conducting research, and NCI will ensure that research activities are guided by ethical principles and practices. This strategy emphasises the importance of ethical conduct in research, including responsible data management, protection of research subjects' rights and privacy, and adherence to ethical guidelines and regulations. Through our Ethics Committee, we will continue fostering a culture of ethical awareness, provide training and resources on research ethics, and ensure that all research projects undergo ethical review and approval processes.

Global Influence: In an increasingly interconnected world, NCI recognises the importance of research with global reach and impact. This strategy encourages faculty to engage in international collaborations, participate in global research networks, and contribute to research projects that address global challenges. We will support faculty and research-active staff in accessing international funding opportunities, promote cross-cultural collaborations, and strive to disseminate research outcomes globally through conferences, publications, and knowledge exchange platforms.

In conclusion, our Research Strategy emphasises the importance of aligning research efforts with the institutional core values. By focusing on collaborations, equality, diversity, and inclusiveness, environmental consciousness, mission alignment, ethical considerations, and global influence, we will enhance our research capabilities, increase faculty satisfaction, raise NCI's international reputation, and secure external funding. This strategy will guide our research priorities, facilitate effective communication with faculty and collaborators, and position NCI as a leader in research excellence within the higher education and broader education landscape.

This Research Strategy will be underpinned by an action plan that will be incorporated into the Institutional Strategic Plan implementation grid.

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