



UCC

University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

Post Doctoral Research- Signal Processing Engineer

INFANT Research Centre

Fixed-Term, Whole-Time Post

(2 Years)

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Welcome from the President

Many thanks for your interest in a career at University College Cork, and in joining a dynamic group of talented people working to secure the future of our people and our planet.

UCC is one of Ireland's oldest institutions of higher education, and our historic campus is in the heart of Cork city, in one of Ireland's most scenic regions, with a rich cultural heritage. Ranked in the top 2% of universities globally, UCC serves a community that is both local and global. In 2010, UCC was the first third level education institution in the world to receive the Green Campus award, and today we proudly fly our Green Flag over our Main Quadrangle following continued successful renewals. UCC has held a top ten place in the UI GreenMetric World University Rankings since 2010 and is now ranked 6th in the world for sustainability.

UCC is a comprehensive university providing a broad research-based Connected Curriculum from archaeology to zoology across its undergraduate and postgraduate programmes. UCC is the top Irish Higher Education Institution for graduate employability, and our more than 210,000 alumni excel in every walk of life across the globe. Our true strength lies in the people who work and study here, and UCC's student body of more than 24,000 includes over 4,000 international students from more than 100 countries across all continents. Of the more than 3,500 professionals employed at UCC, over one third of academic staff have come from overseas. UCC is a place of inclusion, and the diversity of our staff and students is key to realising our vision to connect and empower people to create knowledge that shapes a sustainable and inclusive world. UCC has held a bronze Athena SWAN award since 2016, and 17 of our Schools, Departments and Centres hold department-level awards.

With a strong focus on research and innovation, UCC is the leading Irish university for industry collaboration and for securing investment in Research & Development. The *UCC Futures* framework organises our research into thematic areas of excellence supporting the provision of impactful solutions to some of the most important global challenges of our time. UCC is home to several world class Research Centres including Tyndall National Institute, APC Microbiome Ireland and the UCC Sustainability Institute.

As we build on our 175-year history, we remain a student-centred, connected university, committed to attracting and developing talented minds to secure our future.

This briefing pack contains information which I hope will be useful and informative should you be selected to attend for interview here in Cork. I trust that your experience of our recruitment process will be a positive one and I thank you, again, for considering a career at University College Cork.

Best wishes,

Professor John O'Halloran - President



UNIVERSITY COLLEGE CORK, A PLACE OF VALUES TO:

BELIEVE

At UCC our mission is to meet the challenges of our time, together. When you work at University College Cork, you are joining a group of diverse thinkers and innovators committed to a sustainable future for our University, our society and our world. We rely on the collective power of our people working to create and innovate towards a common purpose. As a leading research university our ambition is to cultivate a distinctive research reputation in signature areas of excellence.

As a community of learning, our connected curriculum underpins a relevant, dynamic and inclusive learning experience for our students.

As the world's first Green Flag university, we are proud of our leadership in sustainability and we continue to radically reform our practices and use of space and technology to meet our ambitious sustainability and climate action goals.

BELONG

We are committed to providing a diverse, inclusive and equitable working environment where everyone's contribution is valued and everyone has the potential to shape change and make a difference. We value the unique background, experience, and contribution that each staff member brings to our community and are looking for people who will make a difference. If you believe in our vision and mission and would like to belong to community of people who are working together to make an impact, we would love to hear from you.

BECOME

When you become a member of UCC's community you will be eligible for a wide range of staff benefits and rewards including the following:

- High-quality professional and leadership development opportunities, including UCC-delivered postgraduate qualifications in Learning and Teaching, as well as Professional Practice and Leadership in Higher Education
- Staff fee concessions for undergraduate and postgraduate programmes
- Outstanding sports facilities with subsidised membership for university staff and an active sports and social club and special interest groups
- Access to comprehensive wellbeing supports
- Opportunities to engage with staff within the University community through vibrant on-campus cultural events, networks and seminars
- A University level awards scheme to recognise outstanding achievements

“

Like a flock of starlings, human systems are connected, complex and adaptive, with an extraordinary ability to synchronise with each other. Leadership, in the context of a starling murmuration, is inclusive, distributed, and wholly reliant on effective and multi-directional communication.

”

PROFESSOR JOHN O'HALLORAN
President



About UCC

University College Cork (UCC) is an internationally renowned university where excellence in teaching and research is aligned with an inclusive and respectful environment, where all staff and students can flourish and thrive.

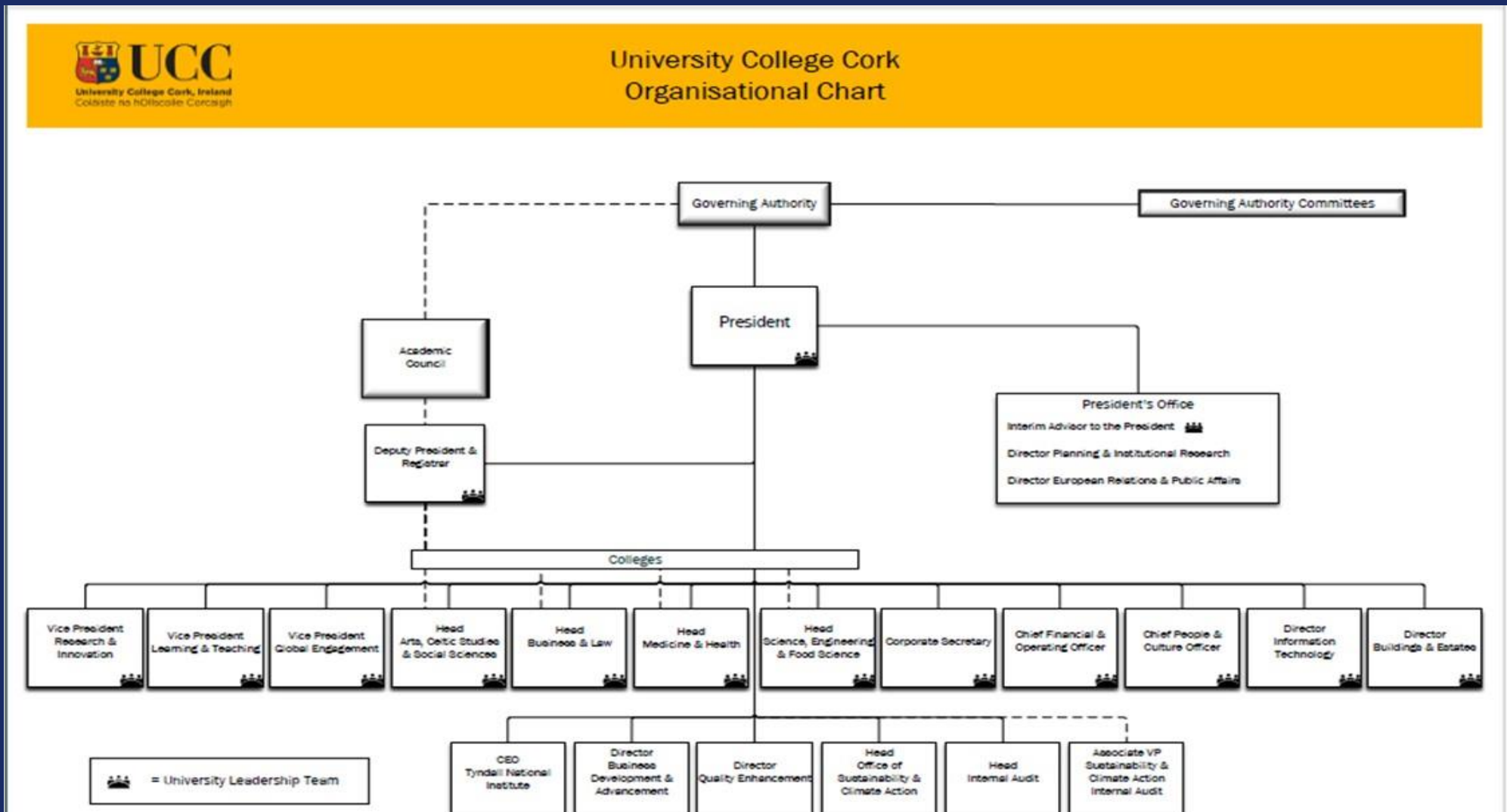
Founded in 1845, UCC is a comprehensive research-intensive institution comprising four academic Colleges, delivering a rich tradition of collaborative teaching, research and scholarship that has true global impact.



UCC Facts



Organogram





Information on The INFANT Research Centre

The INFANT Research Centre was established in 2013 and is dedicated to maternal and child health research. The overarching vision of INFANT is to advance maternal and child health translational research and to place Ireland to the forefront of this field. INFANT is hosted by University College Cork (UCC) and is focused on delivering scientific excellence and impact through a range of activities in academic, translational, and commercial areas. The INFANT team is a diverse group of clinicians and scientists who are supported by selected industry partners, international collaborators and business and regulatory advisors. The Centre is funded by a range of national and international funding agencies, EU, industry, and philanthropy. INFANT has a well-established Clinical Trials Platform which is underpinned by ISO 9001:2015 accredited Quality Management System.

UCC Research

University College Cork (UCC) is a research intensive, student-centric, and future-focused university. It is home to the highest number of the top 1% of the world's most influential researchers among any Irish university and is a national leader in research income generation. Here at UCC we are creating an interdisciplinary environment of research and innovation excellence that inspires, engages, and enables our researchers to deliver holistic, translatable solutions to emerging societal needs and global grand challenges.

Enabling the development of novel interdisciplinary research is a core objective of our Strategic Plan 2023 - 2028 - Securing our Future. In line with our research vision, UCC Futures is an ambitious new programme of research prioritisation, coupled with an innovative academic recruitment strategy, spanning 10 strategically important indicative areas (Future Humanities Institute incorporating the Radical Humanities Laboratory; Children including the INFANT Centre; Future Medicines; Future Pharmaceuticals; Collective Social Futures; Future Ageing & Brain Science; Food Microbiome & Health; the Sustainability Institute; AI & Data Analytics; Quantum & Photonics; the later four building on the strengths of our world-renowned SFI Centres -APC Microbiome Ireland, MaREI, INSIGHT and IPIC respectively). These will foster collaboration across disciplines, schools and Colleges and our flagship Tyndall National Institute, while continuing our deep partnerships with Teagasc, the Health Service Executive and regional food, technology and pharmaceutical industries

At UCC, talented researchers, innovators, and entrepreneurs mine the frontiers of curiosity and inquiry at the very intersection of disciplines, securing our future through research excellence. UCC Futures provides the framework that encourages novel strategic partnership and supports those partners to think differently. This holistic approach integrates disciplines across learning and teaching, research, knowledge exchange and commercialisation. It results in the generation of robust, implementable, and translational solutions of impact and value for society and the planet, the need for which has never been greater.

Translating excellent research to tangible impacts is supported by UCC's development of an innovation culture and entrepreneurial campus that provides students, graduates, and staff with the ecosystem, supports and expertise to create successful new ventures that develop products and services of benefit to society. We are committed to supporting the delivery of equitable and sustainable research within the context of engaged and open practice across the entire UCC research and innovation ecosystem.

For close to 180 years UCC has been a magnet for researchers to come to Cork to seek innovative interdisciplinary synergies that inspires, engages, and enables a better future for all. UCC welcomes researchers who think radically, are inclusive and connect diversity of thought for maximum, sustainable, economic, societal, and cultural resilience, and prosperity.

Role Description

This title will apply to newly qualified Post-Doctoral Researchers and will be considered as a period of training as the researcher will have dual goals in terms of the research project and their own career development. The researcher will be mentored by a Principal Investigator (PI). It is expected that a researcher would spend not more than 3 years at the Post Doctoral level, subject to the term of the project and would then be eligible to compete for a Senior Post Doctoral post advertised by the University.

The primary focus of the Postdoctoral Researcher will be research however a particular emphasis during this stage should include:

- To analyse and interpret large-scale signal data from different sources
- To work with clinical colleagues to analyse data and to narrow down variables to be used in machine learning (ML)
- To undertake feature importance analysis of the datasets and develop methods for the development of synthetic data where appropriate
- To perform preprocessing and feature extraction on time-based signals for data analytics applications
- To implement digital signal processing (DSP) algorithms
- To develop ML models to interrogate physiological data and use our use existing methods and explore new ways to preprocess the signals, extract features, and combine in ML models using the dataset
- To develop deep learning approaches (CNN, Transformer, LLM) etc to estimate the risk of severe brain injury from the heterogeneous data available in this project
- To conduct a specified programme of research under the supervision and direction of a Principal Investigator/Project Leader.
- To engage in appropriate training and professional development opportunities as required by the Principal Investigator, School or College in order to develop research skills and competencies.
- To gain experience in grant writing.
- To engage in the dissemination of the results of the research in which they are engaged, as directed by, with the support of and under the supervision of a Principal Investigator.
- To become familiar with the publication process.
- To acquire generic and transferable skills (including project management, business skills and postgraduate mentoring/supervision).
- To engage in the wider research and scholarly activities of the research group, School or College.
- To interact closely with postgraduate research students who are studying for a Masters or a PhD and possibly have an agreed role in supporting these students in their day to day research in conjunction with an academic supervisor.
- To carry out administrative work to support the programme of research.
- To carry out additional duties as may reasonably be required within the general scope and level of the post.
- To contribute to costing research grant proposals and assist in the financial management of a research project.

Health & Safety: In addition to the statutory safety duties of all employees (as prescribed in safety legislation and the relevant local safety statement) each staff member is responsible for:

- Discharging any safety functions delegated to them by their Head of College \ School \ Department \ Centre \ Unit, in relation to the areas/ activities under their control
- Co-operating and assisting the University and the Head of College \ School \ Department \ Centre \ Unit in the discharge of their statutory safety responsibilities
- Ensuring that all work under their control, is undertaken safely and without risk to health and complies with the provision of all relevant statutory legislation

Note: *As the university continues to expand and evolve, it is likely that flexibility in regard to the allocation of specific duties will be necessary. Accordingly, the list of duties specified above is not intended to be exclusive or restrictive; duties may be added or withdrawn but any such alteration will take place after consultation with the appointee.*

SELECTION CRITERIA

The successful candidate will be expected to have:

Essential Criteria

- A PhD qualification.
- Appropriate research experience.
- Appropriate technical competence and accomplishment.
- A capability of working within a project team to achieve results.
- Good communication, organisation and interpersonal skills.
- A commitment to gaining practical experience working on a research project.
- Ability to work well within a team.

Please note that Garda vetting and international police clearance check may form part of the selection process.

Candidates are requested to make a personal assessment of these criteria against their own qualifications, skills and abilities to assess whether they should apply for the post

Please note: Candidates who do not demonstrate that they meet the criteria as detailed above will not be short listed.

The University, at its discretion, may undertake to make an additional appointment(s) from this competition following the conclusion of the process.

CONDITIONS OF EMPLOYMENT

Salary: €45,847 - €52,339 p.a. (IUA PD1 Salary Scale)

The rate of remuneration for all appointments may be adjusted from time to time in line with government policy.

Normal hours of duty are 39 hours per week with 60 minutes for lunch daily.

Annual Leave will be 23 days per annum. This leave is exclusive of public holidays and Good Friday. The leave year commences on 1 July annually and four days annual leave must be held for the Christmas closure period.

Sick Leave: Sick leave will be granted in line with University policy in this regard which may change from time to time. You should familiarise yourself with the University Sick Leave Policy and University Sick Leave Management Policy.

The **tenure** of the post is specific purpose whole time (for the duration of the award), based on the following provisions:

(a) A probationary period of **twelve** months shall apply from commencement of employment in the post during which the contract of employment may be terminated by either party in accordance with the Minimum Notice and Terms of Employment Acts, 1973 to 2001. The probationary period may be extended at the discretion of the University.

(b) Except in circumstances of gross misconduct justifying immediate dismissal, the appointee will receive one month's notice of termination of employment, or, if greater, such notice as is provided for in a minimum notice in terms of Employment Act, 1973.

(c) The appointee is required to give one months' notice of termination of employment.

(d) Under the Public Service Superannuation Act 2004, for all new entrants to the Public Sector on or after April 2004, the normal retirement age is 65. It is no longer possible therefore to retire before age 65.

Pension: The appointee will become a member of the Single Public Service Pension scheme, which provides personal retirement benefits as well as benefits for spouses and children. The contribution rate comprises 3% of pensionable remuneration and 3½% of net pensionable remuneration. Tax relief is accrued on these payments.

Additional dependants' benefits can be provided by membership of the **Supplementary Life Assurance Scheme**. You will be automatically included as a member of the scheme on commencement of your employment but you may elect to opt out of the scheme at any stage. The current membership rate is 0.26% of your salary.

Membership of the **Group Personal Accident Scheme** shall apply to all employees, subject to individual acceptance by the Insurance Company. The salary quoted is subject to a deduction from salary at the rate of .06%

The UCC **Income Continuance Plan** (ICP) provides a source of income in the event of long or short-term temporary disability. As part of your contract of employment you will be automatically included in the ICP with effect from the same date provided you have not previously opted out of the plan or you have been declined for cover under previous contracts of employment with UCC. The cost of membership of the plan will be deducted from your salary. The current membership rate is 1.05% of your salary.

The **Pay Related Social Insurance** Class A1 rate of Pay Related Social Insurance (PRSI) applies to the post.

Voluntary Health Insurance: A VHI/Laya/ Aviva Health/ HSA/GloHealth group scheme is in operation and contribution may be deducted from salary, with effect from the Scheme's renewal date (May of each year).

Additional benefits: We offer progressive employment and training policies including opportunities for further studies. Staff can avail of membership of a variety of clubs and societies and a wide range of facilities on campus, including a leisure centre.

As an equal opportunity employer we offer a comprehensive suite of flexible working and family friendly initiatives. A list of such initiatives is available on our webpage.

An offer of appointment to a candidate who does not have EU nationality is subject to the **granting of a Work Permit** by the Department of Business, Enterprise & Innovation. The following is a list of employments in respect of which an employment permit shall not be granted

<https://dbei.gov.ie/en/What-We-Do/Workplace-and-Skills/Employment-Permits/Employment-Permit-Eligibility/Ineligible-Categories-of-Employment/>

Please note that if you are considering applying for this post you must be able to supply proof of the right to work in Ireland. If you do not have the right to work in Ireland you would need to obtain a **work permit**. We are obliged by European law to appoint people who are citizens of the European Economic Area (EEA) where possible. Where there is no skills shortage for a particular post, it is highly unlikely that a work permit would be granted.

Candidates are requested to make a personal assessment against their own eligibility as to whether they should apply for this post.

Certificates and Testimonials: These documents should not be sent with the application. Candidates who are selected for interview will be requested to submit the necessary documentation.



How to Apply

Applications must be submitted online via the University College Cork vacancy portal <https://ore.ucc.ie/>. Queries relating to the online application process should be referred to recruitment@ucc.ie quoting the job-title.

Informal enquiries can be made in confidence to Informal enquiries can be made in confidence to Tom Meade, Programme Manager, INFANT Research Centre Email: tmeade@ucc.ie

For further information on the Department: [INFANT – A research centre focused entirely on pregnancy, birth and early childhood](#)

Candidates should apply, in confidence, **before 12noon (Irish Local Time) on Monday 28th April 2025**

Former Irish Public Service employees - Certain Restrictions on Eligibility

Eligibility to apply for a position may be affected where applicants were formerly employed by an Irish Public Sector body and previously availed of an Irish Public Service Redundancy or Incentivised Retirement Scheme including:

- Collective Agreement: Redundancy Payments to Public Servants
- Incentivised Scheme for Early Retirement (ISER)
- Department of Health and Children Circular (7/2010)
- Department of Environment, Community & Local Government (Circular Letter LG(P) 06/2013)

Applicants should ensure that they are not precluded from re-engagement in the Irish Public Service under the terms of such Schemes. Any queries should be directed to an applicant's former Irish Public Service Employer in the first instance.

Equal Opportunities Statement

University College Cork is committed to being a fully inclusive global university which actively recruits, supports and retains colleagues from all sectors of society. Equality, Diversity and Inclusion (EDI) are core values under our **UCC Strategic Plan 2023-2028**. UCC holds a **Bronze Athena SWAN** award in recognition of our commitment to advancing equality in higher education. We value diversity as well as celebrate, support and thrive on the contributions of all our employees and the communities they represent. We are proud to be an equal opportunities employer and encourage applications from everybody, regardless of age, care-giving status, disability, ethnicity, gender and/or gender identity or expression status, nationality, marital status/civil partnership, pregnancy and maternity, race, religion/creed, and/or sexual orientation. We are committed to supporting all staff through flexible working schemes, family-friendly policies, training and development, and staff networks. We value the enrichment that comes from a diverse community and seek to promote equality, prevent discrimination and protect the human rights of each individual in line with equality legislation. We encourage applicants to consult our **Dignity and Respect Policy** and learn more about our **EDI related initiatives**.

University College Cork is an equal opportunities employer. We encourage you to reach out to us directly should you require assistance or reasonable accommodation during the recruitment process.

UCC Graduate Attributes Programme

The Graduate Attributes Programme (GAP) is an integral part of our Connected University Strategy and is enabling the UCC community to write this chapter of our story, together. It is a transformative student-centric programme with the overarching objective of optimising the student journey and preparing our students to live, lead and learn in a shared, co-created future.

Further information on the UCC Graduate Attributes Programme can be found on:
<https://www.ucc.ie/en/graduateattributes/>





About Cork

Ireland's second city, proudly referred to by Corkonians as 'the Real Capital' is a forward-thinking, fast-growing and friendly city and an important business and cultural hub, making it a great place to live and work.

Home to 225,000 people, Cork is a cosmopolitan city set against a backdrop of stunning coastline, countryside and picturesque coastal towns. It is easy to get around and 60% of people in Cork get to work in 30 minutes or less.

Located at the second largest natural harbour in the world Cork is the heartland of Ireland's energy, food, pharmaceutical and ICT industries. Seven out of ten of the world's top pharmaceutical companies and Ireland's top four food companies are located in the province. UCC graduates make a critical contribution to the local talent pipeline that is at the heart of innovation and competitiveness for the region.

Cork is the fastest growing city in the country and has been ranked as one of Europe's top 25 cities of the future.

