



UCC

Coláiste na hOllscoile Corcaigh
University College Cork, Ireland

Nuálaíocht Innovation



IMPACT REPORT 2023



Riailtas na hÉireann
Government of Ireland



Arna chomhchistiú ag
an Aontas Eorpach
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Tionól Réigiúnach
an Deiscirt
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Enterprise
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Knowledge Transfer Ireland
Where Research & Business Connect

PROFESSOR JOHN CRYAN

VICE PRESIDENT FOR RESEARCH & INNOVATION

Welcome to UCC Innovation's Impact Report for 2023, highlighting the achievements of UCC researchers as they work to develop economic impact from their expertise, research and creativity. Creating an innovation culture and entrepreneurial campus is a core objective of our institutional strategy 'Securing our Future - UCC Strategic Plan 2023-2028', and we are proud to reflect on a very successful year for UCC Innovation, and look back on the impact created by our community of entrepreneurs, researchers and students, who have demonstrated exceptional creativity, pushed boundaries and inspired others to take the leap into the world of entrepreneurship. Through our ambitious UCC Futures programme, we work to build a foundation for economic, societal and cultural resilience and prosperity. UCC Futures will provide the positive and transformative environment to secure our collective futures through excellence in research and innovation.



DR SALLY CUDMORE

DIRECTOR OF UCC INNOVATION

2023 was a busy year of innovation and entrepreneurial activity across the UCC campus - thank you to the whole UCC ecosystem that has supported and nurtured this activity. In addition to the highlights in this report, 2023 also saw the introduction of new courses to introduce the concepts and lexicon of entrepreneurship to students and staff, such as the University-wide module on Entrepreneurial Mindshift for students in collaboration with CUBS and a Digital Badge in Innovation and IP for researchers and engineers, in collaboration with SEFS. UCC's future innovation pipeline is strong, with a number of high-potential spin-out opportunities in development.



Thank you to Knowledge Transfer Ireland and Enterprise Ireland which continue to fund expert staff and supports in UCC Innovation to help the whole UCC innovation ecosystem, as well as providing specific commercialisation funding to the research community to create products and services from their research to drive both economic and societal benefit.

45 (UDF) INVENTION DISCLOSURE FORMS RECORDED

35 GRADUATES ON IGNITE START-UP INCUBATION PROGRAMME

790+ STUDENTS IN ATTENDANCE AT INSPIRING ENTREPRENEURS TALKS

9 INCUBATION COMPANIES ONSITE IN GATEWAYUCC, SUPPORTING 65 JOBS

4 SPINOUTS CREATED

30 NUMBER OF PARTICIPANTS THAT COMPLETED THE SPRINT ACCELERATOR PROGRAMME

15 PATENTS FILED

100+ MEMBERS OF STUDENT COMMUNITY ENGAGED WITH 1 OR MORE ENTREPRENEURSHIP & INNOVATION EVENT

7 PATENTS GRANTED

29 NUMBER OF START-UPS SUPPORTED THROUGH THE IGNITE PROGRAMME

35 LOA

INSTANCES WHERE IP RESULTS WERE TRANSFERRED OR AGREED TO BE TRANSFERRED, FROM ONE PARTY TO THE OTHER FOR THE PURPOSE OF COMMERCIALISATION

54% MEN, 46% WOMEN PARTICIPANTS ACROSS UCC INNOVATION ENTREPRENEURSHIP PROGRAMMES

39 CONSULTANCY CONTRACTS WITH CLIENTS SPANNING ACROSS THE PRIVATE AND PUBLIC SECTORS IN IRELAND, ASIA, UK, USA, EUROPE

DEFENCE FORCES

Sexual Ethics and Respectful Relationships Programme delivered to the Irish Defence Forces

The Bystander Intervention Programme at UCC developed in 2016 by Professor Louise Crowley of the School of Law educates and empowers participants to recognise all forms of sexual harassment and violence and empowers them individually and collectively to make safe and effective interventions.

Following the Women of Honour revelations, a report was published by the Independent Review Group in March 2023 which identified the need for systemic behavioural change within the Defence forces. As part of the response to this the Defence Forces implemented a series of measure aimed at changing the culture. Delivery of the SERR Programme by UCC Experts will play a significant role initiating the programme.

UCC Consulting supported UCC's Bystander Intervention Programme to successfully tender for the delivery of a mandatory Sexual Ethics

and Respectful Relationships (SERR) training programme and has subsequently negotiated the contracts and invoicing for this project. Professor Crowley (Director) commenced the delivery of the consultancy project, delivering SERR 4-hour workshops, designed and developed by the Defence Forces to reflect the unique military environment, with expert input by Professor Crowley in September 2023, with a commitment to deliver 8 trainings per month over 9 months. The workshops are being delivered in-person by Prof Crowley at sixteen locations nationwide for the Irish Army, Air Corps and Navy.

This is the first training of its kind to be delivered within the Irish Defence Forces and Prof Crowley has embedded research in the delivery of the training in order to assess the participant learning experience, the impact of the training on understanding and capacity, and an assessment of evidence of attitudinal and cultural change amongst participants, and more broadly across the Defence Forces, insofar as is possible.



Brig Gen Ross Mulcahy and Prof Louise Crowley, UCC

TELEA

Telea (formerly Teletherapy), founded by Clare Meskill in 2020, is a MedTech company that provides voice therapy to individuals with Parkinson's disease via a care management platform. Parkinson's is the fastest growing neurodegenerative disease with 90 per cent of people with Parkinson's experience changes to their voice.

Through the app patients can get access to care at home, practicing in their own time, with real-time feedback from their speech and language therapists. Telea is designed to save time for speech therapists and reduce waitlists for patients.

Clare studied Speech and Language Therapy at UCC and initially came up with the idea for Telea during her third-year work placement. There, she witnessed first-hand the power of intensive voice therapy on adult patients with Parkinson's disease.

"I wondered why there wasn't a Duolingo or some sort of app where people would be getting this therapy all the time, so they didn't need to wait for an in-person session," she explains.

With her degree and a wealth of experience and training, Clare decided to turn her idea into a

business. She applied for and was accepted into the IGNITE programme.

IGNITE is open to recent graduates in any discipline and includes essential workshops and seminars, entrepreneur guest speakers, mentoring, funding and workspace offered on a flexible basis to provide the skills and knowledge to run a start-up.

"There was quite a structure in IGNITE, that we learned how to develop our roadmaps and set ourselves small targets along the way, to hold ourselves accountable. I think that whole process of development and creating milestones definitely helped," Clare adds.

Telea raised €700,000 in pre-seed funding in 2022 from Enterprise Ireland and private investors and brought on Dave Calnan (previously with Workvivo) as co-founder and CTO to lead the technical development. In 2023, they completed a successful pilot with the HSE, rolled out sites with the NHS in the UK and explored the US market. Over the next year, Telea will continue to onboard more clinics and become more established to maintain growth.



Co-founder & CEO Clare Meskill and co-founder & CTO of Telea, Dave Calnan.

WEST PHARMACEUTICAL SERVICES & TYNDALL NATIONAL INSTITUTE

In 2016, West Pharmaceutical Services and Tyndall National Institute began exploring ideas for developing wearable on-body drug delivery systems to overcome the challenges faced by patients using traditional syringes having to self-inject at home. Partnering with PA Consulting, the team focused on creating a concept that could one day be the standard in wearable drug delivery systems.

The 'smart' wearable drug delivery concept uses microneedle technology to painlessly deliver medication through the skin. Designed to give patients the ability to self-manage their medication, the prototype delivers doses in a timely manner meaning patients don't have to worry about remembering their drug regimen. This technology has the potential to be used across a range of chronic conditions, including autoimmune and cancer treatments, and enabling patients to self-manage their treatment in an at-home setting.

This research project uses precision microneedles to ensure correct depth of medication delivery into the skin, with embedded sensors providing dose control for patients during injection. The

working prototype also utilises innovative features such as a micro pump for precise fluidic control and connectivity to a smartphone app.

A patent application has now been submitted to protect the technology. Licence negotiation was professionally managed by UCC Innovation. The licensed patent confers legal rights to West Pharmaceutical Services concerning the exploitation of the technology.

The R&D for this technology was part-funded by the Enterprise Ireland Innovation Partnership programme and supported by IDA Ireland. Since the initiation of the collaboration with Tyndall in 2016, West Pharmaceutical Services has significantly expanded its R&D operations in Ireland.

The value of West /Tyndall collaboration to Ireland was recognised at the Irish Medtech Awards 2023 hosted by the Irish Medtech Association, Enterprise Ireland and IDA Ireland with the drug delivery device innovation being named a finalist in the 'Collaboration in Medtech' category.



NEUROBELL

NeuroBell, founded by Dr. Mark O'Sullivan, Dr. Alison O'Shea, and Colm Murphy, is a spin-out company from University College Cork and the Irish Centre for Maternal and Child Health Research (INFANT). NeuroBell aims to revolutionize seizure detection in newborns in NICUs, crucial for early intervention in brain injury cases like epilepsy and cerebral palsy. Their pocket-sized wireless brain monitor, utilizing embedded edge-AI, enables seamless and expert-free monitoring, enhancing care without extensive training needs.

CEO Dr. Mark O'Sullivan first embarked on his entrepreneurial journey through UCC Innovation's SPRINT Accelerator programme in 2019, supported by EI, Bank of Ireland, Cork City Council, and Cork City LEO. This program fast-tracks researchers from diverse disciplines through a 3-month intensive, preparing them from proof of concept to investment pitching. Mark further honed his skills in IGNITE, a start-up incubation program offered by UCC, in partnership with various entities, where he gained essential entrepreneurial skills and accessed practical resources.

In January 2024, University College Cork announced the spin-out of NeuroBell, as the company closed a €2.1M investment led by Furthr VC, Atlantic Bridge and HBAN MedTech Syndicate, with Enterprise Ireland and other private investors also investing in the round. The funding will enable NeuroBell to launch its ground-breaking technology for real-time and accurate detection of seizures in newborns needing additional care, enabling early intervention that can improve outcomes. To support its mission, NeuroBell will create 12 new jobs by 2025.

Speaking about his experience with UCC Innovation, Dr. Mark O' Sullivan said:

"UCC has supported us through every step of the journey, from early stage accelerators as a PhD student through to navigating the VC landscape."

Backed by the Enterprise Ireland Commercialisation Fund, NeuroBell is focused on FDA approval for its device's US launch in 2024, with subsequent entry into the European market. This funding will fuel product development, clinical trials, and team expansion, particularly in engineering, quality assurance, and business development. With an estimated two million newborns globally suffering from birth-related brain injuries, NeuroBell anticipates significant positive impacts on health outcomes and financial burdens, particularly in Ireland, where birth injury claims rank among the costliest for the HSE.



Dr Mark O' Sullivan, CEO and Co-Founder of Neurobell

INNOVATION HIGHLIGHTS IN UCC

FEB 2023 - IGNITE alum LegitFit wins Cork Chamber Emerging Award 2023

FEB 2023 - Cork-based Teletherapy raises €700k in Pre-Seed Funding

MARCH 2023 - Four UCC women founders awarded more than €3m in Enterprise Ireland Commercialisation Funding to translate their research into innovative companies

MARCH 2023 - UCC Innovation launches new Digital Badge in Innovation & Intellectual Property for Scientists and Engineers - the first of its kind in Ireland

JUNE 2023 - UCC student Emma Coffey wins Enterprise Ireland's Student Entrepreneur of the Year Award for her sustainable sportswear company, FinalBend

JUNE 2023 A former SPRINT participant Waleed Faisal and the ArrayPatch team announced winners of the 2023 Ideate Ireland competition

JULY 2023 - IGNITE alum Recruitroo secures €1M investment to solve global labour shortages

SEPT 2023 - PhD Walsh Scholar at Teagasc & UCC, Marion Cantillon of PitSeal, named Visa's She's Next Innovation & Technology Winner

SEPT 2023 - Mike McGrath, IGNITE alum & Co-founder of supermarket supplier platform Kwayga, raises €1M

SEPT 2023 - UCC Innovation and Cork University Business School (CUBS) collaborated on the design and delivery of a new University Wide entrepreneurship module in 2023 for undergraduate students

OCT 2023 - UCC spin-out company NeuroBell announced as winners of InterTradeIreland's Seedcorn Munster Final