

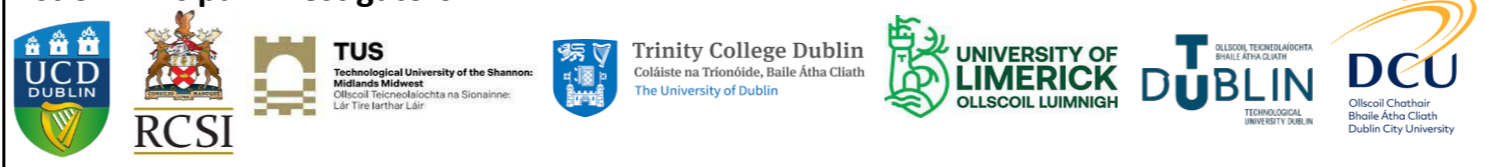






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1		Principal Investigators: PI Dated: 22/01/24 MedTrain+ List of FI for applicants V.3 Call 2 PI list				List of Principal Investigators 	 	  Co-funded by the European Union		
2	NO	PI	University	Emails	Title	Abstract	Resarch Theme	Keywords	Profile links	
3		1	Abhay Pandit & Claire Riordan	University of Galway	abhay.pandit@universityofgalway.ie & claire.riordan@universityofgalway.ie	Evaluating STEAM Approaches to Engaging Young Audiences	This research will evaluate the impact of CÚRAM's STEAM projects which use an investigative and creative approach to increase students' awareness of the relevance of science in their lives to identify ways this engagement model can be applied in other contexts to spark student interest in science.	Education & Public Engagement (EPE)	STEAM, public engagement	https://curamdevicesengage.ie/education-and-public-engagement-research/
4		2	Abhay Pandit & Claire Riordan	University of Galway	abhay.pandit@universityofgalway.ie & claire.riordan@universityofgalway.ie	Science Exhibits as STEM Engagement Tools	This research will evaluate 'SUPERHUMAN', CÚRAM's public exhibit at Galway City Museum. The research focus will examine the exhibit as a STEM engagement tool to help stakeholders engage with and understand the impact of medical device research. Stakeholders include; patients, medical device companies, teachers, students and community groups. Secondment Partner: To be determined	Education & Public Engagement (EPE)	STEAM, science exhibits, public engagement	https://curamdevicesengage.ie/education-and-public-engagement-research/
5		3	Adrienne.Gorman & Afshin Samali	University of Galway	adrienne.gorman@universityofgalway.ie & afshin.samali@universityofgalway.ie	Overcoming barriers for refugees and IPAs to access higher education	In Ireland, refugees and international protection applicants (IPAs) face huge challenges in accessing third level education, including financial, know-how, recognition of prior learning etc. This has long-lasting socioeconomic impacts. We will investigate the barriers and develop a programme for this cohort to more easily access higher education in Ireland. (50 words max) Secondment Partner: To be determined	Education & Public Engagement (EPE)	Education and Public Engagement; Higher education in Ireland; International protection applicants; Minorities; Refugees	https://www.universityofgalway.ie/our-research/people/biological-chemical-sciences/afshinsamali/
6		4	Aoife Morrin	Dublin City University (DCU)	aoife.morrin@dcu.ie	Elucidation of the dysregulation of the human volatilome in the presence of neurological disease	Continuous extraction of biochemical disease markers from the human body for analysis using wearable platforms could be addressed by exploiting the passive emission of volatile metabolites from skin. Understanding of the dysregulation of these metabolites in the presence of neurological disease including epilepsy and multiple sclerosis is of interest and could pave the way for personalised disease management leveraging medtech AI. Secondment Partner: Owlstone Medical	Neuroscience	Gas chromatography-mass spectrometry (GC-MS), analytical chemistry, volatile organic compounds, conformable, responsive biomaterials	https://www.dcu.ie/chemistry/people/aoife-morrin
7		5	Caroline McGregor	University of Galway	caroline.mcgregor@universityofgalway.ie	Science Advocacy	This inter-disciplinary project will advance science advocacy on the broader research ecosystem, bolster current trends towards more transparent, and equitable research to policy pathways and maximise its impact and reach. The project will be developed in partnership between CÚRAM and the Discipline of Applied Social Science within the Institute for Lifecourse and Society. Secondment Partner: To be determined	Science Advocacy	Science Advocacy, Science Policy	https://curamdevicesengage.ie/education-and-public-engagement-research/
8		6	Deepu John	University College Dublin (UCD)	deepu.john@ucd.ie	Early Seizure Onset Detection with Edge AI Devices	This project aims to develop techniques for the early detection of seizure onset. Leveraging real-time EEG signal analysis and machine learning techniques, rapid and accurate alerts will be generated for the user, enhancing the quality of life for individuals living with epilepsy and their caregivers. The developed techniques are to be demonstrated using an embedded or FPGA prototype. Secondment Partner: To be determined	NeuroScience: MedTech AI Machine Learning Medical Imaging and Soft Robotics	EEG, Machine Learning, Edge AI, Biomedical Sensing, Embedded Systems, FPGA prototyping	https://people.ucd.ie/deepu.john
9		7	Eadaoin Carthy	Dublin City University (DCU)	eadaoin.carthy@dcu.ie	Epilepsy monitoring via interstitial fluid biomarker detection	Seizures are the main cause of morbidity and mortality in epilepsy. This neurological disorder presents physiological changes leading to seizures, which can be monitored and treated accordingly. Our project aims to design cost-effective wearables to monitor specific biomarkers for early signs of epileptic episodes. (44 words) Secondment Partner (If any): Prof James P Landers, University of Virginia Secondment Partner: To be determined	Neuroscience	Wearables, Sensors, Continuous Monitoring, Epilepsy, electrochemical sensors, biomarkers	https://www.dcu.ie/mechanicalengineering/people/eadaoin-carthy
10		8	Elaine Harris	Technological University Dublin (TU Dublin)	Elaine.Harris@TUDublin.ie	Facilitating the translation of early stage medical device R&D	The translation of patient-centric R&D is challenging and associated with high risk of failure. We have developed a Regulatory Readiness Level (RRL) tool to assess the regulatory maturity of medical devices in development and are researching if it can provide appropriate regulatory support to researchers at early product development stages50 Words Secondment Partner: To be determined	Regulatory	Regulatory Framework, Early Development, Translational Activities	https://www.tudublin.ie/explore/faculties-and-schools/sciences-health/school-chemical-biopharmaceutical-sciences/people/elaineharris.php
11		9	Ellis Dowd	University of Galway	eilis.dowd@nuigalway.ie	Biomaterial-enhanced cellular brain repair for Parkinson's disease	The clinical translation of cell-based brain repair for Parkinson's has been impeded by the hostile environment encountered by cells after transplantation into the aged, diseased brain. This project will develop hydrogel-based approaches to provide transplanted neurons with a favourable microenvironment to maximize their reparative/reconstructive potential, and restore function to patients. Secondment Partner: To be determined.	NeuroScience: Biomaterials and Drug Delivery Devices	Parkinson's disease, brain repair, stem cells, biomaterials.	https://www.universityofgalway.ie/our-research/people/medicine/ellisdowd/
12		10	Gillespie Patrick	University of Galway	paddy.gillespie@universityofgalway.ie	Early Health Technology Assessment Modelling and Regulatory Approval of Medical Devices	Health Technology Assessment (HTA) is a multidisciplinary process that summarises evidence to inform regulatory and market access decision-making. Early HTA modelling considers early-stage medical, economic, social and ethical implications of technologies to determine their potential for incremental value. Outputs include quantitative estimates of measures of clinical and economic value, and qualitative synthesis of social and ethical implications. This project will apply early HTA modelling techniques to CURAM technologies. Secondment Partner: Potential collaboration: Novartis	Regulatory	Early modelling; health technology assessment	https://www.universityofgalway.ie/our-research/people/business-and-economics/paddygillespie/
13		11	Jessamyn Fairfield	University of Galway	jessamyn.fairfield@universityofgalway.ie		Public engagement with research is key to enhancing its impact, and arts-based approaches using theatre, comedy, and even dance have been shown to communicate and drive engagement with technical topics. This project involves design and evaluation of arts-based public engagement events, measuring impact on audiences and researcher participants using qualitative and quantitative methods. Applicants with backgrounds in either STEM fields, the social sciences, or the arts are encouraged. Secondment Partner: To be determined	Education & Public Engagement (EPE)		https://www.universityofgalway.ie/our-research/people/natural-sciences/jessamynfairfield/
14		12	Leo Quinlan	University of Galway	leo.quinlan@universityofgalway.ie	Targeted sympathetic nervous system ablation	AI informed bioimpedance mapping will target sympathetic ganglia for selective ablation. The project seeks develop an intelligent system to permeabilize neuronal membranes, leading to selective neuron ablation. This promises a novel method to modulate sympathetic activity, with implications for treating syncope, neurocardiogenic hypertension and a variety of vasomotor conditions. Secondment Partner: To be determined	Neuroscience	neuroscience, autonomic nervous system, vasomotor tone,	https://www.universityofgalway.ie/our-research/people/leoquinlan/

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15	13	Mark Smales	National Institute for Bioprocessing Research and Training (NIBRT)	Mark.Smales@nibr.ie	Generation of exosome-peptide-drug conjugates for targeted delivery to the brain	Extracellular vesicles (EVs) are nature's nanoparticles with the ability to cross the blood-brain barrier. This project will develop brain specific drug delivery devices through (1) conjugation of central nervous system (CNS) targeting peptides to drugs through chemical linker strategies, and (2) conjugation of peptide-prodrugs to mammalian cell derived EVs. Secondment Partner: To be determined	NeuroScience: Biomaterials and Drug Delivery Devices	Brain drug delivery devices, peptide-prodrug conjugates, extracellular vesicles, targeted delivery, nanoparticles5-6 words	https://www.kent.ac.uk/biosciences/people/1189/smales-mark
16	14	Michelle Roche	University of Galway	michelle.roche@universityofgalway.ie	Neuroimmune signalling as a therapeutic target for chronic post-surgical pain	Neuro-immune signalling plays a key role in chronic post-surgical pain associated with depression. This project will selectively target these signalling mechanisms using a variety of approaches, including novel drug eluting biomaterials, and examine effects on pain behaviour, electrophysiology and inflammation in preclinical animal models. Machine learning algorithms will be employed to assess pain responding. Secondment Partner: Potential collaboration:Transformation Ireland	NeuroScience: MedTech AI Machine Learning Medical Imaging and Soft Robotics	Pain, stress, emotion, behaviour, biomaterials, machine learning,	https://www.universityofgalway.ie/our-research/people/medicine/michelleroche/
17	15	Nicholas Dunne	Dublin City University (DCU)	nicholas.dunne@dcu.ie	Next-generation non-viral peptides for targeted biologics delivery across blood-brain barrier	Biologics hold promise for treating neurological disorders, but the blood-brain barrier limits their effectiveness. Targeting receptor-mediated transport (RMT) systems can enhance biologics' access to the brain. This project will use protein predication software and modelling tools to rationally design a new family of non-viral peptides based on specific amino acid characteristics to mediate effective transport of biologics to the brain via RMT. Secondment Partner: Professor Helen O. McCarthy (Professor of Nanomedicine) at Queen's University of Belfast and CEO/Founder of pHion Therapeutics.	NeuroScience: Biomaterials and Drug Delivery Devices	Neurological disorders, blood-brain barrier, non-viral peptides, drug delivery, artificial intelligence	https://www.dcu.ie/medeng/people/nicholas-dunne
18	16	Olga Baron	University College Dublin (UCD)	olga.baron@ucd.ie	Organoid-on-chip device to study sensory neuron to brain communication	The goal is to develop a medical device using organ-on-a-chip technology - as a miniature model of human disease - that will be used to identify optimal (potentially patient-specific) treatments. A major healthcare issue is the lack of effective drugs to treat sensory pathology in neurological disorders. Existing drugs are not universally effective, and their side effects often contribute significantly to morbidity. This problem stems from the limitations of conventional animal models and cell cultures, which do not accurately replicate human biology. Ethical concerns over animal experiments and societal pressure to reduce their use have further driven the need for new approaches to drug development and personalized medicine. Organ-on-Chip is a microscale technology that closely mimics human physiology, especially when using human cells, and holds promise for addressing these challenges by representing human tissues and organs in normal or pathological conditions. Secondment Partner: To be determined	NeuroScience:Immuno Engineering	Pain, Parkinson's disease, sensory pathology, tissue engineering	https://people.ucd.ie/olga.baron
19	17	Patricia Scully	University of Galway	patricia.scully@universityofgalway.ie	Smart surfaces using AI to detect early onset neurodegenerative conditions.	Smart deformation sensor using laser written graphene grid inside flexible polymer to monitor gait, balance and mobility. Spatiotemporal sensor data generated, can detect mild cognitive decline indicating prodromal neurodegenerative diseases such as Alzheimer's and Parkinson's. Convolutional neural networks are used to relate spatio-temporal gait data to clinically relevant biomarkers. Secondment Partner : E4Structures Ltd, a UK company creating smart flooring and advanced composite structures from polymers.	NeuroScience: MedTech AI Machine Learning Medical Imaging and Soft Robotics	Smart floor, deformation, neurodegenerative, Parkinson's, Alzheimer's, mild cognitive impairment.	https://www.universityofgalway.ie/our-research/people/natural-sciences/patriciasscully/
20	18	Ruairi Brannigan	Dublin City University (DCU)	ruairi.brannigan@dcu.ie	Fabrication of novel muco-adhesive/penetrating nanocarriers for nose-to-brain drug delivery	Project 1: Nearly one in six of the world's population suffers from various brain disorders, including Alzheimer's and Parkinson's disease, epilepsy, and multiple sclerosis. The development of novel polymeric nanomaterials which exhibit mucoadhesive and mucus-penetrating properties is of particular interest due to their ability to enhance transmucosal drug delivery to the brain. Secondment Partner: Vectura	NeuroScience: Biomaterials and Drug Delivery Devices	Project 1: Mucoadhesion, transmucosal drug delivery, nanomaterials, synthetic polymers	https://www.dcu.ie/chemistry/people/ruairi-brannigan
21	19	Tom Melvin	Trinity College Dublin (TCD)	MELVINTO@tcd.ie	Bioimplement – Research on the barriers and success factors to delivering clinical investigations and implementation of innovative MedTech in Ireland	Research to understand the critical barriers and success factors for developing compliant clinical development strategies and conducting clinical investigations in Ireland is relevant in light of Regulation 745/2017 (MDR), which is changing market dynamics for medical devices in significant ways. This can further enhance Ireland's attractiveness for MedTech research. Secondment Partner: To be determined	Regulatory	Medical device, clinical research, implementation science	https://peoplefinder.tcd.ie/Profile?Username=MELVINTO