SFI Discover Programme Projects

* Denotes Regional or National Initiative with up to two-year funding

Project Title	Lead Organisation	Project Description	Award Amount
AI In My Life: AI, Ethics & Privacy Transition Year Workshops	Dublin City University (DCU)	'AI in My Life' will engage 500 Dublin teenagers from disadvantaged backgrounds in a 15-week (20-hour) co-created, interactive workshop series encouraging them to reflect on their experiences in a world shaped by artificial intelligence, personal data processing and digital transformation. Students will be empowered to evaluate the ethical and privacy implications of AI in their lives, to protect their digital privacy and to activate STEM career and university awareness. It extends the 'DCU TY' programme for innovative educational opportunities for Transition Year students from underrepresented communities in higher education. Privacy and cybersecurity researchers and public engagement professionals from the SFI Centres ADAPT and Lero will join experts from the Future of Privacy Forum and the INTEGRITY H2020 project to deliver the programme to the DCU Access 22- school network. Each partner brings proven training activities in AI, ethics and privacy. A novel blending of material into a youth-driven narrative will be the subject of initial co-creation workshops and supported by pilot material delivery by undergraduate DCU Student Ambassadors. Train-the-trainer workshops and a toolkit for teachers will enable delivery. The material will use a blended approach (in person and online) for delivery during COVID-19. It will also enable wider use of the material developed. An external study of programme effectiveness will report on participants': -Enhanced understanding of AI and its impact. -Empowerment to protect privacy. -Growth in confidence in participating in public discourse about STEM. -Increased propensity to consider STEM subjects at all Levels. -Greater capacity of teachers to facilitate STEM interventions	€42,262
Appetite for Knowledge	University College Cork (UCC)	Food is at the epicentre of human life and experiences, and can be used to represent health, wealth, culture and relationships. In recent years, our knowledge of food has been informed by various media, often conflicting and often creating further disinformation and disengagement between society and food. The distance between knowledge of food-nutritional-agricultural sciences and its perception in society and media has grown expansively, with many internet/media fora disregarding scientists and health professionals as scaremongers. "Appetite for Knowledge" is a science communication forum for young people to explore and chat about food-nutritional agricultural sciences through their chosen creative presentation styles, with a simple goal of sowing a seed of awareness, engagement and empowerment amongst the next generation. Often, our relationship with food is constructed by our parents, family and peers and these views can have an enormous effect on health and wellbeing throughout life. By engaging directly with school students, an audience which is often vulnerable to misinformation regarding healthy food and nutrition, this project will allow them to take leadership of the topic and will facilitate their discussion in a creative and communication-driven forum. With global challenges around the accessibility of healthy, sustainable and economically-valued food, many of which are specifically called out in the UN Sustainable Development Goals, this project represents a timely and impactful platform to create a positive self-directed, learning experience for young people, along with providing them with exposure to education and career opportunities within food-nutritional-agricultural sciences	€26,590

Project Title	Lead Organisation	Project Description	Award Amount
Cell EXPLORERS	National University of Ireland, Galway (NUIG)	Cell EXPLORERS is a successful science Education and Public Engagement (E&PE) programme delivering STEM activities regionally and nationally (www.cellexplorers.com). It uses a unique model for sustainable E&PE in Higher Education Institutions (HEIs) where student and staff volunteers, locally deliver outreach activities to school children and the Irish public. It has the dual benefit of engaging children and the public whilst developing key graduate student attributes and researchers' public engagement skills in a way and at a scale unique in Ireland. This project will support the Cell EXPLORERS national network made of 13 existing partner teams located in Connacht, Munster, Leinster and Ulster. Using co-learning generated during its previous expansion, the network will run school visits in their geographical areas, reaching 15 counties across the 4 provinces of Ireland. Partners will have more options to run activities in contexts best tailored to their team, including with youth groups and remotely, allowing them to achieve sustainability and better reach those who do not typically engage with STEM. Importantly, this project will use the programme's recent research and evaluation findings, guided by one of the experts of the Science Capital Teaching Approach, to achieve the revision of both the classroom intervention and the team member's training. This study, impossible to obtain by standard evaluation, will allow the programme to maximise impact, to put in place a sustainable evaluation of for future delivery, and to develop best practice of the dissemination of E&PE activities to schools, or other informal settings involving brief interactions.	€267,636*
CoCoA: Co-create Collaborate Activate - Advancing Computational Thinking Education	Maynooth University	At its core, computer science is a science of problem solving, reinforcing the scientific method necessary to support other subjects in the STEM family. Universities in Ireland have recently recognised Leaving Certificate Computer Science as a science subject for entry into 3rd level. This implicitly recognises the value of computer science as a STEM subject which helps to train students in logical thinking and the scientific method in general. Bebras tasks teach computational thinking (CT) strategies. They have been carefully developed over the past 14 years by an international team of 100+ established computer science educators. These problems have proven to be remarkably inclusive, across gender and culture. They are the perfect tool to reach out to teachers, students, and parents at multiple levels and ages to get them to engage with CT. The CoCoA project will employ our expertise and networks to adapt these problems in a novel way, to facilitate teamwork, develop communication and related language skills, and promote problem-solving skills through physical activity. We will work with our rapidly expanding Community of Practice (CoP) to co-create teaching and learning resources that engage our target audience with CT. These resources will include lesson plans, resource books, and a suite of active games to encourage physical activity, communication, and teamwork. Resources will be co-developed and promoted through our teacher workshops and school visits. The net result will be increased teacher, student, and parent interest and a correspondingly enhanced involvement in STEM subjects.	€149,375*
Curiosity Accelerator 2021 & 2022: Prototyping Excellence & Scaling Impact	The Festival of Curiosity Ltd	The Curiosity Accelerator is Ireland's first science communications accelerator engaging over 500 science communicators every year. It develops capacity for the delivery of STEM Education and Public Engagement by scaling the quantity and quality of events and activities. The accelerator supports the development of science capital through prototyping new and innovative science communications ideas that can be accelerated into cultural institutions and pre-existing STEM initiatives across the island. It is a year-round complementary project to The Festival of Curiosity, one of Europe's most exciting and innovative international festivals of science, arts and curious technology. Over the next two years, we will double the reach of the Curiosity Accelerator to over 2,000 science communicators and indirectly impact up to 200,000 members of the general public. We will undertake two strategic objectives: 1. Prototyping Excellence - Build on the successful launch of the PROTOTYPE programme in 2019 by prototyping new engagement ideas that are innovative and engaging as well as having a firm STEM foundation, especially in a post-COVID 19 world. 2. Scaling Impact - Expand the reach of the Curiosity Accelerator projects to disconnected audiences outside of Dublin and continue the development of best practice in engaging non-traditional audiences.	€300,000*

Project Title	Lead Organisation	Project Description	Award Amount
		The Curiosity Accelerator has been evaluated independently in 2019 and 2020 demonstrating positive impact on participants, the general public and the broader STEM community and cultural institutions. The Curiosity Accelerator supports the development of a truly world class science communications sector in Ireland.	
Cyber Academy	Munster Technological University	There is a significant lack of awareness and skills around cybersecurity in society in general, and amongst young people in particular. Furthermore, Ireland has a dire shortage of cybersecurity professionals, which is placing our digital economy at risk. The Cyber Academy is a series of fun and engaging activities for young people (11-18 year olds) to help them explore their passion for tech by introducing them to the world of cyber security: 1. Through the Cyber Summer Camp, students will explore general topics like personal information security and data sharing, technical topics such as cryptography and network security; while discussing the impact of cyber security on society. 2. Career talks from Cyber security professionals, from diverse roles and backgrounds, aim to change the perception of cyber security to an aspirational, mainstream career option for young people from all backgrounds. 3. The National Cyber Schools Challenge (NCSC) is a fun, national competition to test students skills as a hacker and learn cyber security skills, open to all ages (11-18 years) and no IT-background is required. The Cyber Academy is preparing the next generation to contribute to Ireland's economic growth and as a safe and secure place to live and work by promoting science and technology among school students, reducing gender imbalance in this field and improving proficiency in computer science among its trainees.	€49,685
DALIDA: DAta LIteracy Discussion workshops for Adults	Trinity College Dublin (TCD)	Data literacy is a skill in which many adults are not proficient, and it appears that learning opportunities are limited. However, data literacy is essential in assessing and comprehending information presented in various media (ranging from politicians presenting data to global stories about COVID19 deaths). Data literacy implies critical thinking, and the skills involved are crucial to becoming responsible, involved, and contributing members of society. An understanding of data literacy should, therefore, be accessible to all. We will design and deliver novel workshops on data literacy that will help the public acquire an awareness of how to think critically about data and its provenance and presentation. While open to the general public, the workshops are designed with, and developed for, people from socially, economically, or educationally disadvantaged groups as they are more prone to struggle with data literacy. Co-creation will ensure that the format and material resonate with the target audience. Outputs include the organization of two co-creation events, one pilot workshop, and five workshops. We will make available a white paper summarizing the workshop's discussions and results, an external evaluation of the events, and the workshop materials. The workshops' outcomes are increasing awareness and appreciation of data literacy (and STEM skills involved), its importance and relevance at the individual and societal level, and providing participants a starting point to encourage skill development. The workshops provide a forum through which adults learn about and interactively discuss data literacy, learning from researchers at one of Ireland's leading technology research centres.	€41,785
Digital Well-being and teenage social media engagement	University of Limerick (UL)	Building on a request from the Clare Young People's Service Committee, the Department of Psychology in UL aims to engage with 3 secondary schools for the development of a Digital Detox Intervention (DDI). The intervention will develop modules for Transition Year (TY)students and aims to promote students' well-being by increasing their research skills and awareness of the effects of social media on adolescents. There are 3 steps of the DDI: promoting and designing research projects with the TY-students, running a peer-led intervention for digital awareness, and finally evaluating their intervention.	€49,979

Project Title	Lead Organisation	Project Description	Award Amount
		First, 60 TY-students will work with UL researchers in an 8-week research module for exploring the relationships between using social media and adolescent development. Basic research methodology (i.e., literature search, ethics, data-collection) will lead the TY-students to design their own research questions and hypotheses. Secondly, TY students apply their research skills by recruiting 90 non-TY-students to participate in an 8 week "Be Aware Program". Participant students will systematically monitor and reduce their Social Networking Sites and social media engagement. Weekly reports on participants' online behaviours will be recorded by the TY-students, who will coordinate small groups of 3 non-TY-students, leading discussions and raising awareness of on-line and off-line activities, digital detox and peer-support. Lastly, TY-students in collaboration with UL researchers analyse the collected data to evaluate the "Be Aware Program". Basic statistical skills (i.e., means and frequencies, mean comparisons and correlations) will be used to test hypotheses developed in the first phase of this project.	
Dingle Peninsula 2030 - A Model Enabling Community-led Climate Action	University College Cork (UCC)	Established in 2018, Dingle Peninsula 2030 is a multi-partner initiative on the Dingle Peninsula, Co. Kerry, involving the Dingle Creativity and Innovation Hub, ESB Networks, North East West Kerry Development (NEWKD) and MaREI, the SFI Research Centre for Energy, Climate and Marine. The premise of the initiative is based on the Quadruple Helix Model involving science, policy, industry and society. Partners actively collaborate with the local community, schools, business, transport and farming sectors to enable the broader societal changes required for the sustainable transition. Dingle Peninsula 2030 has successfully demonstrated a collaborative co-created approach to STEM engagement and community based climate action, which provides an ideal platform for up-scaling and amplified impact, from local to national levels. This proposal aims to: • Strengthen legacy structures in Dingle Peninsula 2030 to ensure continued impact, enabled by a community engagement coordinator • Share learning with other communities and stakeholders nationally via knowledge sharing events and multi-media outputs • Develop good practice toolkits (including frameworks, 'how to guides', case study) on: a) engaged research in STEM and associated evaluation methods b) collaboration and co-creation processes, and innovative engagement methods It will: 1. Support new and existing Dingle Peninsula 2030 projects through their early stages and into implementation phases, with a clear focus on community involvement and engagement 2. Build capacity for STEM engagement in community-based climate action, by maximising citizen participation in the sustainable transition, and sharing learnings nationally 3. Identify good practices for engaged research, engagement methods and co-creation in STEM	€282,045*
Eco Showboat Expedition 2021	School of Looking	The Eco Showboat is a floating environmental science laboratory and art studio, bringing communities, scientists and artists together across Ireland to observe, draw, photograph and film fresh water biodiversity through workshops at the waterside – raising awareness of our precious fresh water resources, sparking conversations on how society benefits from waterways and the challenges we are facing to protect them. The project is inspired by Irish historical scientists Mary Ward and John Tyndall, who used drawing of nature to popularise science among non-specialist audiences. This ecological vessel, completely sustainable in energy, will tour the inland waterways documenting biodiversity in the littoral, riparian and photic zones of the waterways with communities, exhibiting these through partnering organisations, sharing sightings with the National Biodiversity Data Centre in County Waterford through the Citizen Science Portal, and encouraging communities to do so too.	€49,510

Project Title	Lead Organisation	Project Description	Award Amount
		The project supports STEM learning widely, engaging with biology and the environmental sciences as well as developing skills and opening up career pathways. The Eco Showboat will travel on the waterways for two years. This SFI award will support delivery of STE(A)M workshops during the first year in counties along the Shannon and the Grand Canal. The project is led by School of Looking. The venue is a heritage barge from Waterways Ireland, renovated through a grant from DCC Water Framework Directive, powered by renewable energy, and fitted out with laboratory equipment from LAWPRO. The project is supported by organisations countrywide: local authorities, research centres, universities, and environmental agencies.	
Educational platform for Irish beekeepers (EDIBEE)	Federation of Irish Beekeepers' Associations (FIBKA) CLG	This project will engage with beekeepers and the public from a science, technology, engineering and maths perspective (STEM). Specifically, we will: i) Organise 'train the trainer' hands-on workshops, both in the laboratory and in the field, that are designed to develop the capacity to continue the education beyond those at the workshops and beyond the lifespan of the funded project. Representatives from beekeeper's associations from each county will attend, to support continued dissemination of good beekeeping practices nationwide and to provide support/training to the trainers in passing on their knowledge in an effective manner. They in turn will bring those skills back to their own beekeeping associations and pass them on so the next generation of beekeepers will carry forward the legacy of this project. ii) Organise workshops to include engineering, technology and industry in conjunction with beekeeping (STEM) to introduce the other skills that can be used with beekeeping to engage with technology. iii) Produce a series of short videos that capture the practical and theoretical elements of the science and technology behind good beekeeping practices. iv) Supplement the short videos with short engaging online lectures that will also include additional resources. v) We will publish these educational materials on our online platforms to make them freely available to beekeepers and the general public.	€53,650*
ELI Community Blended STEM Family Learning and Coding Project	National College of Ireland (NCI)	ELI has run Coding Clubs since 2016 in DEIS primary schools and afterschool services in Dublin's Docklands, with 198 children participating in 2019/20. Programme evaluations demonstrate increases in positive learning dispositions towards STEM. COVID-19 highlighted the need for more parental engagement, family learning activities and co-creation with parents of a home-based programme to support children's STEM, computational thinking and coding skills. ELI Community Blended STEM Family Learning Project Aims: -develop young people's understanding, knowledge and skills in coding, computational thinking, ICT and STEM through enjoyable learning experiences -inspire and support young people to learn how to create technology -enhance creativity and problem solving - at home, school, community -encourage collaboration, peer to peer mentoring and project work - raise young people's STEM educational and career aspirations - develop family STEM curriculum with parents to support their role as home educators - promote family and community engagement with STEM learning - upskill professionals around STEM programme delivery. Actions: -co-create with parents STEM Family Learning through eLearning support and activity packs -co-create a career module with parents and professionals, which incites dynamic interesting conversations -in collaboration with teachers, adapt Coding Club content, methodology and delivery to the challenges of COVID-19; introduce computational thinking, problem-solving and creativity. -showcase events to increase children's curiosity and engagement with STEM	€50,000

Project Title	Lead Organisation	Project Description	Award Amount
		-pilot above activities through blended delivery at home, primary schools and afterschool services. -information and training sessions for parents and professionals on the importance of STEM and ICT proficiency post COVID-19 will be incorporated into each programme	
Ensuring equity of access to a STEM placement programme	University College Dublin (UCD)	This project invites 15 and 16 year olds from all backgrounds to experience the daily life of scientists working at world leading research institutes. Postgraduate researchers at the Conway Institute of Biomolecular and Biomedical Research and Systems Biology Ireland in University College Dublin will be trained to deliver activities for pairs of transition year pupil 'buddies' for a week, training them in lab techniques and working with pupils on their research projects. Pupils will visit cutting edge research facilities and hear about the variety of careers available to scientists. Through practical work and talks the pupils will learn that science works as a global, multidisciplinary enterprise to solve great challenges. The innovation of this project is that it is co-designed with the UCD Access and Lifelong Learning Centre specifically to include those who are most excluded. It includes practical measures to remove barriers to access. Pupils from 17 UCD Access-linked schools with high concentration of pupils from low socioeconomic backgrounds are invited to take up places first. This is a pilot project to explore specific mechanisms to engage pupils from low socioeconomic backgrounds and inspire them to pursue STEM subjects and careers. It builds on the institutes' records of offering high quality hands-on curriculum-linked lab experiences in the Amgen Biotech Experience and is co-funded by that project. We will produce a best practice guide to supporting postgraduate researchers to deliver an ambitious STEM education and public engagement activity for less represented children.	€49,563
Epilepsy in English Workshops	RCSI University of Medicine and Health Sciences	Our project comprises four workshops, with accompanying online resources, aiming to educate, equip and empower contributors to co-create fully-engaged research. Specifically, our aims are to: 1) Educate contributors about the research process by increasing awareness and understanding of the available literature. 2) Equip contributors with the knowledge and tools to create fully engaged research. 3) Empower and enable contributors to become engaged in basic and translational epilepsy research. These aims will be achieved through a combination of interactive workshop sessions, alongside World Café-style agenda setting methodologies, to maximise inclusion, engagement and co-creation, accompanied by complementary online learning resources which will be freely available to all. The project has been co-created by the FutureNeuro SFI Research Centre, Epilepsy Ireland, DCU PPI Ignite and a person with epilepsy, and builds upon the successful 'Epilepsy in English' initiative. Workshops, hosted in easily accessible FutureNeuro third level institute partners, will take place in four distinct geographical locations throughout Ireland which have been identified by SFI as having lower STEM engagement. Each aspect of the workshops has been tailored in order to maximise accessibility, inclusion and outcomes for all contributors, including the provision of travel bursaries to enable attendance. This project will ultimately build an Ireland-wide epilepsy community comprised of all stakeholders, which builds capacity for co-creation of fully-engaged research models that will form a case study that can be applied on a global scale.	€40,210
Exploring Digital Citizenship	Limerick Institute of Technology (LIT)	On the 12th of March 2020, Ireland was thrown into a new stay at home norm. Families were required to communicate via digital technologies. The elderly were asked to remain at home introducing activities such as online shopping, social media, and entertainment. Education followed a new trajectory with stakeholders being exposed to a new mode of virtual education. Patients were asked to communicate with doctors via virtual consultations. Governments were required to regulate remotely, Businesses were forced to engage online for survival Finally technology and data science was paramount in the fight against this disease, we were able to track the spread of this disease and combat it's destruction. Although many lives were lost, many too were saved.	€49,717

Project Title	Lead Organisation	Project Description	Award Amount
		Unknown to each of us we adopted a new form of citizenship: a Digital Citizenship which would replace all previous forms of social interaction at least for the foreseeable future. It became evident that the use, understanding and confidence with digital technology was a necessity for every Irish Citizen. This pandemic or indeed any unforeseen future scenario will require every citizen to have a minimum proficiency in digital technologies and indeed Digital Citizenship. This project proposes to ensure that Irish Digital Citizenship is understood and aims to prepare our citizens for engagement in the rapidly changing Social, Economic and Education environments in which we live. It aims to demonstrate how participants' exposure to technologies, their use and understanding can build individual confidence, supporting and changing the way we live forever.	
FameLab Ireland 2021	British Council Ireland	FameLab is the only international science communication competition designed to discover, train and nurture scientists and engineers to share their enthusiasm for STEM with the public in fun, creative ways. Since 2005, FameLab has cultivated 14500+ communicators from 35+ countries. In only seven years, FameLab Ireland has grown beyond recognition into a leading national science communication programme, combining a unique blend of capacity building, competition and public engagement. In 2021, we will consolidate this success and in so doing, will continue to inspire confidence, awareness and engagement on science among the Irish public. Working through our 80+ dynamic alumni (45% female) and quality partnership (25+ multi-sector organisations), planned activities include: -Competition where emerging scientists (age 18+) have 3 minutes to explain a scientific concept to a general audience. Live public heats within arts/community venues in Cork/Galway/Limerick/Dublin, a nationwide video competition and public national/international finals streamed globally -Science communication taster training for all participants-115+. World class sci-comm masterclass-10 finalists -Ambitious marketing strategy including future science snapshot films (e.g., future living, women and STEM), alumni blog series, FameLab Ireland YouTube channel (260+ talks) and social/mainstream media campaigns to encourage greater public confidence and interest in STEM-1.8 million+ reach -More confident, skilled alumni network involved in 18+ FameLab partnered sci-comm activities nationally/internationally (Pint of Science, Psychslam, SCICOM etc) FameLab will target SFI priority areas/groups/themes and will directly engage 875+ STEM professionals and 35k+ general public audiences. Given Covid-19 context, all 2021 activity will be delivered through tried and tested digital methods if/as needed.	€49,500
Futurewize	Junior Achievement Ire Ltd	Futurewize is a collaboration between second and third-level education and STEM industries targeting first and fourth year second-level students (13 and 16-year-olds). Futurewize encourages and retains interest in STEM, first year students participate in Futurewize, a five module STEM programme facilitated in class, virtually or in person, by volunteers from STEM industries, culminating in a career planning session. Through Futurewize, students learn about aeronautical engineering, forensic and environmental science through interactive activities and experiments inspiring curiosity and confidence in the scientific method. Fourth year students participate in Futurewize Third-Level taking them out of their classrooms and into third-level institutes to meet relevant STEM role models who help them to: • understand the prospectus • participate in STEM careers workshops facilitated by STEM industry role models • learn how Third Levels are addressing health and societal issues created by Covid-19 • create a SMART plan for their futures. Developed via co-creation with key stakeholders, Futurewize Third-Level encourages 16-year-old students to take STEM subjects for their final exams, understand the scope of STEM careers, how STEM solves global/societal issues and breaks down negative stereotypes around STEM careers. Futurewize Targets: • 60% female participants • 60% participants attend DEIS schools SFI research demonstrates females and students attending DEIS schools are less engaged with STEM.	€185,810*

Project Title	Lead Organisation	Project Description	Award Amount
		• 7,593 students In 2021-2022 5,993 first year students will continue to receive Futurewize and 1,600 fourth year students will participate in Futurewize Third-Level. Importantly Futurewize Third-Level targets those first year students who participated in Futurewize in 2018/19.	
Girls Coding - CodePlus	Trinity College Dublin (TCD)	CodePlus involves a partnership between NUI Galway, UL and TCD to enhance the existing CodePlus project, which has been running in TCD since 2015, and will roll it out over a two year period for national impact. It will take advantage of the fact that students, and schools, are now much more comfortable with on-line environments to extend the reach of the project. In Ireland, participation in computing degrees, and subsequent careers, is much lower in females than in males, signifying a gender imbalance within this field. CodePlus seeks to address this imbalance by encouraging, facilitating and providing opportunities to teenage female students to engage with Computer Science. It will do this at a number of levels to enable them to make more informed decisions about further education courses and ultimately careers in this field. CodePlus will: i) Offer purposefully designed coding workshops (20 hours in duration) to cohorts of female students. The workshops use a collaborative project based approach to teaching & learning which has proved effective in helping learners engage with CS and more general 21st century skills. Due to COVID restrictions, both face-to-face and online modes of delivery will be available. ii) Collaborate with tech companies to organise interactive webinars for students to engage with female IT professionals. iii) Work with tech companies to organise visits, for students, to company offices for tours and talks with female IT professionals (subject to COVID restrictions). iv) Systematically track the impact of the interventions on participants (short and long-term impact).	€214,628*
Human Lab at Electric Picnic 2021	Schweppe Curtis Nunn Limited	The Human Lab will manifest itself as a colourful, bold and brand new STEM engagement hub at Electric Picnic - Ireland's biggest annual outdoor music and arts festival. The festival will welcome an audience of 70,000 people to Stradbally Hall, Co. Laois between 3rd and 5th September 2021. The Human Lab will be designed as a dramatic, eye-catching 200 person capacity venue and will present across the weekend in partnership with Science Gallery, Dublin some 24 hours of compelling STEM programming. The Human Lab will form part of the MindField spoken word/ intelligent entertainment arena of Electric Picnic which also includes venues dedicated to podcasts, theatre, politics, writing and ideas. The Human Lab programme will be specifically tailored to an audience of 18-25 year olds featuring compelling, interactive events addressing, for example, the socio-economic impact of pandemics, the vital importance of vaccines, the future of work and visions of our future society. Other themes will explore ecology and the environment; big data and privacy; the neuroscience of social media; mental health and much more. Expect live experiments which involve and engage the audience and new formats such as the Conspiracy Theory Show in which leading scientists debunk common conspiracy theories and junk science. The Factory of Thought will provide a real time intranet commenting facility during all talks which will enable audience members to vote on issues and contribute to a permanent online manifesto of The Human Lab.	€25,000
Igniting Curiosity in STEM: IET FIRST LEGO League	The Institution of Engineering and Technology	IET FIRST® LEGO® League is a STEM programme which inspires children and young people from the ages of 4-16 to understand and shape the world that they live in, in a more sustainable, equitable and inclusive way. Through three exciting, hands-on, creative STEM programmes, IET FIRST LEGO League ignites a lifelong interest in STEM, challenges stereotypes of STEM as dull, too technical and only for boys. It inspires the next generation of budding scientists and engineers, from a wide range of backgrounds. Participants gain real-world problem-solving experience through a guided, global STEM programme, helping today's children and their teachers build a better future together. Each programme —Discover, Explore and Challenge— is carefully tailored to its target age group, enabling children and young people to develop a broad range of practical and soft skills over time.	€299,300*

Project Title	Lead Organisation	Project Description	Award Amount
		This unique engagement model offers multiple, and most importantly, equal routes to engagement through classrooms, afterschool, youth organisations, libraries and more. IET FIRST LEGO League is about so much more than technical skills. The FIRST Core Values of Discovery, Innovation, Impact, Inclusion, Teamwork and Fun underpin the programme and are given equal emphasis to the practical tasks. This initiative aims to expand IET FIRST LEGO League in Ireland to offer any child or young person who wishes to participate the opportunity to do so. Through engaging with Teachers and Leaders and removing barriers to access, this project will create stimulating learning environments for young people to discover STEM through formal and non-formal pathways.	
I'm a Scientist and I'm an Engineer Ireland	Gallomanor Communications	I'm a Scientist (IAS) and I'm an Engineer (IAE) are online, student-led STEM enrichment activities. They connect school students with scientists/engineers through real time, text-based chats. Other elements include questions, profiles and voting that determine which scientist wins €500. The activity is informal and conversational throughout. They combine to support students' science capital. Online STEM outreach removes geographic inequalities. Students get the same experience whether they are in Dublin or Donegal. IAS/IAE give all students a chance to engage. Every young person has an equal voice on the site. Quiet and shy students take part as vociferously as the students who always ask questions in class. Students see scientists as 'normal' and see science as personally relevant. They start to see it's something 'for them', encouraging them to consider STEM careers. Scientists gain improvements to communication skills. They report increased motivation to do more public engagement. We expect the Covid-19 pandemic may disrupt schools in 2021. Teachers will need science enrichment activities to be as flexible and accessible as possible. This proposal allows STEM engagement to continue during school closures. This project will engage 3,000 students and 60 scientists/engineers in 2021m with 3 extra large zones running for 4 weeks each to increase the flexibility of the activity. Strong demand for IAS and IAE continues with more demand than capacity from teachers and scientists.	€38,000
Ireland's secret past - unlocking our fossil heritage	University College Cork (UCC)	This project will build on an extremely successful SFI-funded pilot project to exploit palaeontology, a critical gateway science, to enhance understanding and perceptions of STEM in Ireland. The project will reach out to thousands of Irish children and adults via hands-on, digital and interpersonal formats that encourage hypothesis-testing and active kinaesthetic learning. Bespoke resources tailored to Irish fossils will complement a novel national network of urban fossil trails. A ground-breaking interactive exhibit hosted at national and regional science fairs will showcase Irish fossils and incorporate cutting-edge technology previously inaccessible to the public. Workshops will be delivered to schoolchildren around the country via videolink and/or in person. Collaborations with artists will encourage the public to engage with fossils in new ways through workshops, creation of an exhibition and e-book and art competitions. Other national events include public lectures, a touring photography exhibition and a vote for Ireland's favourite fossil, promoting palaeontology, and STEM more broadly, as topics of national importance. The project will reach out to women and girls, and residents of disadvantaged communities, direct provision centres, offshore islands, and counties with little STEM intervention. Impact will be measured using qualitative and quantitative means, integrated into key activities at predetermined stages of the project, including statistics on website- and social media interaction, interviews, workshops, surveys, poster exercises and quizzes. By raising the profile of palaeontology, this project will inspire curiosity in our ancient past at a national scale, ultimately reforming national science curricula and stimulating pursuit of STEM careers.	€299,441*

Project Title	Lead Organisation	Project Description	Award Amount
Irish Sign Language STEM Glossary Project - National Expansion	Dublin City University (DCU)	There are approximately 5,000 people in Ireland who use Irish Sign Language (ISL) as their first language (Central Statistics Office, 2017). For those Deaf and Hard of Hearing (DHH) people to be fully engaged and scientifically informed, there must first be an agreed lexicon in Irish Sign Language for STEM terms. At present, this does not exist in Ireland. The absence of agreed signs for STEM vocabulary inhibits the teaching of STEM subjects at all levels of education and presents difficulties for those working in interpreting. It also limits access to mainstream science engagement events such as Science Week. 250,000 people engaged with Science Week in 2016 (SFI Annual Report 2016) - Deaf people must be included in those conversations. This project aims to promote and support STEM education for DHH learners and is building on projects funded by SFI for the last three years to remedy this problem. Over the last three years, we have taken one subject per year (maths, environmental science and biology respectively) and produced a glossary of up to 200 words each year. We have also had the opportunity to network with science communicators and relevant stakeholders. We would now like to expand the glossary considerably by tackling multiple subject areas simultaneously (adding 500 new terms) and having our resources available on an existing smartphone app, consolidating partnerships by supporting science communication events external to the project in making them inclusive to DHH people, and delivering a series of dedicated events for our key target groups.	€131,806*
Lifetime Lab - Primary STEM Outreach	Cork City Council t/a Lifetime Lab	This Lifetime Lab Primary STEM Outreach initiative will directly support the curriculum objectives of science within the Social Environmental and Science Education (SESE) primary curriculum and present opportunities for the development of skills, foster positive attitudes to science and raise awareness of the positive contribution of science and technology to society. Through hands on inquiry-based learning experiences, delivered in school settings, children will develop informed, critical and scientific perspectives and acknowledge the importance of assuming judgments on a respect for facts, accuracy and logic. This project presents an opportunity to significantly increase the level of STEM intervention (outreach in schools) currently available in the greater Cork region. Lifetime Lab has a well-respected and proven track record of providing high quality STEM engagement workshops and events. The project team will leverage the learning, experience and models of best practice gained from over ten years of onsite STEM engagement activities to create a model suitable for delivery in a modern classroom environment. In addition this project will serve as a mitigating measure to the reduction in STEM engagement activity owing to the risks (actual, perceived or otherwise) of Covid-19 within Irish primary schools. The transparent implementation of compliance measures during design, production and delivery will provide reassurance to school leaders when communicated at moment of truths. In summary, this project will serve to increase the audience reach of STEM engagement by providing a mobile delivery option to primary schools and a tactile STEM promotional tool at public engagement events.	€24,500
Little Big Questions	University College Dublin (UCD)	Little Big Questions (LBQ) takes young school children from low socio-economic areas and transports them to University College Dublin (UCD) to explore exciting science through play and inquiry-based learning in a purpose-built outreach laboratory. This programme serves as the hub for content creation and sharing across multiple platforms. LBQ's unique selling point is that the children come up with the questions that they want to learn about. They decide, we provide. Although these questions may be straightforward, the answers can be complex. Parents and teachers sometimes struggle to answer these questions for children, often due to a lack of scientific knowledge and understanding. As a result, children may stop asking questions because their source of information isn't able to help, leading to a decreased future interaction with science. At LBQ, children get to ask such questions and not only learn the answers but most importantly learn the steps to come up with solutions themselves. This process engages children in a truly impactful way because it values and listens to the interests of all the children involved.	€49,990

Project Title	Lead Organisation	Project Description	Award Amount
		Our accompanying podcast and video productions allow parents and teachers to hear discussions based around questions their own children are asking, framed with content aligned with the UN Sustainable Development Goals (SDGs). With the support of RTÉ, LBQ inspires the next generation of inquisitive minds in person, in cars and on portable devices anywhere. LBQ is relatable freely shared content that adapts to reach our audience however they choose to digest it.	
Manufacturing in the classroom: I-Form's 3D printing for teachers programme	University College Dublin (UCD)	Second-level teachers in Ireland are keen to adapt to a recently changed STEM curriculum and to growing interest from both students and parents in new technologies and new STEM careers. This project will build on an existing partnership between I-Form, the SFI Research Centre for Advanced Manufacturing, and the Junior Cycle for Teachers - Technologies (JCT4) – a national teacher training organisation run by Ireland's Department of Education. The project aims to upskill teachers in the use of 3D printing technology in the classroom, building both their confidence and ability to link 3D printing projects to the curriculum and to discuss manufacturing careers with their students. One elective training module for JCT4 teachers has already been designed in partnership with JCT4, thanks to SFI Discover funding for 2020. The delivery of this module (in 3 locations, with the target of training 120 teachers) was unfortunately postponed from springtime 2020, due to COVID-19, and is now planned for delivery in autumn 2020. JCT4 are keen to build on this module with co-design and delivery of a second, more advanced elective module for 144 teachers in 2021. The module will be supplemented by two online support systems, to further instil teacher confidence in the classroom: a follow-up webinar to refresh teachers' knowledge from the training days and address any barriers to classroom integration, and a curated online forum to both troubleshoot technical issues for teachers and to encourage peer learning and sharing of teaching resources, tips and project ideas.	€31,800
Maths Week Ireland	Waterford Institute of Technology (WIT)	Maths Week Ireland is an annual festival promoting positive attitudes towards maths and highlighting the importance of maths in our lives. It is one of four national STEM festivals. Running for 15 years it is a collaborative partnership of organisations including all the universities, institutes of technology, with professional bodies, visitor centres and more. It is coordinated by highly experienced Calmast STEM EPE centre. It engaged directly over 400,000 (2019), spreading a positive message further through traditional and social media. Events include shows, workshops, projects, competitions, taking place in city streets, prestige venues, partner centres, in-school and online, building maths EPE capacity. This proposal will allow further expansion of engagement and impact. The plan delivers on all of the Discover Programme goals. "Maths for All" is an important principle; we plan a number of innovative ways to reach special audiences. Planning for post-Covid-19 world, we will develop attractive and effective online engagement that will increase access and connect schools further. We will also build on increased awareness of modelling and maths in decision-making with debate and dialogue to increase citizen engagement and engage policy makers on evidence-based decision-making. Maths is part of STEM but also underpins most other disciplines. Reports show that success correlates with positive attitude. Successive evaluations of Maths Week have shown impact in improving attitudes towards maths.	€299,990*
Miasmatists: Data Science, Epidemics and Public Health	University College Dublin (UCD)	'The Miasmatists" is an interdisciplinary project that uses drama and debate to provide a historical and contemporary perspective on the scientific conflict surrounding cholera in the 1850s. The project's key outputs will be a play and a programme of workshops, discursive events and digital activities that explore the parallels between then and now.	€49,200

Project Title	Lead Organisation	Project Description	Award Amount
		The scientific, medical and political communities lived through a moment in the 1850s very like our present moment: battling a terrible contagion amidst a lack of information and consensus. By returning to this moment through drama and public engagement, we seek to gain a deeper understanding of the key issues raised by the Covid-19 experience, particularly for audiences that are at risk of being left out of this discussion. Partnering with a series of organisations in/near Dublin's inner city that do not traditionally host theatre (Larkin Community College, Richmond Barracks and Mountjoy Prison), and leveraging our links with a variety of cultural institutions, we will target audiences that are not typically involved in the STEM sector. We will facilitate a unique dialogue between scientists, clinicians, the general public and key target groups to perpetuate the STEM-related impact of our artistic work. Based on the track record and capability of the applicants we believe that, once launched, we will be able to bring the project to another level via theatre touring, digital dissemination and broadcast media. We intend to stimulate widespread reflection and debate on societal and scientific issues that could hardly be more topical at this time.	
Music and Science: Quavers to Quadratics	The National Concert Hall	Quavers to Quadratics (Q2Q) is a series of workshops for primary school children, primarily from DEIS (disadvantaged) schools, highlighting the overlap between music, maths and physics, and responding to the lack of STEM engagement typical in such schools. Direct marketing to DEIS schools, coupled with a priority booking system, ensures that the vast majority of places are taken by these schools. The programme is co-designed, co-taught and co-assessed by academics and students from the School of Education (Science), University College Dublin (UCD); the School of Education, Trinity College Dublin (TCD); and the National Concert Hall's (NCH) Learning & Participation department. The programme challenges the idea that music and maths/physics lie at opposite ends of the academic spectrum and is built with active learning and co-teaching pedagogies. It is very much in-line with the priorities of Science Foundation Ireland's 'Agenda 2020' strategy as well as Junior Cycle reform and primary science strategies. A direct impact of Q2Q will be an increased take-up of STEM subjects at second- and third-level. This project facilitates the discovery of links between the worlds of music, physics and maths, not only for the students attending, but also for the undergraduate student tutors involved. It also gives this undergraduate cohort excellent teaching experience, hopefully inspiring some of them to consider this career path following their primary degree. Q2Q allows them to practice teaching in a genuinely interdisciplinary fashion – an essential skill for any prospective teacher.	€27,675
NatureWatch: Exploring the Benefits of Nature to Wellbeing using Technology	University College Cork (UCC)	Accessibility to open green space has become a prominent conversation during recent COVID-19 lockdown, as people have found themselves reengaging with nature. Despite this, access has been disrupted for many communities who may be cocooning due to age and/or vulnerability or live in urban areas devoid of open spaces. Subsequently, people are engaging with the concept of nature and the consequent health benefits (both physical and mental) in a manner that has largely been absent for several years. The opportunity to educate these individuals who do not typically engage with nature, or the associated science and technology used to understand and monitor it, is therefore unprecedented. Here we propose NaureWatch, a new citizen science project aimed at engaging older populations with the science of phenology (i.e. the seasonal life cycle events of animals and plants) through technological engagement. This project has four main goals: 1) Develop participatory workshops through Cork Healthy Cities to identify participants' personal relationships with nature and wellbeing to co-create and deliver a targeted and beneficial experience. 2) Train participants in the use of low-cost emerging technologies to record phenological events. 3) Educate participants in the scientific methods required to analyse and understand the impact of climate change on nature. 4) Investigate the link between nature and wellbeing within the community, focusing particularly on the mental health benefits of green spaces	€40,030
Our World	Junior Achievement Ire Ltd	Junior Achievement Ireland (JAI) works with industry and education partners to motivate and inspire young people to see value in their education, and a future for themselves in the world of work. Our World is a primary school STEM programme for 11-12 year old children consisting of five 45 minute modules which will be designed, developed, piloted and evaluated by JAI. Programme content will be co-created in collaboration with students, educators, and expert advisers from industry and education.	€159,820*

Project Title	Lead Organisation	Project Description	Award Amount
		Each student will receive a workbook with extended learning opportunities for students and parents. This programme targets senior primary students, attending DEIS schools helping to shape future STEM related subject choices as they enter second-level education. Programmes are led by volunteer facilitators from 180 JAI supporting organisations, many of which are leaders in the STEM sector. Dynamic facilitation by business volunteers enhances learning and the underlining links between STEM education and the world of work. Our World includes: • 7,520 students over 2021/2022, as industry partner Fidelity Investments are funding the programme to the end of 2023 • Ca. 480 business volunteers • 320 predominantly DEIS primary school classes • 40 Our World classes invited to a workplace visit Each module will focus on a specific area of STEM with an emphasis, within the extended learning section, on how that industry is dealing with the health and societal issues caused by Covid-19. Our World places specific emphasis on localities identified by SFI as in need of stem engagement.	
Physics in Action	Dublin City University (DCU)	As shown in TIMSS (2015), the performance of Irish fourth class primary school students on topics related to physics is now a source of concern ((Varley et al 2008; Murphy et al., 2011; Clerkin et al 2016). This project will explore the use of embodied cognition, to support these students in learning about physics. To this end, parents, teachers and pupils will be involved in co-constructing 'embodied cognition' activities. Embodied cognition is best defined as actions which assist the brain's cognitive processing. Studies of the brain show that those networks which control cognition are "linked in one way or another to sensory systems, motor systems and / or motivational systems" (Tucker, 2007, 59). For example, if explaining concepts related to forces (e.g. push and pull), you would ask the pupil to actually pull or push either real or imaginary objects using their limbs and body. Similarly, if explaining 'friction', the action of rubbing one's hands across a kitchen table / bedroom carpet would be used. The key factor is 'cognition for action' (Glenberg 2008, 43), where the child's body is 'active' in learning science. Four participating schools will select strand units from the 'Energy and Forces' section of the senior Primary Science Curriculum (DES, 1999). Project leaders will show class teachers, parents and pupils how to co-construct and use embodied cognition activities for these selected physics strands. Based on this learning, teachers, pupils and parents will co-construct and implement their own embodied cognition activities across the senior physics curriculum.	€47,987
Redefining STEM: Science of Traveller Ethnicity and Microbiome	University College Cork (UCC)	We will promote science among Irish Travellers by highlighting how microbiome science can shed new light on their ethnic identity, history and way of life. We have already engaged with Irish Travellers in Cork to study their microbiome, i.e. the system of microbes that live in and on our bodies. We have shown that they retain an ancestral, non-industrialized microbiome distinct from that of the settled, non-Traveller community. This has important health implications for Travellers but also for the rest of society, which will receive global attention in the prestigious high impact journal Nature Medicine (in press). The discovery of the unique microbiome of Irish Travellers raises several issues: it challenges current concepts of a 'normal' microbiome; shows the importance of non-dietary factors in driving microbiome composition; shows how the culture of an ethnic minority helps retain a desirable microbiome; and raises public health concerns when an ethnic minority is pressured to change lifestyle. We believe that microbiome science is a wonderful opportunity for Irish Travellers to explore their ethnicity in a way that contributes to everyone's understanding of the microbiome. We propose two specific aims: (1) to create with Travellers ways of conveying our findings and their significance to the wider Traveller community using inter alia an animated video with the voices of Traveller people and (2) to continue engaging with Travellers to explore unanswered questions about how their ethnicity has influenced their microbiome and how it can be retained for health benefit.	€50,000
ReelLIFE SCIENCE Video Competition	National University of Ireland, Galway (NUIG)	ReelLIFE SCIENCE is a nationwide STEM engagement programme, which encourages young people and the general public to discover more about STEM and its impact on individuals, society and the environment, while at the same time developing participants' creativity, team working, communication and digital skills.	€27,987

Project Title	Lead Organisation	Project Description	Award Amount
		Briefly, participants from schools and youth groups are challenged to research a STEM topic and communicate it for the public via an engaging and educational three minute video. The best videos are awarded prizes of up to €1000 and are screened for the public at the Galway Science and Technology Festival, at other public events and online. Based in NUI Galway and launched in 2013, ReelLIFE SCIENCE has enabled more than 14,000 young people from all over the country to directly engage with STEM in a novel way. The videos produced have had a secondary audience of over 300,000 online and at public screenings, increasing the general public's knowledge and engagement with science and technology. Funding from the SFI Discover Programme will mean that, in 2021, ReelLIFE SCIENCE will continue to engage a growing number of students and teachers across the country in primary and secondary schools, while also specifically targeting, training and empowering youth workers and leaders to drive STEM engagement in youth groups and youth development programmes in Galway, Mayo and Roscommon. In this way, the programme will increase the science capital of participants from a wide range of backgrounds, making it more likely they will choose STEM subjects and future STEM careers	
Reimagining the Future - One Health, COVID and Us (REFOHCUS)	University College Dublin (UCD)	REFOHCUS will use co-created workshops with disadvantaged communities and invited experts that will involve deliberation, debate and proposals around key scientific questions arising from the experience of community members during the COVID-19 pandemic. Groups will have opportunities to hear expert views and then discuss such fundamental questions as: Where did this coronavirus come from? What can we do to prevent future pandemics? What links human health, animal health, environmental health and food systems? How can scientists, engineers, mathematicians and health care professionals work together to protect planetary health? Participants will be invited from two communities that already have links with UCD Access and Lifelong Learning, based in Ballyogan and Ballyfermot, Dublin. Feedback has indicated their willingness to engage on STEM topics. The groups will play an important role in setting the agenda - outlining what is important to them in their lives and how they consider STEM can have an impact on these questions. REFOHCUS will empower participants to debate with confidence questions on science, health and society, and related policy. At project initiation, a structured communication, (Delphi-like) process will be used to select the themes and questions of most importance to the participants. During the implementation phase, there will be a focus on differing viewpoints, their scientific basis, and the evolution of knowledge through the scientific process. A capstone event will be a high-profile Public Lecture with the participants as special guests. The project will be evaluated by measurements of Science Capital before and after the project.	€48,118
Science Communities - engaging, informing and consulting for change.	Midlands Science	Science Communities is a citizen engagement process to bring together various stakeholders from healthcare, science, and the community [a range of age groups and backgrounds] to exchange views as to how and why some public health decisions are made. These discussions will include economic and social trade-offs associated with some measures and why such trade-offs are necessary. The objective is not just to engage with members of the public but also to provide a forum for those who make decisions informed by science to dialogue with the public in a meaningful way. This dialogue will not change how decisions are made as informed by science, but it may change how decisions are communicated to the public and therefore impact their effectiveness. It may also allow medical and science experts to be more aware of other public concerns arising from their decision making and may therefore add another layer of rigour to decision making, which would be useful to communicate to the public. Understanding is vital for the effectiveness of healthcare interventions which depend on community support and this cuts across everything from alcohol awareness to vaccines. Understanding depends on consultation and this proposal brings together communications, science, trust in government and understanding evidence-based decision making and overcoming pseudo-science. It is a two-way process of communication and dialogue, so that those	€50,000

Project Title	Lead Organisation	Project Description	Award Amount
		who make decisions will communicate decisions better and those who have concerns can have them heard, thereby understanding the complexity of such decision making.	
Science 4 Sight Loss	University College Cork (UCC)	There are 1.4 million children in the world who are blind or visually impaired - over 5,000 of them live in Ireland. These children face a life-time of challenges and must bravely overcome several obstacles to fulfil their potential. For children with sight loss, engaging with science and understanding scientific concepts can be extremely challenging. Science 4 Sight Loss is a unique partnership between the INFANT Research Centre, University College Cork (UCC) and Ireland's national sight loss agency, the National Council for the Blind (NCBI). This project will focus on increasing engagement and participation in health based STEM amongst children and young people who are blind or visually impaired. The project was conceived as a solution focused response to the known high levels of educational disadvantage experienced by children with sight loss and the extremely low uptake of STEM subjects at secondary and tertiary level. The co-creation group and planned workshops - the first of their kind in Ireland - will help stimulate engagement and curiosity in STEM, provide insights into STEM-related careers and inspire this underrepresented group to have confidence in their ability to tackle the barriers of diversity and inclusion in STEM.	€49,434
Science Hub at Learning Hub Limerick	Learning Hub Limerick Ltd	The central goal of the Science Hub is to increase engagement and participation in STEM subjects among children, young people and the general public in Limerick City and County. It was conceived as a solution-focused response to the high levels of educational disadvantage experienced in Limerick City. The Science hub has grown from 20 participants in 2011 to 3271 participants in 2019. SFI funding has played a crucial role in the growth of the Science Hub in Limerick. The Covid-19 pandemic has impeded learning within our community. Research indicates that children from economically disadvantaged communities are negatively impacted by an increased length of time out of formal education. Families from disadvantaged communities experience considerable obstacles to online and home learning. The Science hub has adapted to the needs of the community during the pandemic and it will continue to work with the local community. Post pandemic the Science Hub will reduce class sizes and deliver more classes particularly focusing on our local DEIS schools. Home Science packs will be delivered, and we will run an after-school science class specific to local 1st year Secondary students in order to aid the transition to Junior Cycle. The increase in classes requires that the Learning Hub employs a part-time Science Hub assistant. Support from SFI will allow the Science hub to continue to carry out outreach work with communities around Limerick city whose educational disadvantage has been exacerbated by the pandemic	€50,000
Science Waves	National University of Ireland, Galway (NUIG)	CÚRAM, the SFI Centre for Research in Medical Devices has a mission to become: "A global leader in the creation and translation of clinic-ready and patient-focused medical devices. Develop the next generation of industry-relevant, publicly engaged researchers. Become an anchor for industry applicable research." CÚRAM's Education and Public Engagement (EPE) programme aims to raise awareness of its research and increase understanding of preventative behaviours which can reduce the incidence of chronic illness. The current COVID-19 crisis has highlighted the need for members of the public to better understand science and its impact on their lives. Misinformation about COVID-19 has led to greater uncertainty and fear. More than ever, there is a greater need for clear science communication. The crisis has exposed the existing divide amongst children who have access to learning material online and those who do not. The 'Science Waves' project aims to create content which is accessible to everyone and gives clear information about science. CÚRAM's Science Waves is a series of six science radio shows co created by children and scientists for children. CÚRAM will work with children from underrepresented and under engaged communities to create accessible, engaging, and fun radio shows, which are aimed at children aged 10 – 12 years old. Radio has been chosen as the medium for this educational project as radio shows can be accessed at no additional cost as ownership of FM/AM radios was reported at 92% in 2017	€43,719

Project Title	Lead Organisation	Project Description	Award Amount
STEAM in Youth Work	National Youth Council of Ireland	'STEAM in Youth Work III' will deepen the capacity of the youth sector to deliver inspiring, hands-on STEAM EPE projects in a sustainable manner. With 382,600 young people, 40,000 volunteers and 1,400 professional staff, the sector is emerging as a key player within Ireland's STEAM EPE ecosystem, particularly so for its capacity to engage meaningfully with our most disadvantaged young people (Verke 2019; Indecon, 2012). Youth work provides one of the few settings where young people, as active partners, can take responsibility for co-creating programmes in a safe and supportive environment (Youth Work Act). It is therefore ideally positioned to support STEAM EPE delivery which fosters engagement, curiosity and conversation amongst a significant cohort who would not typically engage with STEAM. Through continuous professional development, 10 partnership projects with frontline organisations, resource and equipment dissemination, youth workers will: -Lead the delivery of in-depth STEAM projects that have been co-created with young people to respond to local need. -Engage young people in debate around STEAM themes emerging as important during Covid-19 (e.g. viruses, circular food economies, gaming addiction). -deliver education programmes that fuse science and art (e.g. sound/music). -use innovative blended youth work methodologies, which NYCI has led the sector's development of, during Covid-19. 708 training/development opportunities, from introductory to advanced levels, will enable 275 youth workers to deliver STEAM EPE projects to 9,240 young people within two years. Robust evaluation mechanisms and learning dissemination events will ensure high-quality, transferable, evidence-based and sustainable STEAM EPE practice.	€299,653*
STEM and Sustainability National Education Programme	The Rediscovery Centre	The STEM and Sustainability project is a national programme for education and public engagement delivering a suite of education programmes, workshops and events on environmental, sustainability and STEM topics to a targeted audience throughout Ireland. The aim of the project is to educate students, teachers and members of the public on the science of sustainability, examining and communicating ways STEM provides solutions to societal challenges and building capacity to support a more sustainable future. The STEM and Sustainability project suite will engage people in societal challenges related to sustainability in a crosscurricular context. Each of the programmes, workshops and events will be interactive, linked with school curricula and investigate solutions and actions for sustainability. Delivery will be achieved though face-to-face, blended learning and virtual interactive experiences and will include: • Education workshops for primary and secondary schools, special needs students, particularly focusing on DEIS schools in communities that are historically less engaged with STEM. • Multi-session education programmes aimed at primary and secondary school students. Students will explore the topic in depth, while examining impacts of lifestyle choices, and local and global issues, through group discussion, structured discussion, hands-on activities, collaborative learning and group projects. Participating classes will be encouraged to produce projects around the chosen theme that will be displayed at a regional public engagement event. • Teacher CPD workshops for both primary and secondary teachers on STEM and Sustainability topics. • Public engagement through innovative engagement activities at a range of events and festival around Ireland.	€207,850*
STEM Engagement Using Poetry: Through the Lens of One Welfare	University College Dublin (UCD)	'One Welfare' is a new discipline emerging from animal welfare science, a cross-disciplinary STEM subject, which recognizes the interconnection between the well-being of people, and animals and their environment. The Covid 19 pandemic has highlighted the importance of One Welfare, through the emergence of the virus at a 'wet market' in China to the role that companion animals have played during lockdown. Through an innovative partnership between the UCD School of Veterinary Medicine and Poetry Ireland, this project will create multimedia, blending art with science, to engage the general public with STEM, through the lens of One Welfare.	€16,543

Project Title	Lead Organisation	Project Description	Award Amount
		The European Commission's Special Eurobarometer 442 reported that Irish citizens want to be better informed about animal welfare. This novel project represents the first step in exploring new ways of engaging Irish citizens with animal welfare science through the lens of One Welfare, to enable an informed dialogue about STEM in everyday life. One Welfare is relatable and presents a gateway to STEM, broadening the reach and societal engagement. This project aims to stimulate engagement and curiosity in animal welfare science, through the lens of One Welfare, to explore new ways to attract and persuade those who would not typically engage with STEM using poetry, the Spoken Word, videography and infographics. UCD School of Veterinary Medicine and Poetry Ireland will collaborate to create a communication portfolio that will engage citizens on One Welfare, blending art with science and culminating with a Spoken Word event on World Animal Day.	
STEM-Passport for Inclusion (STEMP.inc)	Maynooth University	Young women from socially-economically disadvantaged disadvantaged (SED) are not accessing STEM careers. A myriad of factors explains this - they lack role models, have reduced STEM capital, and limited availability of STEM subjects. Since the introduction of the discover programme, SFI have been working hard to challenge gender biases, supporting women to access STEM skills. STEM Passport.Inc aims to extend the vision of SFI Discover by building a three-tiered programme of STEM supports for SED girls. Through partnership with the RDI Hub, Accenture, Microsoft, TeenTurn, Maynooth University and Munster Technological University we will make three key changes to the existing systems- (1) build an accredited STEM skills programme, Preparing 1000 disadvantaged girls from Munster and Leinster for STEM courses, (2) build an accredited Pathway into both Universities- facilitating entry to STEM degree courses for disadvantaged girls who do not meet University matriculation requirements who have participated in the STEM skills programme (3) build a Platform where girls are provided with a STEM profile, where their STEM needs are identified and where all STEM activities, courses and career opportunities are housed. The Platform will streamline the STEM offerings across Ireland including SFI funded programmes, STEM career opportunities and college opportunities. STEM Passport.Inc will work at the individual, educational and structural level of the STEM ecosystem to ensure that the STEM systems in place are meeting the needs of SED girls, and that there is communication across key stakeholders to harness the talent that SED girls can bring to the STEM workforce.	€299,955*
STEM Workshop Programme	Lismore Heritage Centre	Our project is a general STEM Education Programme operating from Lismore Heritage Centre. It encompasses Primary and Secondary STEM activities. It has four strands outlined below; Strand 1.Mobile Science Workshops have covered over 35,000 students since 2013. They are popular in a variety of schools. We travel to the school and deliver an SFI accredited workshop. Due to us traveling to the school, the cost of transport, which can be a huge factor in schools participating in site visits, has been negated. This encourages economically and educationally disadvantaged schools to acquire their DPSM award. Strand 2.Ecology Fieldtrips are held in local mature woodland. Secondary students travel to LHC. We introduced the Ecology strand in 2016 and 2,500 students have participated. The course was set up by LHC with a consultant Ecologist and the input of the local Secondary School. Strand 3. School Tours are where we began in education and have been running for 29 years. They are tried, tested and have stood up to increasing competition throughout the years. Schools come to LHC. Each tour has a high STEM content. There are a choice of modules for the teacher, all of which have STEM elements. Strand 4. Informal Workshops are run in the LHC hall throughout national STEM weeks, weekends and school holidays. Children participate in a fun, themed workshop and we take STEM out of the classroom These workshops are especially engaging to families and are used as a tool to encourage awareness of and engage with STEM Weeks.	€38,686
StrongWomen Science circus science show	Circus250	Mayo rural and island tour of StrongWomen Science (SWS), a circus science show for families, with accompanying workshops. SWS is specifically targeted at increasing rural girls' engagement with STEM. Rural girls are doubly hindered from science engagement. A recent report identified on average across	€16,625

Project Title	Lead Organisation	Project Description	Award Amount
tour in Mayo rural+island communities		OECD countries, city pupils score 31 score points higher in science than those in rural schools, equal to one year of schooling. In 2019, just 7% of Irish Leaving Certificate engineering students were female. SWS is an exciting, fast-paced performance with two scientists-turned-circus performers. (Aoife Raleigh is an electrical engineer, Maria Corcoran an environmental scientist.) Aoife and Maria reveal the scientific secrets behind their astounding tricks including centre of gravity (acrobatics), angular momentum (hula hoop) and Non-Newtonian fluids (clown custard act). SWS doesn't only illustrate scientific facts. It seeks to promote enquiry, conversation and accessibility in science, making it open to all, in particular girls. It looks at the worth of failure, the need for evidence and the power of teamwork, shared by science and circus. Hands-on circus science workshops and parent training accompany performances. Our venues are community halls - familiar, comfortable places for local families. We will tour to five venues (10 performances and workshops) in Summer 2021- Geesala, Belderigg, Bangor Erris, Clare Island and Achill Island (where we're from). SWS was developed on Achill Island, Co Mayo, with support from Royal Society of Chemistry and Institute of Physics in collaboration with local children and families	
Teen-Turn	Teen-Turn	Teen-Turn aims to influence course decision-making processes, inform participants on education and career options, and combat stereotypes by strategically changing how girls from disadvantaged and underrepresented communities identify with STEM career environments through mentored summer work placements, after school activities and alumnae opportunities. Programming begins with a work placement in the summer after Junior Cert, during which participants are exposed to projects, introduced to role models and begin to blog about their time so that we can evaluate the effect of the experiences. From there, the girls have the option to join after school activities which include science projects for BTYSE/SciFest, the creation of a social enterprise and app development for Technovation, homework/grinds clubs, or related events like learning camps and incubators with company partners. Once participants have completed secondary school, they enter into our alumnae network-- which offers numerous events to meet with fellow Teen-Turn participants, mentors who are women working in STEM roles, and career advisors all there to help with qualification completion and to build a professional network. What we do is empower our participants—to identify a STEM interest, to be supported in the pursuit of mastering skills and gaining qualifications related to that interest, and then provided the connections and social capital and ongoing reinforcement to develop a STEM career from that interest. We call it our 'Junior Cert to Job' commitment.	€50,000
Tree Explorers	University College Cork (UCC)	'Tree Explorers' will make use of the historic and nationally important University College Cork Arboretum to engage primary school students as well as adults with STEM topics. The primary school strand of the project has been specifically co-created with primary school teachers to target schools in communities at risk of disadvantage and social exclusion (DEIS schools). Engaging audiences with such living scientific collections has been shown to have significantly positive effects on educational attainment, mental and physical health, attitudes and knowledge of STEM subjects and careers, as well as willingness to engage in dealing with global challenges such as climate change and biodiversity loss. 'Tree Explorers' will co-create, develop and deliver a 3-stage programme of engagement with 3 DEIS schools in Cork city involving in-school activities with project team members as well as visits by the students to the UCC Open Arboretum - 2,500 trees of over 120 different species. The adult strand of the project will deliver a tailored "UCC Tree Tour" as well as a series of workshops and talks for the general public throughout 2021 in addition to specific tours as part of Science Week, National Tree Week and other important STEM festivals. Educational materials, a self-guided map and a series of videos linking trees to other STEM topics (climate, health, medicine, etc.) will also be delivered. 'Tree Explorers' builds on the success of the UCC-funded "UCC Open Arboretum Project" which has re-imagined how this tree collection is used for STEM education and public engagement.	€46,721
21st Century STEAM for Youthreach	National Youth Council of Ireland	The project aims to address a gap that exists nationally in STEAM education for socially, economically and educationally disadvantaged young people, who are early school leavers. The partners identified and researched this need in the Youthreach sector (a national programme for early school leavers).	€275,257*

Project Title	Lead Organisation	Project Description	Award Amount
		There is strong and ongoing interest from the sector in Continuous Professional Development (CPD) offered through the STEAM in Youth Work project (supported by SFI, 2016 - present). By adapting the STEAM in Youth Work model, expanding it to fit within QQI4 of the National Qualifications Framework, the project will deliver relevant, co-created, inquiry-based STEAM education, supported by a CPD programme for coordinators and educators. The project will: - Prepare students for progression through alternative routes to STEAM careers. - Expose young people to STEAM professionals who took alternative routes. - Enhance links with industries providing STEAM apprenticeships. The project partners will bring their considerable combined expertise and experience in youth work, STEAM and education to bear in developing and rolling out the model, through the Youthreach programme, a key point of engagement of early school leavers nationwide. This will support alternative progression routes to STEAM careers and feed the talent pipeline. By modelling and disseminating best practice in STEAM to the Youthreach Programme nationwide the project will support the following SFI Discover Call objectives: Promote and support STEM education and career pathways; provide early school leavers with insights into STEM-related careers and address negative stereotypes; develop capacity for the delivery of STEM EPE in Ireland.	
Visioneers – A Smart Cities Education Programme	Trinity College Dublin (TCD)	Internet of Things (IoT) technology is dramatically changing how we plan, build and operate our cities. The trend towards Smart Cities is expected to accelerate in the coming years, so technical literacy urgently needs to be improved in order to grow public confidence in understanding the potential of this transformative technology to solve city challenges ranging from traffic congestion to flooding. Visioneers is a much-needed smart cities education programme targeted at Transition Year students (age 15-16) providing a hands-on opportunity to explore and experiment with IoT hardware as used in a smart city, and encouraging critical thinking on the uses and applicability of this technology to address a host of city challenges. A citizen science focus will encourage students to feel an ownership of the potential of the technology. Visioneers will be led by two key players in the smart cities ecosystem in Ireland: Dublin City Council (DCC) - Ireland's largest local authority and a global pioneer in implementing emerging smart city and IoT solutions - and CONNECT (SFI Research Centre for Networks and Communications), who already collaborate on research projects. Visioneers will be a module of Academy of the Near Future - an education initiative of CONNECT and DCC, currently being developed to deliver smart city upskilling opportunities. Through workshops, online learning and a National Challenge, Visioneers will introduce participants to basic coding, sensor hardware, and problem solving skills, while promoting careers in STEM. It will encourage empowerment through a citizen science lens, contributing to the democratisation of technology.	€59,395*