



Examples of ERC-funded research contributing to the creation and support of successful companies



European Research Council
Established by the European Commission

The Company

Onward Medical NV

<https://www.onwd.com/>



Founded in 2014 - Based in Eindhoven, Netherlands

Creates innovative therapies to restore movement, function, and independence in people with spinal cord injuries.

2021: Successful IPO. Listed on Euronext Brussels and Amsterdam since 21 October 2021 - Market cap around 94M EUR

2021: Further public funding (grants) from EIC Pathfinder and EIC Transition

2022: First Place Winner of the Brain-Computer Interface (BCI) Award

The ERC-funded Researcher

Grégoire Courtine

École Polytechnique Fédérale de Lausanne (EPFL)

<https://www.epfl.ch/labs/courtine-lab/>

PhD 2003



2010 ERC Starting Grant

"Multi-pronged strategies to regain voluntary motor functions after spinal cord injury"

2013 ERC Proof of Concept Grant

"Commercialisation of a robotic platform enabling high-precision force control in multi-dimensional applications"

Within the ERC Starting Grant, the team developed a robotic platform that enables high-precision force control in multi-dimensional applications. Within the ERC PoC 'Robomed' the goal is to develop a proposition package for potential investors. On the technical side the team will create a novel prototype to validate their robotic technology, which will result in a technical report.

2015 ERC Consolidator Grant

"Mechanisms of recovery after severe spinal cord injury"

2019 ERC Proof of Concept Grant

"Brain-actuated spinal cord stimulation to restore gait after paralysis"

The aim is to establish the technical and regulatory feasibility of this wireless brain-spine interface in humans, develop additional intellectual property, and prepare the path to the commercialization of this revolutionary neurotechnology.

The Company

IFM therapeutics

<https://www.ifmthera.com/>



Founded in 2015 - Based in Boston, United States

Pursuing a number of separate programs, each targeting key control nodes of the innate immune system and each placed in its own dedicated, independently financed subsidiary.

Track record in its first 3.5 years: progression of three novel programs from discovery through to the clinic, and the closing of two major deals.

2016: IFM Therapeutics' \$27M Series A closed

2017: IFM Therapeutics LLC created as a spin-out; subsidiary IFM Uno sold to Bristol Myers Squibb for \$2.32B; subsidiary IFM Tre launched

2018: IFM Tre's \$31M Series A financing closed

2019: IFM Due launched; IFM Tre sold to Novartis for \$1.575B; IFM Quattro and IFM Discovery launched with \$55.5M financing from Omega Funds, Atlas Venture and Abingworth

The ERC-funded Researcher

Andrea Ablasser

École Polytechnique Fédérale de Lausanne (EPFL)

<https://www.epfl.ch/labs/ablasserlab/>

PhD 2010

2021 EMBO Gold Medal

Scientific advisor to IFM Therapeutics and co-founder of its subsidiary IFM Due



2018 ERC Starting Grant

"Exploring the link between innate immunity and cellular aging"

The team discovered a new role of the cGAS-STING pathway in promoting cellular senescence, a critical stress response program that is emerging as a key driver of aging. On the basis of this finding, the overarching goal of this project is to further explore the molecular links that exist between the mechanisms of innate immune signalling and those underlying aging processes.

The Company

Sphere Ultrafast Photonics
<https://www.sphere-photonics.com/>

Founded in 2013 - Based in Porto, Portugal

Electronic Manufacturing company that specialises in ultrafast pulse measurement and control.

2021: Public funding (grants) EIC Transition



The ERC-funded Researcher

Anne L'Huillier

Lund University

<https://www.nano.lu.se/>

PhD 1986

Wolf Prize 2022

Nobel Prize 2023



2008 ERC Advanced Grant

"Attosecond control of light and matter"

2013 ERC Proof of Concept Grant

"Measurement and control of light fields for application in science and technology"

Our research in attosecond science supported by the ERC advanced grant has led us to develop a simple technique to fully characterize and control ultrashort laser electric fields. Our goal is to build a device for characterization and control of femtosecond pulses by combining both techniques and to commercialize it.

2013 ERC Advanced Grant

"Physics of atoms with attosecond light pulses"

2017 ERC Proof of Concept Grant

"Single-shot dispersion-scan device for the characterization of ultrashort laser pulses"

The idea to be taken to proof of concept is a novel real-time characterization device for short laser pulses, based upon Single-Shot dispersion SCAN (SISCAN). Through technical verification and business activities, we will demonstrate the functionality of the concept, assess and minimise the risks and we will prepare to exploit the increased commercial potential, addressing laser manufacturers as well as laser users in both the scientific and commercial spheres.

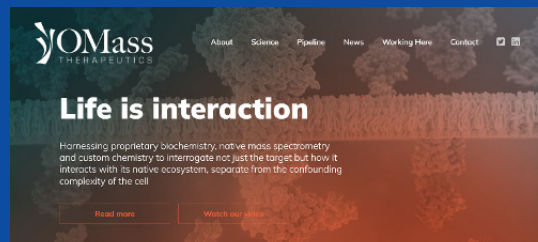
2019 ERC Advanced Grant

"Quantum physics with attosecond pulses"

The Company

OMass

<https://www.omass.com/>



Founded in 2016 - Based in Oxford, United Kingdom

Drug discovery company exploiting novel mass spectrometry platforms to develop therapeutics against challenging disease targets.

2022: \$100 Million raised in Series B financing

The ERC-funded Researcher

Carol Robinson

University of Oxford

<https://robinsonweb.chem.ox.ac.uk/>

PhD 1982

2004 Fellow of the Royal Society

2011 FEBS/EMBO Women in Science Award

2015 L'Oréal-UNESCO For Women in Science International Awards

2022 Louis-Jeantet Prize for Medicine and the Benjamin Franklin Medal in Chemistry



2010 ERC Advanced Grant

"Integral membrane proteins resolution of stoichiometry and structure"

2014 ERC Proof of Concept

"Integral membrane proteins – an approach to rank target stability"

The project is designed to develop and test a novel way of monitoring the effects of drug binding to membrane protein targets.

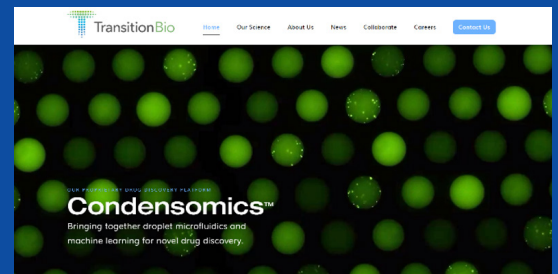
2015 ERC Advanced Grant

"Elucidating natural bilayer lipid environments"

The Company

TransitionBio

<https://transitionbio.com/>



Founded in 2021 as start-up of the University of Cambridge, UK - Based in Cambridge, United States

Brings together science and technology to create novel therapeutics and provides condensate technology for drug discovery and diagnostics.

2022: \$50 million Series A financing, led by Northpond Ventures and joined by Taiho Ventures, Bristol Myers Squibb and Magnetic Ventures.

The ERC-funded Researcher

Sarah Teichmann

Wellcome Sanger Institute, UK

<https://www.teichlab.org/>

PhD 2000

2012 Suffrage Science award

2015 EMBO Gold Medal



2010 ERC Starting Grant

"Decoding genetic switches in T helper cell differentiation"

The project tackles the question of how are changes in cell state regulated at the transcriptomic and epigenetic level, using an integrated computational and experimental approach with the T helper cell system as a model.

2014 ERC Consolidator Grant

"Re(defining) CD4+ T cell identities one cell at a time"

This project combines single cell RNA-sequencing, bioinformatics and genetic engineering to dissect CD4+ T cell states, a central compartment of mammalian adaptive immunity, and reveal basic principles of gene regulation.

The Company

IQM

<https://meetiqm.com/about-us/>

We build
quantum
computers

Founded in 2018 - Based in Espoo, Finland

Global leader in building quantum computers.

July 2022: IQM raised €128 million Series A2 funding led by World Fund. The funding, which follows a €39m Series A1 in 2020 and includes part of a €35m venture loan from the EIB also in 2022, makes it the largest funding round raised by a European quantum computing company to date.

The ERC-funded Researcher

Mikko Möttönen

Aalto University

<https://www.aalto.fi/en/department-of-applied-physics/quantum-computing-and-devices-qcd>

PhD 2005



2011 ERC Starting Grant

“Single-photon microwave devices: era of quantum optics outside cavities”

2015 ERC Consolidator Grant

“Quantum environment engineering for steered systems”

2016 ERC Proof of Concept Grant

“Self-calibrating nanobolometer based on superconductor-normal-metal hybrids”

In this project, the team will develop a microwave nanobolometer invented in the ERC Starting Grant into a proof of concept and carry out a market analysis and partnering with the relevant industrial players in the field.

2020 ERC Proof of Concept Grant

“Scalable fabrication process for quantum-circuit refrigerators”

This project will generate a scalable, standardized process for the manufacturing of quantum-circuit refrigerators (QCRs) as a stand-alone component for cooling the operational quantum degrees of freedom in different types of under-damped quantum electric devices, enhancing their performance. The project’s several objectives will allow to build an extensive business case for the subsequent commercial exploitation of this technology.

2021 ERC Advanced Grant

“New superconducting quantum-electric device concept utilizing increased anharmonicity, simple structure, and insensitivity to charge and flux noise”

The Company

OxfordPV

<https://www.oxfordpv.com/>



Founded in 2010 - Based in Oxford, United Kingdom

Pioneer and technology leader in perovskite solar cells, focuses exclusively on developing and commercialising a perovskite-based solar technology

2016: Equinor (formerly Statoil) and Legal & General Capital invest in Oxford PV

2017: European Investment Bank financing

2023: achieved a world-record efficiency of 28.6% for its commercial-sized perovskite-on-silicon tandem solar cell

The ERC-funded Researcher

Henry James Snaith

University of Oxford

<https://www.physics.ox.ac.uk/research/group/photovoltaic-and-optoelectronic-device-group>

PhD 2005



2011 ERC Starting Grant

"Hybrid photovoltaic energy relays"

The publication "Hybrid Photovoltaic Energy Relays" resulting from this grant has been described as the foundational paper for the inception and development of the research field of halide perovskites.

2012 ERC Proof of Concept Grant

"New energy material"

Within the ERC starting grant, the team developed a new solid-state absorber material and device structure, which represents a distinctly new emerging solar technology based on solution processed inorganic and organic semiconductors. Within this project, long term stability will be externally verified, and a strong IP position and strategy will be developed through professional IP strategists.

2015 ERC Proof of Concept Grant

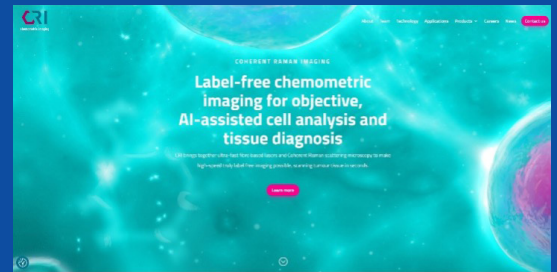
"Perovskite light emitters"

The project will formulate a strategy to move the perovskite materials and device research towards commercial exploitation as light sources.

The Company

CRI

<https://www.cambridgeramanimaging.com/>



Founded in 2018 - Based in Cambridge, United Kingdom

Developed a microscope which uses graphene to modulate ultra-short pulses of light to diagnose cancer tumours

2022: Public sector funding (grant) EIC Transition

2022: £1.1 million through an equity funding round from existing and new investors, bringing the company value at £6.1 million.

The ERC-funded Researchers

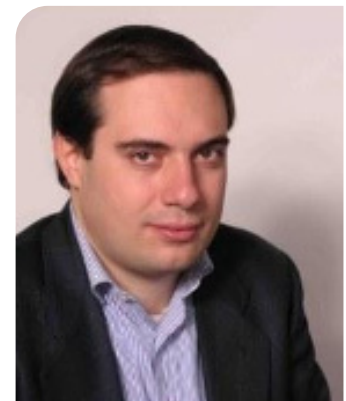
Andrea Carlo Ferrari

University of Cambridge

<https://www.graphene.cam.ac.uk/>

<http://www-g.eng.cam.ac.uk/nms/home.html>

PhD 2001



2007 ERC Starting Grant

"Nanotube based polymer optoelectronics"

2012 ERC Synergy Grant (together with Konstantin Novoselov, 2010 Nobel Prize in Physics, and Vladimir Falko)

"Novel materials architecture based on atomically thin crystals"

2014 ERC Proof of Concept

"Highly conductive graphene ink"

Current flexible electronic devices are based on organic semiconducting materials with excellent current switching but poor charge carrier mobility, which result in a slow response. This project aims to unlock this limitation by demonstrating the viability of graphene as additive to printed organic semiconducting materials, aiming to improve their mobility.

2018 ERC Proof of Concept

"Graphene-synchronized coherent Raman scattering laser and microscope"

The project aims to drastically simplify the laser system used for Coherent Raman scattering microscopy, increasing its reliability and reducing its cost by exploiting the ultrafast and broadband nonlinear optical response of graphene.

Giulio Cerullo

Politecnico di Milano

<https://www.fisi.polimi.it/en/research-line-1>

PhD 1988



2011 ERC Advanced Grant

Structure and dynamics of biomolecules by two-dimensional ultraviolet spectroscopy

2014 ERC Proof of Concept

“Mid infrared spectrometers by an innovative optical interferometer”

The project will bring to the market a revolutionary concept of mid-infrared (MIR) interferometer, for a new generation of compact, low-cost, rugged spectrometers.

Dario Polli

Politecnico di Milano

<https://www.fisi.polimi.it/en/research-labs/vibra--11>

PhD 2001



2014 ERC Consolidator Grant

“Very fast imaging by broadband coherent raman”

2016 ERC Proof of Concept

“A novel instrument to identify chiral molecules for pharmaceuticals and bio-chemistry”

The project will bring to the market a revolutionary device to uniquely identify the chirality of molecules

2018 ERC Proof of Concept

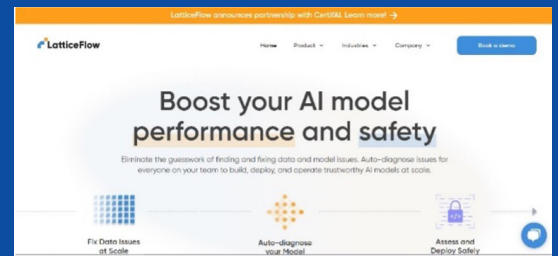
“Industrial implementation of a step-change technology to measure fluorescence”

The project will bring to the market a revolutionary device to measure fluorescence of a large variety of samplesinterferometer, for a new generation of compact, low-cost, rugged spectrometers.

The Company

LatticeFlow

<https://latticeflow.ai/>



Founded in 2020 - Based in Zurich, Switzerland

Specialises in AI model performance and safety solutions, offers a platform designed to help data analysts, machine learning engineers, and business leaders build, deploy, and maintain AI models that are easy to understand, trustworthy, and reliable.

2022: Secured \$12 million Series A funding round, bringing total funding to \$14.8 million

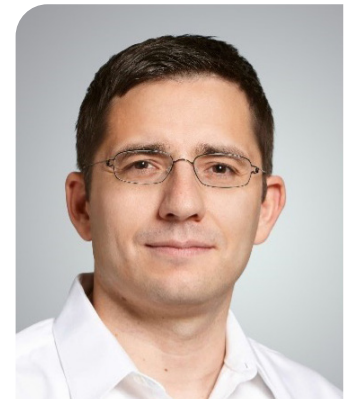
The ERC-funded Researchers

Martin Vechev

ETH Zurich

<https://www.sri.inf.ethz.ch/>

PhD 2008



2015 ERC Starting Grant

"Earning from big code: probabilistic models, analysis and synthesis"

Andreas Krause

ETH Zurich

<https://las.inf.ethz.ch/>

PhD 2008

Chair of the ETH AI Center



2012 ERC Starting Grant

"Large-scale adaptive sensing, learning and decision making: theory and applications"

2018 ERC Consolidator Grant

"Reliable data-driven decision making in cyber-physical systems"