



UNIVERSITY OF
LIVERPOOL

FROM IDEAS TO IMPACT

**ENTERPRISE YEAR
IN REVIEW 2024/25**

Supporting new spin-out ventures and
licensing for real-world change

CONTENTS

Introduction	1
Foreword – New alliances, greater impact.	
Professor Anthony Hollander, Pro-Vice-Chancellor for Research & Impact.....	2
Translating research for real-world impact	
Emma Nolan, Head of University of Liverpool Enterprise.....	4
Fuelling ideas, securing funding	6
Creating investable founders	8
Year in Review	
Enterprise Dashboard	9
Spin-out Case Studies	
Intellegri.....	10
Plasma2x.....	11
Plasma Fresh.....	12
Meet The Enterprise Team	13
Contact Us.....	15

INTRODUCTION

FROM IDEAS TO IMPACT

Technology transfer – the process of translating research into real-world products, services, or processes – is a vital part of the University of Liverpool's mission. We're committed to supporting our academic entrepreneurs to create spin-out companies and license technologies that benefit society, drive economic growth, and tackle global challenges.

Our portfolio continues to go from strength to strength. Since 2018, we've supported 29 spin-out companies, and momentum is building. These ventures are attracting investment, winning national awards, and forging strategic partnerships that will accelerate their growth.

In this review, we spotlight some of the pioneering research supported by the University's Enterprise Team.



FOREWORD

PROFESSOR ANTHONY HOLLANDER

PRO-VICE-CHANCELLOR FOR RESEARCH & IMPACT

New alliances, greater impact

We are living through a period of rapid and complex change, where university-led innovation is central to addressing global challenges, from health and climate to artificial intelligence (AI) and digital transformation.



The technology transfer landscape is evolving quickly, driven by growing investor interest in university spin-out companies, stronger regional partnerships, and a renewed national focus on

research commercialisation as a pillar of the UK's innovation economy.

At the University of Liverpool, we continue to accelerate our enterprise strategy by enhancing support for researchers, forging new strategic partnerships, and unlocking new investment opportunities.

In May 2025, the University became the **first non-founding member to join Northern Gritstone** – the groundbreaking venture capital and venture-building company chaired by Lord Jim O'Neill, investing in science and technology spin-outs solving global problems, with the potential to scale worldwide. This multi-year partnership marks a significant step forward in scaling the real-world impact of our research. It provides our ventures with access to its specialist innovation services and investor-readiness programmes, and our membership reflects growing national recognition of the University's commercialisation pipeline.

By joining the founding members – the Universities of Leeds, Manchester, and Sheffield

– we now form the 'Northern Arc' of Intellectual Property (IP)-rich, early-stage investment opportunities grounded in world-class research. With a combined output of 19 spin-out companies annually (source: HESA*), the Northern Arc is emerging as a leading UK hub for the commercialisation of university technologies.

This year, we proudly launched two flagship programmes within the **Liverpool City Region (LCR) Life Sciences Innovation Zone** portfolio – part of the UK Government's national Investment Zone programme, which aims to unlock £800M in investment and create 8,000 new jobs, supporting the UK's ambition to be a global science and technology superpower:

- The **Civic HealthTech Innovation Zone (CHI-Zone)** is supporting University researchers and local entrepreneurs to translate their innovations into successful businesses, while ensuring local HealthTech and CareTech advances directly benefit the region's people, health, and care systems.
- The **Microbiome Acceleration, Innovation and Development (MAID) Hub**, in partnership with the **national technology innovation centre, CPI**, is supporting LCR businesses developing microbiome and phage therapeutics – de-risking innovation, speeding up market access, and positioning the region as a global leader in this emerging field.

In July 2024, the University received a transformative £1M donation from the Sir Peter Rigby Charitable Trust to establish the **Sir Peter Rigby Centre for Enterprise (SPRcE)**. Since then, we've begun putting this investment to work. One of the first initiatives sponsored by SPRcE was the **Sustainable Futures Accelerator Programme**, co-designed with our new collaborators at **Sustainable Ventures**. The programme has already provided tailored support to four University ClimateTech spin-outs, helping them refine their business models, attract investment, and build connections through Sustainable Ventures' extensive network of entrepreneurs, investors, and corporate partners.

The UK Government's 2023 review of university spin-outs set out a bold vision to make the UK a "science and technology superpower," calling for a world-class spin-out ecosystem. In anticipation, we reviewed our IP and equity policies in 2023/24 via a comprehensive consultation. Our updated guidelines align with recommendations, and we remain committed to evolving our approach to maximise impact.

For the second consecutive year, Research England's **Knowledge Exchange Framework (KEF5)**** recognised our progress and performance, awarding us the highest rating (Quintile 5) for IP and Commercialisation. We also improved our standing in Local Growth and Regeneration, achieving high engagement (Quintile 4) and exceeding the cluster average. This reinforces our position as a leading UK university for knowledge exchange and reflects our strategic investment in projects and resources that foster an entrepreneurial culture.

Our ambition remains high. The progress we've made this year reflects a step change in the scale and impact of our enterprise activity. As we look ahead, we are committed to building on these achievements. This will be critical in supporting the University's goal to achieve a world top 100 ranking by 2031 – a target we are determined to reach by continuing to turn ideas into impact at scale.



Professor Anthony Hollander

Pro-Vice-Chancellor for Research & Impact

"I am delighted that the University of Liverpool has joined the Gritstone journey. Along with our founding three members, Leeds, Manchester and Sheffield, we now have all four of the universities from the major metro areas that make up a key corridor of the North. This is central to developing a growth hub of 8-9 million people in this area, boosting growth not just here, but for the country."

Lord Jim O'Neill, Chair of Northern Gritstone



"I'm delighted to be joining the Enterprise Board at such an exciting time. After working with spin-outs and early-stage businesses across the North West for the past 20 years, I'm looking forward to contributing to the excellent work of the Enterprise Team and helping to create commercial impact from the University of Liverpool's high-impact research."

Malcolm Stewart,
Chairman, NED in early-stage STEM companies, and member of the Enterprise Board.



* The Higher Education Statistics Agency (HESA) collects, processes and publishes data about higher education in the UK, supporting and enhancing the competitive strength of the sector.

** Led by Research England, KEF is a metrics-driven assessment framework providing a range of information on the knowledge exchange activities of universities in England, and how they work with external partners for the benefit of the economy and society.

TRANSLATING RESEARCH FOR REAL-WORLD IMPACT

EMMA NOLAN, HEAD OF UNIVERSITY OF LIVERPOOL ENTERPRISE

This year, University of Liverpool Enterprise Team activities have focused on consolidation, collaboration, and co-investment with investors in the Liverpool City Region (LCR) ecosystem and beyond.



Our ambition is simple: to work with stakeholders in the LCR and beyond to develop the innovation ecosystem and enhance the University's technology transfer capabilities. In 2024/25, we've celebrated a

number of achievements alongside our spin-out founding teams.

Highlights include:

Fintech Spin-in

The University became a founding shareholder in **Intellegri**, having been approached by an experienced management team including insurance industry experts. The company will apply cutting-edge software, developed by **Professor Simon Maskell**, to the financial and insurance sectors. *Find out more in the case studies section of this report.*

From lab to lives: AI-Sight's global vision

AI-Sight, which spun out from the University in 2022 to commercialise a next-generation artificial intelligence (AI) system for diabetic eye screening, completed a **seven-figure equity funding round** backed by leading healthcare investors, including Sir Michael Bibby, Phil Kirby, Pitalia Capital, and Deepbridge Capital.

This followed the Class 1 medical device certification of AI-Sight's first commercial

product. The AI software device is designed to support training and diagnostic decision-making by human graders of diabetic retinopathy in retinal scans. AI-Sight continues to build industry partnerships and develop transformative technologies with the potential to improve lives around the world.

Atomik AM – Engineering a better future

We were immensely proud to see Prof Kate Black, CEO of University spin-out **Atomik AM**, sit alongside Prime Minister Keir Starmer and Taoiseach Micheál Martin at the **inaugural UK-Ireland Summit**, contributing to high-level discussions on trade, investment and collaboration.

Founded in October 2022, with investment from the University's Enterprise Investment Fund, alongside angel funders, Atomik AM is developing sustainable materials and patented binder jetting technologies to enable more efficient, scalable manufacturing. In 2025, the company secured pre-seed funding from **LYVA Labs** and the **Northern Powerhouse Investment Fund II** (via Praetura Ventures) to accelerate growth, expand capabilities, and drive innovation with partners including Unilever and Ricoh.

SenseAI Vision's Mission to Transform Imaging Worldwide

University spin-out **SenseAI Vision Ltd**, which applies advanced AI to transform how images are captured and analysed, **secured its first seed**



investment led by Foresight Group, with support from the University, LYVA Labs and the Liverpool City Region Seed Fund. The company's pioneering electron microscopy software delivers imaging up to 100 times faster while reducing damage to delicate samples, helping capture clearer results more efficiently. SenseAI Vision recently launched its 4D STEM product, enabling real-time, high-quality analysis with only a fraction of the usual data, winning a **2025 Microscopy Today Innovation Award**. Customers already include King's College London, the University of Michigan, and the Radboud EM Center, supporting global adoption.

OCUWELL's Mission to Personalise Treatment Worldwide

OCUWELL® Ltd, founded in 2022, is on a mission to democratise access to quality eye care. Backed by the University, Deepbridge Capital, Northern Gritstone and LYVA Labs, the company is commercialising its first product - a handheld corneal topography system combining the OCUTOP® scanner and OCUGRAPH® analysis software. This technology delivers fast, high-resolution imaging and advanced visualisation tools, giving clinicians a streamlined way to assess and treat conditions such as myopia. OCUWELL also secured £1.4M through a **UK-South Korea collaboration** to apply AI and advanced modelling to personalise treatments and set new global standards in eye care.

Galytx joins forces to redefine Atopic Dermatitis care

Galytx signed an **exclusive licensing deal** with dermatology biotech Quodria Ltd to develop a first-in-class treatment for Atopic Dermatitis (AD), a form of eczema. Launched in June 2024, Galytx specialises in galectin-3 targeted therapies for inflammatory diseases, cancer, and fibrosis. The agreement gives Quodria exclusive rights to use Galytx's novel galectin-3 inhibitors to develop Q001, a topical therapy for AD. Together,

the teams aim to deliver effective relief whilst reducing the side effects of current treatments, offering new hope to AD patients worldwide.

A BRITE Future: Making Liverpool a global leader in biologics

The University of Liverpool is partnering with the Liverpool Tropical School of Medicine in **BRITE (Biologics Regional Innovation and Technology Ecosystem)**, a £5M project funded by Research England. This cross-sector initiative aims to position Liverpool as a global hub for biologics innovation by advancing vaccine and drug research, manufacturing, and commercial scale-up. By uniting universities, industry, and healthcare, BRITE will accelerate life-saving medicines, create high-skilled jobs, and strengthen the regional economy, driving Liverpool to the forefront



And the awards go to...

A University team led by Dr. Ishwar Singh won the 'Health Category' of the 2025 Royal Society of Chemistry **Emerging Technologies Competition** for their groundbreaking, scalable synthetic teixobactin antibiotic platform, which shows promise against resistant bacteria and is ready for commercialisation.

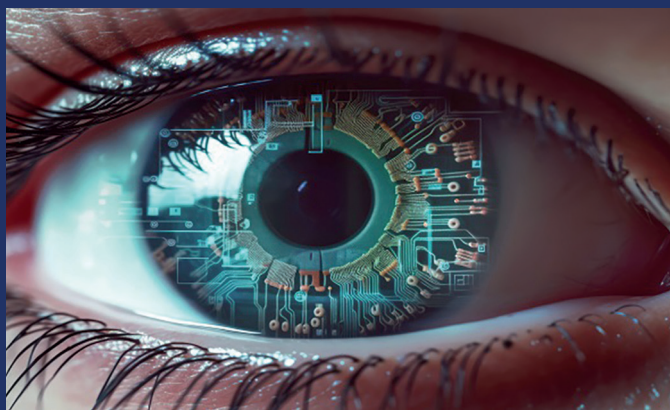
Spin-out company **Plasma2X** was also recognised as a **finalist** in the 'Environment Category' for its pioneering plasma electrocatalysis technology, which aims to transform chemical production and enable greener, more efficient ammonia and fertiliser manufacturing.

Meanwhile, **ReNewVax Ltd**, launched in 2022, won the **Bionow Start-Up Award** for its innovative therapeutic vaccine platform targeting antimicrobial resistance.

FUELLING IDEAS, SECURING FUNDING

The University of Liverpool Enterprise Team assists university entrepreneurs in securing funding from both industry and grant sources. In 2024/25, this has included supporting over £30M in grant applications and securing £10M in awards.

Successful translational grants require a clear understanding of the route to market and regulatory environment. The Enterprise Team works closely with industry experts to foster partnerships and build compelling value propositions, ensuring strong, competitive applications that translate research into real-world impact. Explore some of the recent successes below:



AI Powered Diagnosis of Dementia

Early diagnosis of dementia is crucial for effective treatment, yet diagnosis remains challenging. **Professor Yalin Zheng's** interdisciplinary team of engineers, scientists and clinicians has detected corneal nerve loss in the eyes of patients with neurodegenerative diseases. The Enterprise team supported their successful £1.49M MRC-DPFS bid to develop AN-EYE-4-DEMENTIA, an imaging device incorporating novel AI algorithms that analyse corneal nerve images to diagnose dementia. This funding will enable a clinical study to validate the technology's diagnostic and predictive accuracy.

Improved Treatment for Progressive Eye Condition

The Enterprise Team helped secure over **£2.4 million in Medical Research Council (MRC)** funds to advance a minimally invasive treatment for keratoconus, a progressive eye condition that can severely impair vision. Led by **Professor Rachel Williams**, the team will use the funding to clinically translate a novel cross-linking agent that can be administered painlessly under local anaesthetic, without removing the corneal epithelium. Preclinical studies have shown the treatment's safety and efficacy, and the approach could simplify procedures, expand access to care, and reduce NHS costs. The funding builds on proof-of-concept work supported by the University's Harmonised Impact Acceleration Account (IAA) and ongoing Enterprise team support, with the aim of partnering with industry to bring this innovation into clinical use.



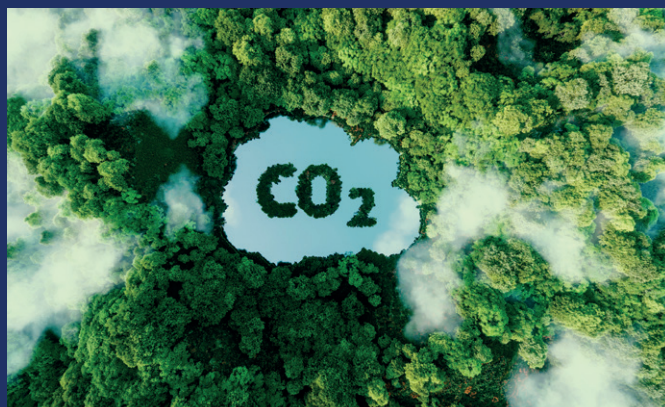


Advancing Injectable Materials for Cancer Care

Joint working between the Science & Engineering and Medtech and Bioscience Enterprise Teams supported **Dr Katarzyna Gurzawska-Comis** in securing an £8.6M EU award for GreenNanoBone, a University of Liverpool-led interdisciplinary consortium developing sustainable, biocompatible, and antimicrobial 4D injectable materials to address hard and soft tissue complications in cancer patients. Targeting the growing problem of medication-related osteonecrosis of the jaw (MRONJ), the project aims to deliver a hydrogel that stimulates bone regeneration, supports angiogenesis, and prevents infection, advancing the technology from early Technology Readiness Level (TRL) 3 to Phase I clinical trial readiness (TRL 5/6). The Enterprise Teams will lead on IP management, stakeholder engagement, market analysis, and commercial negotiations to ensure maximum real-world impact.

Accelerating the Translation of CO₂ Electrolysers

The Enterprise Team supported a successful £800K industry funding bid for **Professor Alex Cowan's** C-Circ project. The funding will advance CO₂ electrolyser technology, building on EPSRC-funded research, and scale the system to attract further investment. The technology converts CO₂ into valuable platform chemicals, with the funding enabling proof-of-concept trials, environmental and economic modelling, and an exploitation roadmap to drive adoption.



CREATING INVESTABLE FOUNDERS

Our growing portfolio of spin-outs and enterprise initiatives reflects our ongoing commitment to innovation and entrepreneurship. We continue to invest in training, funding, and support. Since 2018, as part of the **North by Northwest consortium**, we've participated in 46 ICURE programmes, equipping over 70 academics and PhD students with skills in customer discovery, market engagement, and research commercialisation. This has generated over £2.4M in follow-on funding and resulted in nine spin-out companies.

Our partnership with Northern Gritstone gives MedTech and Biosciences spin-outs access to NG Studios, a four-month bespoke pre-seed programme delivered in partnership with KQ Labs at The Crick Institute, offering expert support in strategy, operations, and fundraising while embedding founders in a high-calibre network of investors and industry leaders. This strengthens our ability to accelerate clinical innovation for global patient benefit.

Supported by funding schemes including the Enterprise Investment Fund and our Innovation Ignition Fund, our entrepreneurial culture is thriving. Thanks to the donation from Sir Peter Rigby's Centre for Enterprise, six early career researchers shared £41K in 2024 to advance

their projects, gain commercialisation skills, and build confidence navigating IP and innovation pathways.

Our Enterprise Team was recently commended in the 'Innovation of the Year' category at the University's 2025 Staff Awards. Thanks to our researchers, partners, and supporters, our spinout portfolio and external investments are growing and several companies poised to close Seed and Series A rounds in 2025/26.



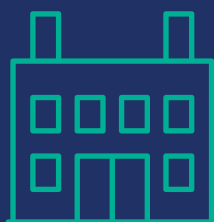
2024/25

YEAR IN REVIEW ENTERPRISE



£24.9m

in intellectual property
(IP) related income to
the University since 2018



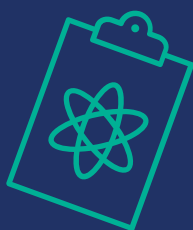
29

Number of spinouts
supported since 2018



133

Number of
jobs created
(HE-BCI in 2024/25)



350+

Number of researchers
trained in the last 7
years (150 in 2024/25).



£6.1m

University Enterprise
Investment funding
invested since 2018*



£40.2m

Leveraged investment,
industry or grant funding
into spin-out companies/
the University in a
7-year period**

* Committed from the Enterprise Investment Fund (EIF) since 2018, which, to date, has resulted in **£40.2 million of investment, industry and grant funding into the University. Figures up to 31 July 2025.

SPIN-OUT CASE STUDY

INTELLEGRI

Transforming Insurance Through Real-Time Risk Modelling

The insurance and financial services sectors are being reshaped by digital innovation, requiring smarter and faster approaches to managing risk. Intellegri, an established company led by insurance industry experts, **spun into the University of Liverpool in 2024** and is driving this transformation. By combining cutting-edge academic research with industry expertise, it is developing a platform with the potential to revolutionise capital reserving and regulatory reporting.

Unlike traditional spin-outs, spin-ins offer a new model for collaboration, allowing established companies to partner with universities to develop commercial opportunities in return for an equity stake.

At the heart of Intellegri's offering is software created by **Professor Simon Maskell** and Dr Alex Phillips from the University's School of Engineering. The technology, based on their expertise in Bayesian modelling and inference, enables insurers to continuously and accurately assess capital risk in real time.

Intellegri is integrating this software into a cloud-based platform that helps insurers, capital providers, and their customers model capital adequacy requirements. Capable of calculating millions of scenarios in near-real time, the platform offers insurers unprecedented precision and efficiency in risk management.

The software builds on more than a decade of research including the £2.4m EPSRC-funded Big Hypotheses (BH) project and an Impact Accelerator Award that explicitly focused on aligning BH with Intellegri's ambitions. Work stemming from the Big Hypotheses project has already delivered real-world impact, from informing the UK Government's COVID-19 R number to aiding the search for the missing Malaysian Airlines flight MH370.

Intellegri is led by a team of insurance experts, including Founder and Chief Strategy Officer Andre Finn. Together with the Chief Executive Officer, Nick Lockwood, Professor Maskell, Dr Phillips, and the University of Liverpool, they are translating Big Hypotheses into a powerful new product for the global insurance market.

As Intellegri develops its platform and forges new partnerships, it demonstrates how innovation and collaboration can deliver both commercial success and societal impact. The spin-in model also highlights a valuable approach for the University, showing how working with experienced management teams and investors can accelerate the time to market for University technologies. With its potential to transform risk modelling, Intellegri is well-positioned to shape the future of these sectors.

Department: **Electrical Engineering and Electronics**

Lead Researcher: **Professor Simon Maskell**

Company: **www.intellegri.com/**



SPIN-OUT CASE STUDY

PLASMA2X

Revolutionising Sustainable Chemistry with Electricity

The chemical and fertiliser industries face urgent pressure to reduce carbon emissions while maintaining global food production. **Plasma2X**, founded in 2023, is addressing this challenge by using electricity to produce fuel and fertiliser directly from air and water.

Plasma2X Ltd, led by Dr Mike Craven and Professor Xin Tu, is developing zero-carbon, scalable, and economically viable solutions that convert natural resources into vital chemicals, fuels, and fertilisers. Their approach has the potential to decarbonise processes responsible for a significant portion of global greenhouse gas emissions.

Conventional nitrogen fertiliser production relies on fossil-fuel-derived ammonia, contributing 1.4% of global GHG emissions. Nitric acid, primarily used for nitrate fertiliser, is traditionally made by oxidising ammonia, wasting much of the embedded fossil energy. Plasma2X's patented technology offers a sustainable alternative: by mimicking nature's lightning-driven nitrogen fixation, plasma reactors activate nitrogen and oxygen molecules with energetic electrons to produce nitrogen oxides, which are dissolved in water to make nitric acid. A secondary process converts this nitric acid into ammonia, providing a green alternative for fertiliser and fuel production.

The Plasma2X team combines expertise in plasma reactors and electrochemical cell technology with deep knowledge of industry and sustainability, enabling them to translate cutting-edge research into commercially viable, environmentally responsible solutions.

Plasma2X has already gained significant recognition. In 2025, the team joined the TechX Clean Energy Accelerator, an intensive programme for early-stage clean energy start-

ups, and were invited to the Royal Society Change Makers Programme, celebrating the UK's top deep-tech chemistry talent. The company has been a finalist in the **Royal Society of Chemistry's Emerging Technologies Competition**, named a One to Watch in the **Liverpool City Region Tech Climbers awards**, and reached the semi-finals of the International Fertiliser Association Cultivate Challenge.

By pioneering electricity-driven chemical production, Plasma2X demonstrates how innovation and academic-industry collaboration can deliver both commercial success and environmental impact. The spin-out exemplifies the University's commitment to translating research into solutions that can transform global industries and accelerate the transition to a net-zero future.

Department: **Electrical Engineering and Electronics**

Lead Researcher: **Dr Mike Craven and Professor Xin Tu**

Company: **www.plasma2x.com/**



SPIN-OUT CASE STUDY

PLASMA FRESH

Transforming Food Safety with Cold Plasma Technology

The food processing industry faces major challenges in maintaining safety and hygiene while reducing chemical use, energy consumption, and downtime. **Plasma Fresh**, a University of Liverpool spin-out founded in 2022, is tackling this by developing cold plasma technology that sterilises food and processing surfaces without water or harsh chemicals.

Led by Dr Aaron Dickenson and Professor James Walsh, Plasma Fresh creates retrofittable, in-line systems that efficiently eliminate pathogens from food products and equipment. Their technology generates reactive plasma species on-demand, inactivating microorganisms and degrading chemical contaminants. It can be applied to a variety of foods – including vegetables, meats, and powders- while also extending shelf life and improving sustainability.

Conventional sanitisation methods are often ineffective and environmentally intensive. Plasma Fresh's cold plasma approach offers a safer, more cost-effective alternative, providing a disruptive advance for food producers and manufacturers.

The company has **secured £1M in seed funding** from Northern Gritstone's NG Studios, Deepbridge Capital, Lyva Labs, and an Innovate UK grant. This investment will accelerate pilot installations, expand the engineering team, and support further R&D to broaden applications across the sector. Plasma Fresh also completed Innovate UK's ICURe programme and joined the Bio BIC incubator at Sci-Tech Daresbury, gaining mentorship, funding, and commercial support.

Plasma Fresh is one of five standout University of Liverpool spin-outs participating in NG Studios, Northern Gritstone's bespoke pre-seed programmes for technology and life

sciences spinouts, highlighting the University's commitment to translating world-class research into innovative, high-impact technologies.

By pioneering cold plasma sterilisation, Plasma Fresh demonstrates how academic-industry collaboration can deliver both commercial success and societal impact, providing safer, more sustainable solutions for global food production.

Department: **Electrical Engineering and Electronics**

Lead Researcher: **Dr Aaron Dickenson and Professor James Walsh**

Company: **www.plasma-fresh.com/**



MEET OUR ENTERPRISE TEAM



Emma Nolan

Head of the
Enterprise Team



**Dr Carolyn
Horrocks**

Head of Enterprise
(Health)



**Dr Tansi
Khodai**

Senior Enterprise
Manager (Health)



**Dr Nicolas
Nunn**

Associate Enterprise
Manager (Health)



Dr Zining Wang

Senior Enterprise
Manager (Digital
and Data - Health)



**Dr Thomas
Pugh**

Head of Science
and Engineering



Charlotte Relf

Senior Enterprise
Manager (Science
and Engineering)



**Dr Stephen
Casabella**

Senior Enterprise
Manager (Science
and Engineering)



Howard Duffy

Spin-Out and
Portfolio Manager



Dr Michal Filus

Enterprise and
Entrepreneurship
Manager



Chris Walters

Intellectual
Property Manager



**Cijo
Varghese**

Assistant IP
Manager



**Danielle
Main**

Legal & IP
Associate



**Debbie
Yates**

Office
Administrator



**Donna
Martyn**

IP Administrator

Contact Us

University of Liverpool Enterprise

The Enterprise Team
Research, Partnerships and Innovation
University of Liverpool
3rd Floor Linear Wing, Foundation Building
765 Brownlow Hill
Liverpool
L69 7ZX

liverpool.ac.uk/collaborate/enterprise/

UoL-Enterprise@liverpool.ac.uk

 [Research, Partnerships and Innovation](#)

For enquiries related to student start-up and entrepreneurship, contact the **Careers and Employability Department.**

Supported by

