# LIV.DATA NEWS

Issue 04 | March 2025

## Levelling up!

AI is driving innovation, but many companies still struggle with adoption. To bridge this gap, we will be hosting our first "AI for Innovation" virtual conference on 7 May 2025, bringing together industry leaders and researchers to share insights and strategies for AI-driven growth.
We have an excellent speaker line-up, and this problem-focused event will empower you and your business to fully exploit the opportunities that AI brings.
Join me to explore real-world applications, connect with experts, and shape the future of AI. You will find more information about this free event in this issue of *LIV.DATA News*.

Prof Carsten P. Welsch
LIV.INNO Director

## AI for good - Calls for Liverpool to become 'AI Growth Zone'

A Liverpool professor has welcomed the Government's 'AI Opportunities Action Plan' announced in January and calls for the Liverpool City Region to be considered for an AI Growth Zone to power its AI for good ambitions. The city has world class skills in Artificial Intelligence, machine learning and quantum computing, is investing in green energy with frontier projects like Mersey Tidal Power and is a centre for healthcare innovation.

Professor Carsten P Welsch is the Director of the Liverpool Centre for Doctoral Training for Innovation in Data Intensive Science (LIV.INNO). The centre is building cutting-edge skills in AI and working with firms in the region to build their capacity in AI. He says the government's AI Opportunities Action Plan, which outlines its aim to make the UK a leader in AI, represents a transformative moment.
He says: "Liverpool led the first industrial revolution and would be an inspired choice for an AI Growth Zone."

"We already have deep academic expertise in AI, and strong international connections. By establishing an AI Growth Zone and significantly expanding computing capacity, this initiative has potential to attract businesses and create high-quality jobs in our area."

## NEWS INSIDE

At a recent AI Summit in the city, Steve Rotheram, Mayor of the Liverpool City Region (LCR), outlined his ambition to harness the power of AI for good. Also speaking at the event was Dr Nicola Hodson, CEO of IBM UK and Ireland, who was brought up in the region and studied at University of Liverpool. cosmos.

With its specialisms in accelerator science, the creative industries, infection medicine, novel materials, and advanced manufacturing, LCR offers potential for a dynamic innovation ecosystem aimed at solving societal challenges.

The 'AI Opportunities Action Plan', developed by entrepreneur Matt Clifford CBE, calls for the development of a flagship AI scholarship programme, which could also be supported in Liverpool.

LIV.INNO has a pioneering research training network, developed together with industry, that could provide insights for such a programme.

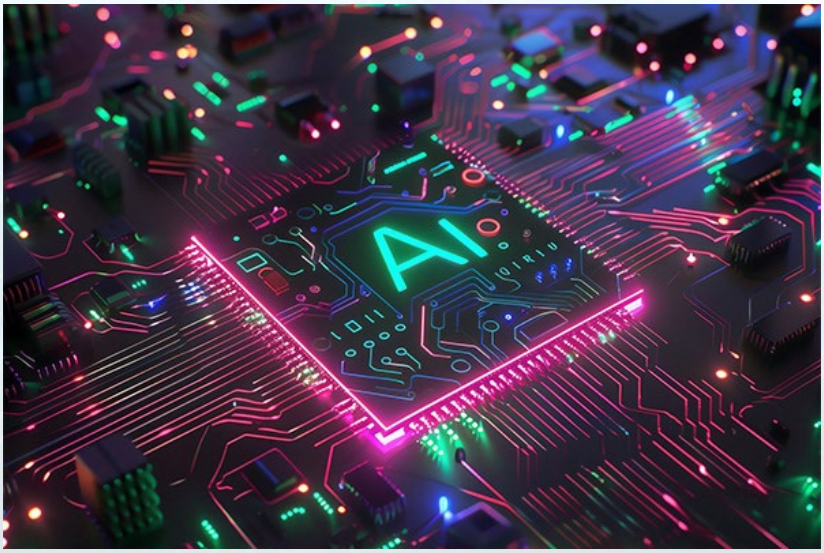
Professor Welsch says: "British scientist Tim Berners-Lee developed his ideas for the World Wide Web while working at CERN. Our students are building on this legacy, pushing the boundaries of AI."

"At LIV.INNO, we are excited to collaborate with industry and government to harness AI's potential, driving innovation and economic growth that will benefit society at large."

LIV.INNO attracts PhD students to work on research projects in particle and accelerator science, in addition to being seconded to industry. This means students have skills in leading-edge science but also practical experience of applying these approaches in the real world.

Recent projects have included:

- Development of a mobile 3D x-ray scanner for rapid diagnosis of fractures
- Improving simulations and their application to enable more effective response to real-world challenges such as the Covid pandemic
- Improving worker safety on railways using historical data to help the network meet productivity targets safely
- Improving the support given to young people for mental health and wellbeing –analysis of how the digital tools were being used by young people, and training therapists to become more effective.




AI Generated Artificial Intelligence Chip (credit: Pixabay)

# Adaptix Wins Award for Innovative X-Ray Technology

Oxford-based technology company Adaptix has been recognised as the most exciting emerging technology at this year's Aerospace Technology and Innovation Awards. The accolade highlights the company's groundbreaking approach to low-power 3D X-ray imaging, with potential applications spanning multiple industries.

The Aerospace Technology Institute celebrated Adaptix's advances in Non-Destructive Testing (NDT), a critical process for ensuring the quality of advanced materials. As the aerospace sector moves towards developing lightweight materials to support the UK's net zero strategy, Adaptix's technology offers a promising solution. Their innovative imaging technologies allow manufacturers to identify potential production faults early, significantly reducing waste and improving efficiency.
In a strategic collaboration with Cranfield University, Adaptix has been scaling up its imaging technology to tackle complex challenges in aerospace manufacturing. The team has developed capabilities to image large structural components, including aircraft wing sections, doors, and external layering, with unprecedented precision and minimal resource consumption.

Simultaneous to their NDT activities, Adaptix is making significant strides in healthcare through a separate collaboration with the University of Liverpool. The QUASAR Group, led by Professor Welsch, has secured £400,000 in funding from the Science and Technology Facilities Council to develop the OptiX project. This innovative initiative aims to create a novel chest imaging device that can provide low-dose 3D imaging directly at a patient's bedside.

Contemporary 3D imaging systems like CT scanners, while crucial to modern healthcare, often come with significant limitations. They typically involve high radiation exposure, substantial infrastructure costs and the complexity of moving critical ill patients to the scanner. There are mobile X-ray systems that can be brought to a bedside but these only give 2D images. The OptiX project addresses these challenges by exploring how 3D images can be generated at the bedside by firing low-power X-rays from an array of positions from a compact, mobile device.

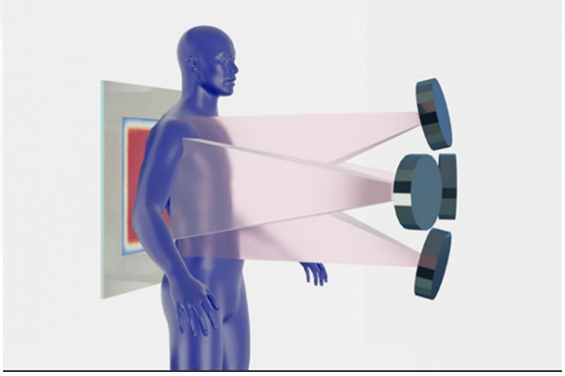
The technology's potential is far-reaching. By reducing radiation dosage and making 3D imaging more accessible, it could revolutionise diagnostic procedures, potentially enabling more frequent and less invasive lung cancer screenings and improving emergency medical imaging.
Central to this innovative work has been the support of LIV.INNO, a centre for doctoral training led by Professor Welsch. Through LIV.INNO's collaborative model, Physics PhD students develop advanced data science skills while working directly with industry partners like Adaptix. The QUASAR Group, in collaboration with Adaptix, has developed sophisticated computer simulations that are critical to optimising the new imaging technology.

These simulations represent a comprehensive approach to technological refinement. Using advanced computational techniques, the QUASAR team has created a suite of simulation tools that address multiple critical aspects of X-ray imaging technology.

The simulations optimise electron beam energies and target compositions, allowing researchers to fine-tune the X-ray generation process. Equally important are the radiation dosage simulations, which model the potential impact on specific organs, enabling the development of safer imaging techniques. Genetic algorithms are used to optimise the overall system arrangement, a computational approach that mimics natural selection to identify the most efficient design configurations.

Dr Steve Wells, Chief Technical Officer at Adaptix, explains “Our collaboration with the QUASAR Group has been instrumental in driving forward Adaptix's innovative imaging technology. The advanced simulations model our electron beams, X-ray spectra and design geometries. This enables us to quickly select promising designs and avoid wasting time on expensive and time-consuming physical experimentation of less optimal designs. This partnership showcases the power of combining academic expertise with industrial innovation to create transformative technologies with real-world impact.”

This recognition at the Aerospace Technology and Innovation Awards underscores Adaptix's innovative approach and its potential to drive significant technological advancements across multiple sectors.



Visualisation of a chest digital tomosynthesis device, simulated by the QUASAR Group. X-rays propagate from multiple panels to irradiate a patient. The detector illumination map is used to optimise the design of the device.

## LIV.INNO congratulates the winners of the 2024 Nobel Prize in Physics

LIV.INNO would like to congratulate the winners of the 2024 Nobel Prize in Physics, John J. Hopfield and Geoffrey E. Hinton “for foundational discoveries and inventions that enable machine learning with artificial neural networks.” The laureates developed methods which are fundamental to Machine Learning and Artificial Intelligence. These tools have applications in many areas of science and are widely used by students who are studying as part of the LIV.INNO CDT.

LIV.INNO has one of its work packages dedicated to Artificial intelligence and Machine Learning. Around half of the CDTs students are studying PhDs which come under this work package with subjects of study ranging from astrophysics and particle physics to nuclear physics and projects with medical applications. Machine Learning and Artificial Intelligence are of ever increasing importance to the LIV.INNO CDT.

LIV.INNO director Prof Carsten Welsch said "The contributions of Hopfield and Hinton have reshaped the scientific landscape, enabling new ways to explore complex phenomena through AI. At LIV.INNO, we are harnessing these breakthroughs to push the boundaries of discovery, from unlocking the secrets of the universe to advancing medical technologies.“

# LIV.DAT student undertakes placement in autonomous vehicle technology

LIV.DAT student Ondrej Sedlacek has recently undertaken a six month industrial placement where he participated in the cutting-edge field of autonomous vehicle technology during an industrial placement at Valeo, a global leader in automotive innovation. From January to September 2024, Ondrej worked on enhancing the capabilities of LIDAR sensors—an important component in the development of self-driving cars.

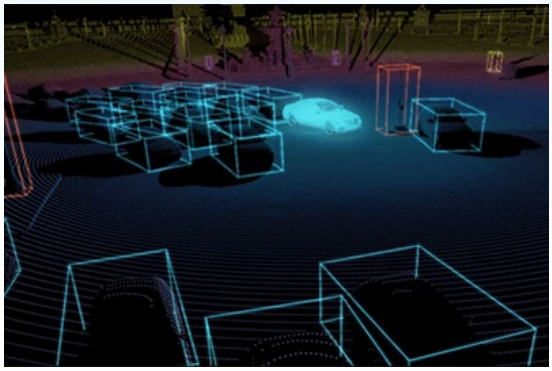


Image credit: www.Valeo.com

During the placement, Ondrej was deeply involved in analysing calibration data and conducting rigorous experiments in Valeo's state-of-the-art laboratories. These efforts aimed to probe the sensor's limits and identify potential improvements, pushing the boundaries of what LIDAR technology can achieve.

"Working at Valeo provided me with invaluable hands-on experience," Ondrej remarked. "I had the opportunity to collaborate with industry experts and contribute to advancements in a field that has the potential to revolutionize transportation."

LIDAR (Light Detection and Ranging) technology is pivotal in enabling self-driving cars to perceive their surroundings. By emitting laser beams and measuring the time it takes for the light to return after reflecting off objects, LIDAR sensors create precise 3D maps of the environment. This capability is essential for safe navigation and object detection in autonomous vehicles.

Ondrej's work focused on improving the sensor's performance. By analysing calibration data he ensured the sensors maintained high accuracy and reliability. The experiments conducted also explored innovative ways to extend the sensors' operational range and robustness.

The placement has not only bolstered Ondrej's technical expertise but also reaffirmed his passion for driving transformative change in cutting-edge technology making the experience very valuable for professional development.

# Four more LIV.DAT students finish their PhDs

The last few months have seen several LIV.DAT students finish their PhDs. Students from both the University of Liverpool and Liverpool John Moores University have completed their studies and have gone to start their careers using skills they have acquired during their time with the CDT.

**Jaiden Parlone** of the University of Liverpool has completed his thesis called 'Integrating Updated Interaction Models and a New Multi-Ring Event Sample for a Precision 3-Flavour Neutrino Oscillation Analysis at T2K'. For his thesis work Jaiden joined the T2K fitting group where he adroitly handled the task of adding further complexity to the already complex multi-dimensional neutrino oscillation fit. Now he has finished his PhD Jaiden is hoping to work in the nuclear power industry.

Top left: Adam Lowe (second from left) and his supervisors. Top right: Adam Tarrant (centre) and his supervisors. Bottom left: Jaiden Parlone (centre) and his supervisors. Bottom right: Andrew Mason

**Andrew Mason** has also completed his PhD at the Astrophysics Research Institute of Liverpool John Moores University. His thesis was titled 'The accretion history of the Milky Way Halo from Massive Spectroscopic Surveys and Cosmological Simulations'. Since finishing his studies Andrew has started a Postdoc Position at the University of Liverpool with the same group he did his industrial placement with through Dirac Innovation where he looked at unifying multimodal healthcare data across NHS trusts and patient lifetimes in the Department of Pharmacology and Therapeutics.

**Adam Lowe**, who studied in the particle physics cluster at the University of Liverpool, has defended his thesis 'Development of Liquid Argon TPC read-out technology for neutrino physics within the ARIADNE project'. His research focused on scaling up this novel neutrino detection technology for future large scale experiments such as DUNE. He is now working with the ARIADNE/Darkside group at the University of Liverpool as a postdoc.

**Adam Tarrant**, who also studied at the University of Liverpool has completed his thesis on Detector Simulations and Calibration for MeV Neutrino Searches in Water and Water based Liquid Scintillator (WbLS) Experiments. WbLS is a new detector medium which could lower the energy threshold of neutrino experiments while maintaining position, direction resolution and particle identification of traditional Cherenkov detectors. Working on Super-Kamiokande, Adam has developed a method of monitoring the relative change in Attenuation using the top diffuser. He also worked on the BUTTON experiment at Boulby where he built the simulations for the detector which will start to take data next year. As part of this work he spent a long period in California studying WbLS making some of the first measurement of it properties such as the attenuation length. Adam is now working as a Postdoc in the Department of Physics at the University of Liverpool continuing his work on BUTTON.

**Congratulations!**

# LIV.DAT student completes placement at Silveray

LIV.DAT student Luana Parsons Franca completed a 6 month industrial placement at Silveray, a Stockport based company developing flexible direct conversion X-ray detectors. Her work at Silveray focused on R&D into gratings-based phase-contrast and dark-field imaging.

Conventional X-rays are relatively cheap and easy to access in health facilities. They are capable of imaging higher density materials, such as bones, but not well suited for imaging soft tissues, such as lungs. The implementation of phase contrast/dark-field imaging could extend the use of conventional x-ray machines used in hospitals, allowing for better contrast in images. This could enable preventative care of illnesses such as Chronic Obstructive Pulmonary Disease (COPD), which is currently relies on expensive CT scans, often resulting in late detection and treatment.

Using gratings to create an interference pattern between the X-ray waves, it is possible to separate 3 different processes that occur when the x-rays interact with matter: small angle scattering, phase shift and attenuation. This results in three different images being produced from contributions of the different processes. Each image contains different complementary information about the object being scanned.

Variations in attenuation of x-rays when passing through materials of different densities, create the traditional x-ray images that we are familiar with. Small angle scattering occurs when x-rays scatter off very small objects, allowing for the detection of very small structures. Phase contrast results from the refraction of x-ray waves when travelling through different mediums, which creates contrast in the image, enabling the imaging of soft tissues.

Small objects and even living beings, such as mice, have been imaged using this technique, but this field is currently limited by ability to fabricate large area gratings, necessary for imaging larger organs in the human body such as lungs. Luana's project involved R&D for fabrication of large area gratings. During her placement she lead the phase-contrast and dark-field imaging research at Silveray, met with various collaborators and suppliers and travelled to Sweden and Germany to collect equipment, conduct knowledge transfer and measurements.

Luana (third from the right) and colleagues at Silveray.

Luana said: "This placement was a unique experience of working within the x-ray industry. I had the opportunity to develop knowledge in a completely new field and work with an incredible team, developing cutting edge research!"

Luana's work included simulation of X-ray Talbot interference patterns, computational image processing and work on costing a setup of gratings based phase-contrast imaging system.

# Data Science Fellow Interview

In each edition of this newsletter, we will interview one of our Data Science Fellows from the LIV.DAT CDT, which recruited students from 2017 to 2020. In this edition, we speak to Beth Slater who has been studying ‘Sterile neutrino search at the Fermilab Short Baseline Neutrino Program’ during her time at the University of Liverpool.

### Can you explain in a few words what your project was about and what you have achieved?

My project has focused on the neutrino oscillation analysis of the near detector of the SBN programme at Fermilab, SBND. Neutrinos are an interesting particle because they change flavour as they propagate. Since this discovery, many measurements of oscillation parameters have been made with some showing anomalous results. These could be explained by an additional flavour of neutrino—a sterile neutrino—definitively testing for these is one of the aims of the SBN programme.

My analysis has involved using a novel technique called PRISM to split SBND up into different sections to improve our sensitivity to the oscillations of sterile neutrinos. Neutrino beams have different properties as you move off-axis: the ratio of neutrino flavours and the energy of the neutrinos change. PRISM uses the different energy spectra at each point in the detector to improve the understanding of systematics.

I have implemented the PRISM technique in all oscillation channels that SBND can detect and have proven its capability to return correct systematic values more accurately than treating the detector as a single space.

### What has the CDT provided you professionally?

During my time as part of LIV.DAT, I have been lucky to engage in several schools and seminars that allow me to learn and study new techniques beyond the scope of my thesis project. A highlight of this was the data science summer school, held in Liverpool, where the lectures gave a broad scope of the applications of data science in various industries and the workshops taught me optimisation techniques for neural nets.

### Can you say something about your next career move?

While I have not decided yet, I want to remain in academia in the short term to fully maximise my contributions to either neutrino physics or expand out to another field. The opportunities to travel and collaborate are amazing and I have found a strong sense of community within my experiment. However, I feel it is important for me to be able to create positive change in the world and moving out of academia may be the best way to achieve this.

### What is your favourite memory from your time as part of the CDT?

My favourite memory is the kick-off meeting for LIV.INNO as it was early in my PhD and was the first time I was exposed to all the potential avenues for data science and all the opportunities drawn on by previous students of the CDT. It was such a fun day celebrating achievements and the future potential of LIV.INNO.

# Voice of Science: Prof Welsch puts LIV.INNO into the spotlight at CERN

A packed library at CERN was treated to a fascinating talk by Professor Carsten P. Welsch, LIV.INNO Director and Head of the accelerator science cluster in Liverpool, on Friday 14 February 2025.

The Globe of Science and Innovation at CERN.

His talk on “Hollywood Physics” was an engaging deep dive into blockbuster movie-making and an overview of the latest research breakthroughs of his group.

From the outset, Professor Welsch captured the crowd’s imagination by highlighting how real physics often underpins the on-screen illusions in major films. Drawing on examples from big Hollywood blockbusters such as Iron Man, The Flash or Stranger Things, he explained that while cinematic storylines can take creative liberties, many studios are eager to maintain a semblance of scientific authenticity to heighten realism. This “Hollywood” angle provided a lively icebreaker, setting the stage for a broader discussion of advanced research within the QUASAR Group. This included discussions around the beam gas curtain monitor, recently installed in the Large Hadron Collider, breakthroughs in antimatter research within the AEgIS collaboration, and how AI is driving advances in accelerator optimization and beam instrumentation. A dynamic Q&A session followed, with audience members quizzing Prof Welsch on the importance of scientific outreach, career progression to specific research techniques used in his group.

Prof Welsch said: “Stories in blockbuster films captivate global audiences, and when they’re grounded in real science - even if creatively adapted - they can spark lasting curiosity. Our job is to make sure that spark leads to greater understanding and perhaps even inspires the next generation of scientists.”

The enthusiastic response to Professor Welsch’s talk highlights the enduring fascination with cutting-edge physics and its interplay with mainstream media. By using Hollywood’s big-screen magic as a springboard, the event explained how science can transition from the realm of imagination to practical, world-changing technology.

Prof Welsch presenting 'Hollywood Physics' at the packed library at CERN.

For anyone interested in Professor Welsch’s background or in seeing photos from the event, please go to https://indico.cern.ch/event/1470941

# Joint LIV.INNO and EuPRAXIA-DN skills school hosted in Liverpool


Group photograph of the delegates at the Skills School.

The third cohort of LIV.INNO students were joined by researchers from EuPRAXIA-DN project to take part in an introductory skills school in Liverpool from 20-24 January 2025. The students undertook training in a range of skills which will help them while they undertake their PhD and prepare them for the world of work beyond their PhD.

Cutting-edge postgraduate researcher training schemes guarantee international competitiveness of the researchers trained and provide them with the necessary skills for a future career as researcher in either the academic sector or in industry. The concept for this course was developed by Professor Carsten P Welsch during the delivery of his previous training networks and has been praised in formal project reviews as 'best practice' in Europe.

On the first day the students were introduced to the school and given training in presentation skills by Dr Joe Wolfenden, LIV.INNO EDI co-ordinator. This session allowed the students to get to know each other a little better and help to prepare them for further presentation skills training later in the week.

Later that day Naomi Smith, LIV.INNO Centre Manager and Outreach co-ordinator, delivered sessions on Science Communication and Outreach. This allowed the students to understand why they need to communicate their work and how to go about it as well as preparing them for the week's task which was creating an outreach proposal.

Ice-breaker session during Skills School.

On the second day Dr Fraser Robertson from Fistral delivered a session on Project Management. This ever-popular session allowed the students to better understand techniques they can use to manage their PhDs as well as helping them prepare their outreach proposal. The students also learned about the process of Peer Review from Dr Eva Vilella-Figueras of the University of Liverpool; a subject with which they will become more familiar as they produce their first journal papers.

Students working together on a presentation during the Skills School.

On the third day the school relocated to Daresbury Laboratory. The students spent the morning honing their presentation skills further by giving presentations about their PhD projects and receiving detailed feedback from their trainers and their peers.

Students during the Darebury Lab tour.

In the afternoon the delegates were given a tour of the facilities at Daresbury Laboratory including the Laser and Diagnostics labs run by the University of Liverpool as well as the Superconducting RF lab and the Vacuum lab.

On Thursday the delegation returned to Liverpool to work further on their project proposals as well as receiving further training from Alex Drake and Barry Farrington of the University of Liverpool Mental Health team, advice on managing their PhDs from data science fellow Dr Alex Hill and a talk about the Skills and Competence Framework from Professor Carsten Welsch, Director of LIV.INNO and EuPRAXIA-DN co-ordinator.


Each group presented their project proposal to their peers.

On the final day each group presented their project proposal to their peers and the trainers and each group received constructive feedback on what they had produced.

The feedback received from the students was very positive with the project management session and the day spent at Daresbury being particular highlights.

The students will receive another training course, again hosted in Liverpool, during the final year of their PhD which will focus on their transition to the job market after finishing their PhD.

# AI for Innovation: LIV.INNO hosts virtual conference to catalyse adoption of AI – Register now!

Increased innovation has been the greatest benefit reported by early adopters of artificial intelligence (AI), cutting development times by half. And yet, despite the significant rewards, recent research has revealed 75% of firms haven't adopted a single AI application and are at risk of losing their competitive advantage*. LIV.INNO is hosting a virtual conference to support the adoption of AI for Innovation.

"Firms are delaying the adoption of AI for various reasons, but it is often because they don't know where to start, they lack the knowledge and skills inhouse, or they are concerned about the investment of time and money," comments Professor Carsten P Welsch, Director of the Liverpool Centre for Doctoral Training for Innovation in Data Intensive Science (LIV.INNO).

"AI has a transformative role in innovation management – from providing customer insights and accelerating product design, through to improving prediction of sales performance and go/no go investment decisions.

"The rate of change is so intense that organisations not actively exploring the potential of AI for new product and service development are going to be severely disadvantaged.

"This is why our virtual conference 'AI for Innovation' is so timely. It aims to provide an overview of the current landscape and future direction of AI, to create a roadmap for adoption, and share learning points from early industry adopters."

Speakers at the conference will include Patrick Gormley, Global Data Science and AI Consult Lead at Kyndryl; Andy Walker, Head of Deep Tech Commercial Strategy at TTP; and Robert G Cooper, Professor Emeritus at McMaster University, an industry thought-leader in the field of AI for new product development. Industry case-studies will also be presented and discussed.

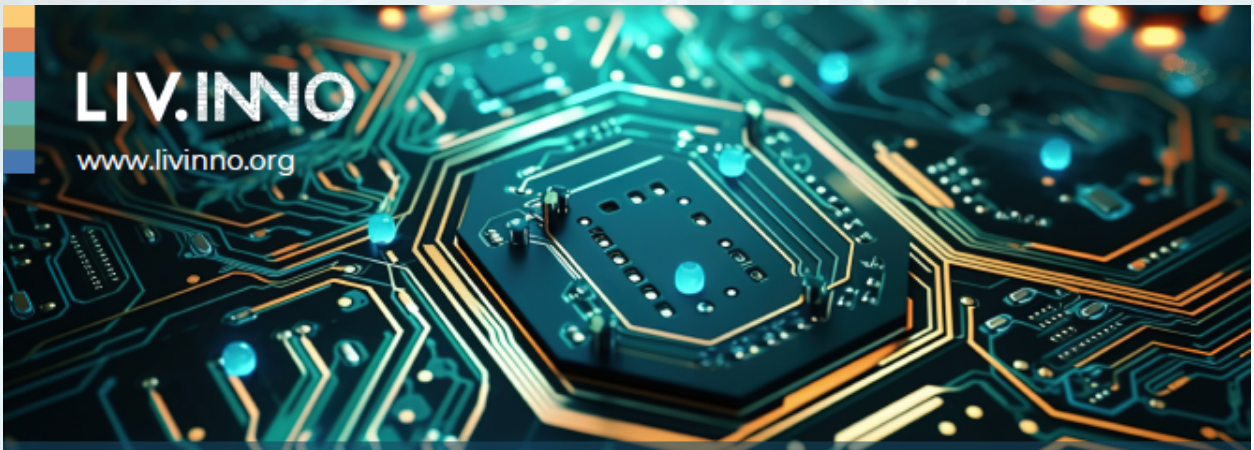
Some of the projects are from LIV.INNO, where PhD students have provided specialist skills in prediction, risk analysis, visualisation, and modelling of scenarios.

Liverpool was at the heart of the first industrial revolution and the city is committed to taking a lead in Industry 5.0. This emerging phase of industrialisation will see advanced technologies harnessed to provide prosperity within a sustainable economy that respects the wellbeing of people and the planet.

This pragmatic event, hosted by LIV.INNO, follows a successful AI Summit held in Liverpool in November 2024. The Government has since announced its AI Action Plan to drive adoption of 5.0 technologies, and that Kyndryl – the world's largest IT infrastructure services provider – will be establishing a new technology hub in the Liverpool City Region, creating one thousand jobs over the next three years.

'AI for Innovation' is a virtual conference taking place at 11am GMT on 7th May 2025 – see more information here.

Registration is free. You have the option to select a virtual exhibitor stand to showcase your company and network with others at the conference.




# AI for INNOVATION

**"What impact will AI have on my business, and where is the biggest opportunity for gain?"**

These are the big questions challenging those tasked with innovation strategy and new product development across all industry sectors.

This pragmatic conference aims to provide context for recent AI developments, offer insights from data scientists, and share real-world industry experience from those who have started their journey.

The interactive format will enable you to explore the potential of AI for your organisation, talk to practitioners and develop an action plan.

You have the option to select a virtual exhibitor stand to showcase your company and network with others at the conference.

**Join us for free!**

REGISTRATION

bit.ly/ai-for-innovation-summit

**Wednesday, 7th May 2025**
**11am – 5pm (BST)**

ONLINE CONFERENCE

# Meet the LIV.INNO students

In each edition of this newsletter, we will introduce some of the students who are studying as part of LIV.INNO CDT

## Emily Costello (2nd year PhD student)

**Project title:**

How do supermassive black holes affect their host galaxies?

**Where are you from?**

Liverpool, England, UK

**What degree did you study?**

I completed the integrated Astrophysics MPhys course offered by the University of Liverpool and LJMU

**What do you do in your free time?**

Outside of physics I immerse myself in many hobbies, but can usually be found playing guitar or playing with my miniature sausage dog Peppy.

## Khang Nguyen (2nd year PhD student)

**Project title**

Using neural networks and clustering algorithms to understand the mass flows and energy cycles at the heart of our Galaxy

**Where are you from?**

Ho Chi Minh City, Vietnam

**What degree did you study?**

My degree is an integrated Masters (MSci) in Physics and Astronomy that I've done in 2022 at the University of Birmingham.

**What do you do in your free time?**

In my free time, I like to play video games of all kinds of varieties (post-apocalyptic, dark fantasy & FPS games are my favourites). Outside of using a computer, I like to cook, go on hiking trips, travelling and cafe hopping with a good book from time to time.

## Mehul Depala (2nd year PhD student)

**Project title:**

Leptoquarks at ATLAS Run III

**Where are you from?**

I was born and raised in North London but have Indian heritage with parents from Mumbai and Gujarat.

**What degree did you study?**

I studied Theoretical physics (QFFF) at Imperial College London for my MSc and Theoretical Physics at QMUL for BSc.

**What do you do in your free time?**

I enjoy cycling and hiking, obsessed with coffee and love books, movies and games.

## Ben Hind (1st Year PhD student)

**Project title**

Machine Learning methods for lattice field theory and urban studies

**Where are you from?**

Darlington, UK

**What degree did you study?**

BSc Mathematics and Physics (The Open University); MSc Particles, Strings and Cosmology (Durham University)

**What do you do in your free time?**

I like sewing, pattern making and vintage shopping, reading classic sci-fi novels, finding new experimental music artists, following e-sports (especially Dota 2 and online chess), long walks with an audiobook and researching diet and nutrition in relation to longevity.

## Dates for your Diary

| | |
|---|---|
| 7 May 2025 | AI for Innovation Summit, Online |
| 25 June 2025 | Data Science in Healthcare workshop, The Spine, Liverpool |

## Notice Board

### Liverpool Virtual Seminar Series on Data Intensive Science

The seminars in this series cover R&D outside of the LIV.INNO centre's core research areas and give an insight into cutting edge research data intensive science.

To register to attend these seminars please visit
https://indico.ph.liv.ac.uk/e/data_science_seminars

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