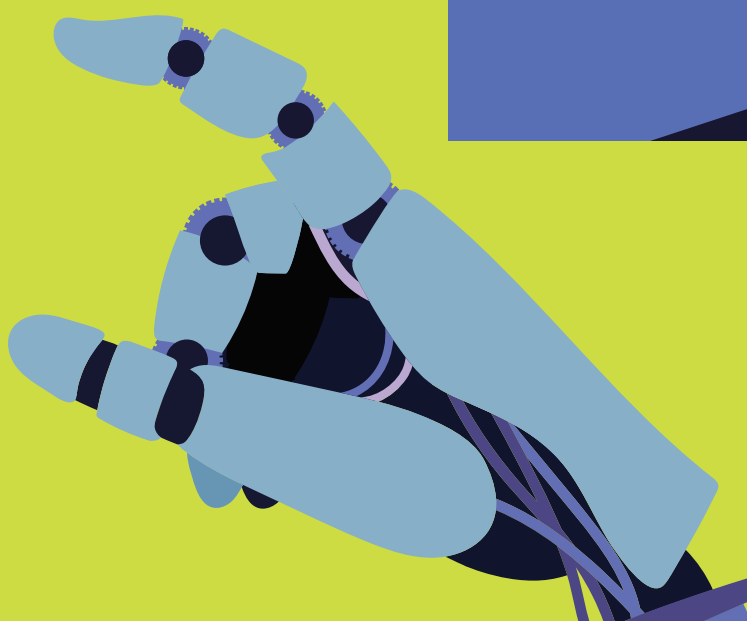
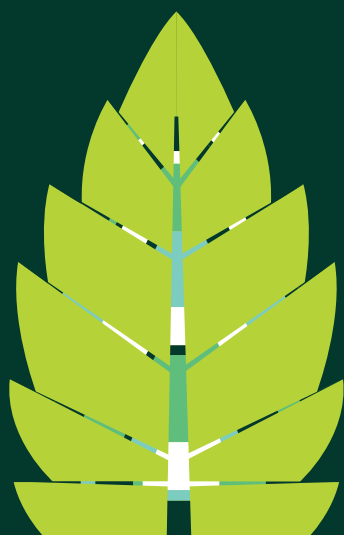


MARS

Mathematics for AI in Real-world Systems



**Next-generation mathematics and Artificial Intelligence
for solving real-world challenges**



Foreword

"Artificial Intelligence (AI) is transforming how we live, work and interact with the world. It is pushing the boundaries of scientific inquiry, opening up new possibilities to solve complex problems far beyond our natural abilities.

For mathematicians, AI creates significant opportunities for innovation. We can use AI methods to model complex physical, biological and technological systems; extend the capabilities of AI through new mathematics; and provide a theoretical basis to guarantee that AI-produced results are safe, reliable and trustworthy. This is where MARS comes in.

MARS: Mathematics for AI in Real-world Systems is a new centre for research and teaching that brings together leading expertise in applied mathematics and cutting-edge AI methods to tackle urgent real-world challenges.

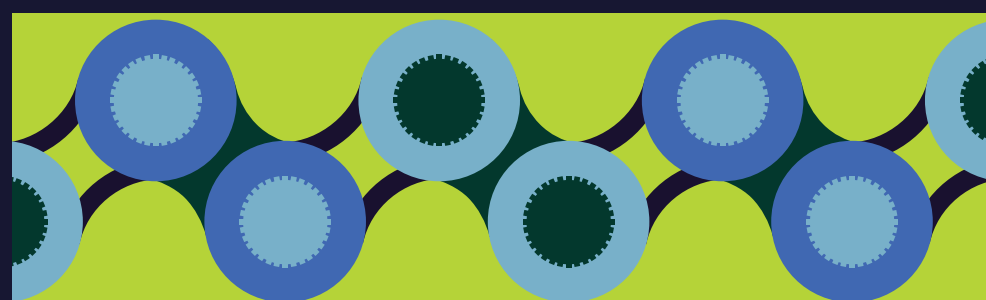
Our research spans a wide range of applications, from predicting climate events and managing disease outbreaks to accelerating drug discovery and protecting against cyber security threats.

Collaboration underpins everything we do at MARS. We work closely with industry, government, and academic partners to create breakthroughs that transform how AI is applied in practice. By integrating advanced mathematical modelling with the latest AI techniques, we deliver innovative solutions that will have lasting impact across multiple sectors.

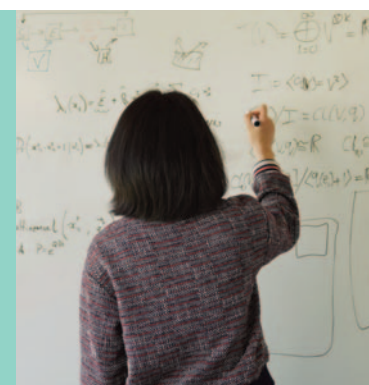
Developing the next generation of leaders in mathematics and AI is also central to our mission. Alongside our new undergraduate programme, we offer PhD opportunities, summer internships, and mentoring for early career researchers. This integrated approach builds a diverse pipeline of talent equipped with the expertise to tackle the complex challenges of tomorrow.

Through pioneering research, collaboration, and training, MARS is redefining the future of real-world mathematics and AI."

Professor Chris Jewell, Head of MARS



About MARS



MARS: Mathematics for AI in Real-world Systems is a £22 million strategic investment, funded by £13m from Research England and £9m from Lancaster University. Our academics and researchers are pioneering advanced dynamical mathematical modelling and AI methods to solve complex real-world challenges.

MARS is transforming research at the interface between applied mathematics and Machine Learning, working closely with public and private sector collaborators to tackle organisational challenges that demand mathematically advanced solutions.

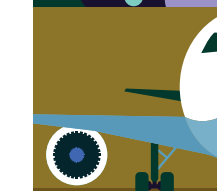
Focusing initially on four real-world application areas, MARS will become a regional, national and international leader in next-generation mathematics and AI research.

Research Application Areas

Partnering with government, industry, and academia, MARS is driving mathematical and AI innovation across these key domains:



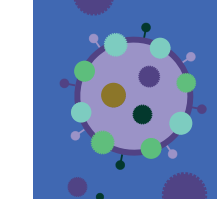
Cyber Security: Harnessing mathematical modelling and AI to strengthen cyber defence, enabling large-scale anomaly detection and handling of nonstandard data streams.



Engineering: Creating robust mathematical frameworks to model complex interdependent systems and accelerate advances in materials science.



Environment: Designing sophisticated mathematical models to predict and understand the impact of climate dynamics on both natural and built environments.



Health: Applying stochastic and AI-based mathematical modelling to epidemic dynamics and population health challenges delivering insights for real-world healthcare.



MARS @ Lancaster

MARS is based at Lancaster University in the School of Mathematical Sciences, which is one of the highest-ranked maths departments in the UK.

Situated in the North West of England, Lancaster is at the centre of a thriving innovation hub for sectors including cyber security, manufacturing, green economy and health. With its historic city, stunning countryside, and coastline, Lancaster is an exceptional place to live, work, and collaborate.

Partnerships

In MARS, real-world applications underpin all of our teaching and research - so partnerships are our lifeblood. They connect us to industry, drive innovation, and ensure our work moves beyond academic theory and into practical, high-impact research and development.

Solving Challenges Together

Our academics and researchers use rigorous mathematics to innovate AI tools and methods, creating powerful data-driven solutions that can model, predict and optimise complex real-world systems. We have a proven track record of collaborative working and have active partnerships with organisations such as Tata Steel, Microsoft, AstraZeneca, UK Atomic Energy Authority and the NHS.

MARS is actively seeking external partners with interesting mathematical and AI challenges, for example:

- Intricate dynamical systems that defy traditional modelling techniques
- Data-rich environments requiring AI-driven optimisation
- The need for trustworthy, transparent and explainable AI for critical decision making



Tom Flowerdew,
Director of AI Products,
Fortify Solutions

"Bridging the gap between theoretical AI capability and its trustworthy, effective application in the real world is the defining challenge of the next decade. The MARS programme is a vital initiative designed to meet this need, creating the fundamental research and cross-disciplinary expertise that will underpin safe and successful AI for years to come."



Professor Bill Oxbury,
Professor in Practice
for MARS.

Our goal is to innovate the way academia collaborates with partners in industry and government. We can offer:

- Research partnerships ranging from short student projects to multi-year joint programmes
- People exchanges including student placements and visiting researcher positions
- Shared creation of mathematical AI training, such as bespoke in-house courses and invited industry lectures
- Workshop facilitation from exploratory horizon scanning to more focused research exchanges
- Expert consultancy to tackle specific industry challenges
- Secure data facilities for sensitive research areas



Drupad Parmar,
Senior Applied Scientist,
ASOS

"At ASOS, we see the growing importance of combining rigorous mathematical approaches with cutting-edge AI to solve complex, large-scale, real-world problems, from optimising supply chains to personalising customer experiences. The MARS initiative is a timely and exciting opportunity to strengthen the pipeline of research and talent in this critical area."

Innovation through partnerships

MARS is leading on mathematics and AI innovation in partnership with a wide range of organisations. Our academics and researchers are working at the interface of applied mathematics and machine learning to tackle complex organisational challenges that require sophisticated data-driven solutions. Here are just some examples of the work we've been doing to translate our research into real-world impact.

Maximising value from airborne and satellite data with JBA Consulting



Acquiring land-based, airborne and drone survey data is expensive and logistically challenging, yet important to provide the high-resolution insights critical for environmental monitoring and decision-making. MARS is collaborating with **JBA Group** to develop methodologies that extract maximum value from these datasets, combining them with more widely available but lower-resolution satellite sensor data.

By using techniques such as geostatistical downscaling, machine learning and data fusion, this project enhances both the accuracy and efficiency of environmental analyses, enabling insights that would otherwise require prohibitively costly data collection. The result is a smarter, more cost-effective way to monitor and understand complex environmental systems.



Steel is the second most used material in the world, underpinning modern life across construction, infrastructure, automotive, energy and manufacturing. Its performance depends on its microscopic internal structure, which can be carefully engineered to deliver specific mechanical properties such as strength, robustness and durability.

MARS is working with **Tata Steel** to develop efficient algorithms for generating realistic synthetic microstructures, a crucial step in accelerating materials design and performance modelling. By improving the speed, scalability and reliability of simulation workflows, this research supports faster innovation in steel development. Looking ahead, the project is also exploring how generative AI methods could further enhance and automate the materials design process.

Efficient material design with Tata Steel

Large language models are increasingly being connected to external sources of knowledge, helping them remain up to date, provide more transparent answers, and avoid storing all information implicitly in model parameters. A major challenge is turning large, messy, unstructured text collections into reliable, structured knowledge bases. This requires identifying when different fragments of information refer to the same underlying entity, even when the evidence is incomplete, ambiguous, or arrives sequentially over time.

MARS is working with **Microsoft Research** to develop scalable probabilistic algorithms using Sequential Monte Carlo methods and new mathematical structures, making it possible to retain principled uncertainty quantification while reducing the memory and computational cost that usually prevents particle-based methods from scaling.

Scalable knowledge-base construction with Microsoft Research





Innovative research from MARS Professor Andrew Baggaley is using mathematical modelling tools to predict Oak Processionary Moth spread, reducing its negative ecological and public health impacts.

Modelling the Moth Threat

DATA-DRIVEN INSIGHTS FOR INVASIVE SPECIES CONTROL

Oak Processionary Moth (OPM) is an invasive pest that damages oak trees and poses risks to human health. First identified in London in 2006, it has since spread to surrounding counties in South East England. Richmond Park, a protected site of ecological and public importance, has experienced particularly severe outbreaks. Effective control requires not only understanding current infestation locations but also anticipating future spread and severity.

This research involves the development of a modelling framework based on partial differential equations – a type of mathematical equation used to describe how things change over space and time – to simulate OPM's population dynamics.

Richmond Park is represented as a grid, with each square corresponding to a specific area. The model tracks how suitable each location is for OPM infestation and how the population will grow and spread between areas. Real-world data, including past nest locations, tree density, and climate data, is used to inform the model. Advanced Machine Learning techniques are applied to fine-tune the model to 'learn' its free parameters, enabling greater understanding and prediction of OPM's spatiotemporal spread.

The project's culmination will be a forecasting tool, designed to support land managers and conservation teams in Richmond Park and beyond, to target interventions and reduce the ecological and public health impacts of OPM.

Next-generation mathematics and AI for solving real-world challenges



MARS Senior Lecturer, Dr Murad Banaji, is developing a powerful new toolkit for analysing the complex dynamics of biochemical networks.

Cracking the Cellular Code

TRANSFORMING SYSTEMS BIOLOGY THROUGH MATHEMATICAL INNOVATION

Many biological processes are driven by networks of chemical reactions. These networks often control how cells behave – for example, by 'switching' from one state to another in response to a signal, or by generating oscillations where outputs change periodically. When these signalling processes go wrong, they can lead to diseases such as cancer, Type 2 Diabetes and Alzheimer's.

But how can we identify which reaction networks are capable of behaviours like switching and oscillation? Numerical simulation is helpful, but as networks get larger and more complex, simulations become harder to scale and interpret.

This research explores two promising alternatives. The first examines 'bifurcations' – sudden qualitative changes in dynamics that occur

when certain inputs change. These shifts can lead to switching, oscillation and other complex cell behaviours. By combining mathematical analysis and computational algebra it is possible to detect bifurcations without running simulations.

The second approach involves developing theory on how networks 'inherit' behaviours from their smaller subnetworks. By understanding the dynamics of these smaller building blocks, it is possible to predict the behaviour of larger, more complicated systems.

Together, these methods offer a powerful new toolkit for analysing biochemical networks. The ultimate aim is to automate the process of identifying key behaviours in real-world biological networks – an advance that could significantly improve how we study and treat disease.

Next-generation mathematics and AI for solving real-world challenges



MARS Lecturer, Dr Jess Bridgen, is developing an innovative system to help hospitals detect and control infections before they spread.

Stopping the Spread

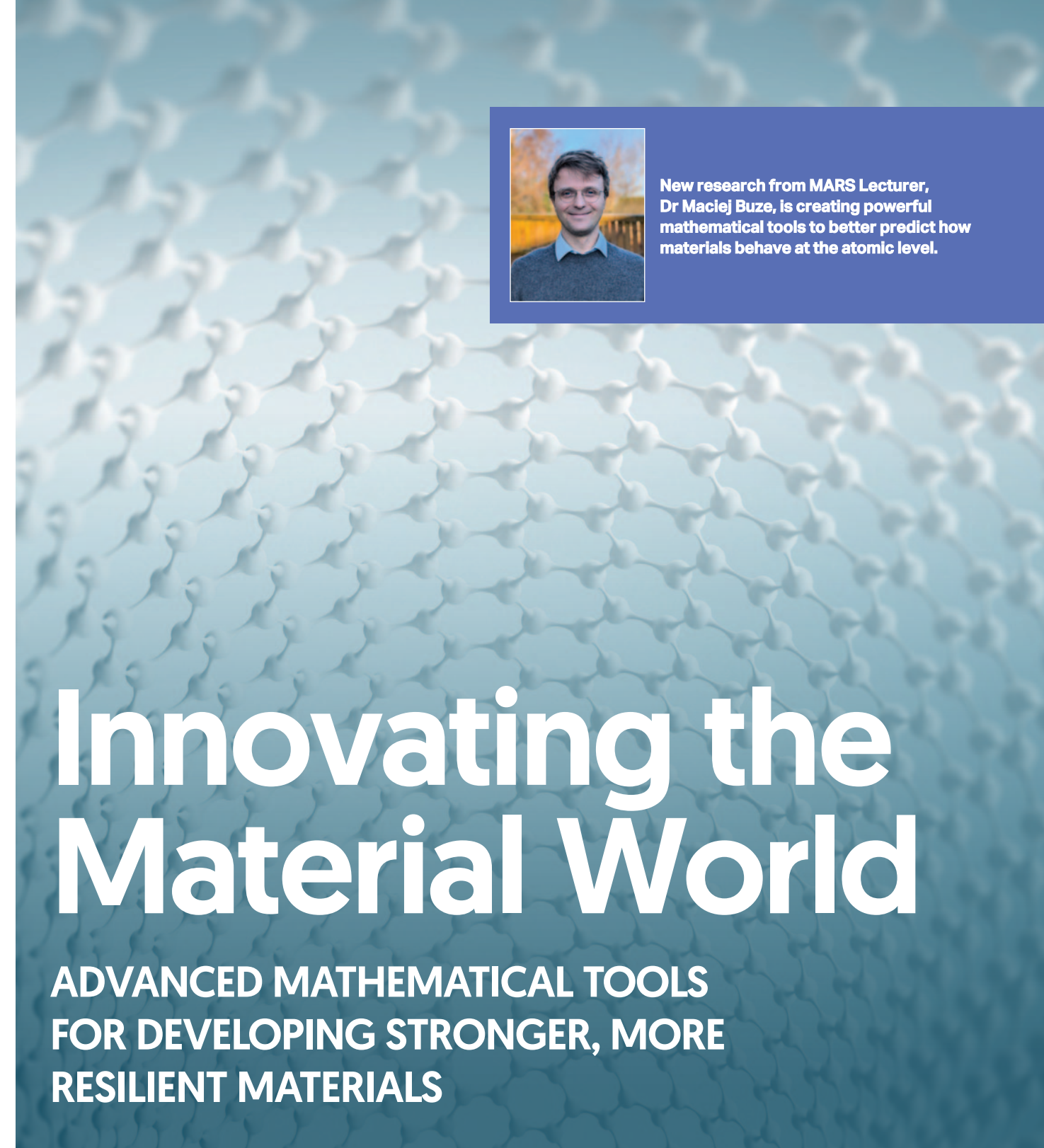
MODEL-BASED METHODS FOR CONTROLLING HOSPITAL OUTBREAKS

Every year, hospital-acquired infections cost the NHS an estimated £2.7 billion and contribute to the deaths of more than 28,000 patients.

Effective hospital infection control requires a detailed understanding of the role of different transmission pathways, but identifying exactly where and how infections spread within the complex structure of healthcare settings presents a unique statistical and computational challenge.

This research is tackling that challenge by developing a flexible mathematical modelling framework for bacterial and viral diseases, and novel statistical methodology to identify drivers of transmission. The system aims to quickly pinpoint high-risk areas and uncover how infections are spreading, providing hospitals with clear, data-driven guidance to stop outbreaks before they escalate.

By providing hospitals with real-time insights, this research could save lives and reduce the burden on the NHS.



New research from MARS Lecturer, Dr Maciej Buze, is creating powerful mathematical tools to better predict how materials behave at the atomic level.

Innovating the Material World

ADVANCED MATHEMATICAL TOOLS FOR DEVELOPING STRONGER, MORE RESILIENT MATERIALS

From aeroplanes and bridges to electronic vehicles and smartphones, the strength and reliability of materials shapes the world around us. At the atomic scale, tiny imperfections, called defects, can weaken materials, affecting their strength, durability and performance. Understanding these defects is challenging because traditional simulation methods struggle to handle the complexity at the atomic level.

To overcome this challenge, this research introduces advanced mathematical tools, called numerical continuation and deflation

techniques, into the world of atomistic modelling. These methods have led to an innovative new tool that integrates with existing simulation software. Already it has been used to explore how defects form in copper surfaces; how vacancies (missing atoms) move in multi-species systems; and how cracks propagate through silicon.

The ultimate aim is to make this tool more accessible, paving the way for stronger, longer-lasting materials that can benefit technology and industry.



MARS Lecturer, Dr Ryan Doran, is developing new techniques that will pave the way for controlled studies of quantum turbulence.

Tackling Quantum Turbulence

MATHEMATICAL SIMULATIONS FOR STABILISING COMPLEX VORTEX STATES

Turbulence – the complex and seemingly chaotic motion of fluids – is one of the most important and least understood phenomena in physics. It plays a central role in systems ranging from atmospheric flows and ocean currents to industrial mixing and even the flow of blood in arteries. Despite its importance, turbulence remains difficult to predict because it involves many interacting structures across different length and time scales. Studying turbulence in simplified, highly controllable systems is therefore essential for uncovering the basic physical principles that govern it.

This research uses an ultra-cold quantum fluid as a model system in which turbulence can be broken down into its simplest building blocks: vortices. These are the quantum version of the whirlpool

created when a sink is unplugged, but unlike that whirlpool, these vortices are discrete objects whose motion and interactions can be precisely controlled. The goal is to develop new techniques that allow vortices to be experimentally created at specific locations, with a chosen strength, and in a reproducible way. This can be achieved by mathematically modelling the quantum fluid and then simulating the resulting flow.

The ability to engineer and stabilise complex vortex states is a key step toward controlled studies of quantum turbulence. Beyond fundamental insight, this work lays foundations for future applications in precision sensing, quantum simulation, and the design of quantum fluid systems where flow and stability can be tailored with high accuracy.



MARS Lecturer, Dr Catherine Drysdale, is using cutting-edge mathematical techniques to model brain and hormone interactions improving treatment pathways for people with depression.

Maths for Mental Health

CREATING PERSONALISED TREATMENTS FOR DEPRESSION

Depression affects one in six people in the UK and is the leading cause of ill-health and disability worldwide. Despite decades of research, accurately predicting treatment response to interventions, such as antidepressants or therapy, remains a significant challenge. Many endure a painful cycle of trial and error, waiting months or even years to find an approach that works.

This research uses mathematics to better understand this complex issue. Depression is deeply connected to hormone rhythms – especially cortisol, the primary stress hormone – and brain networks that control memory, emotion, and decision-making. These systems are interconnected through complex feedback loops, making it difficult to pinpoint where things go wrong.

Mathematical approaches offer a new way forward. Techniques such as pseudospectra, which measure how sensitive systems are to change, and graph theory, enable modelling of how brain and hormonal networks interact and respond to stress. These models can help explain why some people develop depression after events like bereavement or relationship breakdown, while others do not.

By revealing the underlying dynamics of depression, this research will ultimately support personalised mental health care. It will help to identify who is most at risk and which treatments are likely to work, offering faster and more effective support for those who need it most.



MARS Professor, Chris Jewell, is developing state-of-the-art statistical and AI methods to improve real-time understanding of infectious disease outbreaks.

Tracking Disease Spread in Real-time

ADVANCED MATHEMATICAL MODELS FOR TIMELY OUTBREAK RESPONSE

Disease outbreaks, such as seasonal flu, the Covid19 pandemic, and measles affect people of all ages, genders, and nationalities. Health services must respond quickly and effectively to prioritise care for the most severe cases, manage the social and economic impacts, and ultimately save lives.

Yet, timely decision-making remains fraught with difficulty: case reports are often incomplete or delayed, and individuals typically only report symptoms several days after infection, meaning that the outbreak picture lags behind the true situation.

This research addresses these challenges by using stochastic dynamical models to improve real-time understanding of outbreaks, providing an accurate evidence base for timely public health decision

making. A particular focus is on developing Monte Carlo methods (particularly Markov chain and Sequential Monte Carlo) to calibrate complex, high-dimensional models.

These models enable detailed analysis of how factors such as location, ethnicity, socioeconomic status, age and gender influence infection risk or how routine hygiene practices – such as handwashing and sanitation – affect the spread of antimicrobially-resistant bacteria.

The overarching goal is to translate these advanced statistical and AI methods into usable tools, including software that aids the rapid development of models, simplifies calibration, and lowers the entry barrier for those new to complex outbreak modelling.



MARS Reader, Dr Henry Moss, is revolutionising scientific experimentation with smarter Machine Learning models.

AI-Powered Scientific Innovation

ACCELERATING SCIENTIFIC DISCOVERY WITH MACHINE LEARNING

Machine Learning (ML) is transforming scientific research, enabling breakthroughs in drug discovery, materials science, and engineering. Yet, in high-cost, high-stakes domains, smarter ML models are still needed to accelerate innovation.

This research focuses on optimising automated experimental design. By advancing ML methodologies, it enables more efficient and impactful scientific experimentation. It has already contributed to breakthroughs such as the discovery of novel molecules, innovative engineering solutions, and advances in climate model calibration to

help scientists refine their predictions and simulations. It has even led to improvements in the ML systems themselves, for instance in Amazon Alexa.

Collaborations with the British Antarctic Survey, AstraZeneca, and the UK Atomic Energy Authority are integrating these tools into even more real-world scientific workflows. By refining the way experiments are designed and executed, this research is driving faster discoveries and shaping the future of innovation.



MARS Professor Chris Nemeth is converting raw satellite and sensor feeds into early-warning signals for a warming world.

Machine Learning for a Changing Climate

AI-POWERED EARTH OBSERVATION FOR RAPID CLIMATE ACTION

As the impacts of climate change accelerate, the need for timely, accurate environmental data has become critical. To manage risk and make effective decisions - from preventing greenhouse gas leaks to forecasting sea-level rise - real-time, reliable information on the Earth's rapidly changing systems is urgently needed.

This research blends physics-based and neural surrogate models to pinpoint methane leaks in seconds, harnesses satellite data to map daily ice melt across Greenland, and applies Bayesian learning to uncover hidden soil-nutrient loss from field samples. These tools plug into an open-source pipeline that updates as fresh data arrives, delivering a live picture of how land, ice and atmosphere are shifting.

With this faster more precise environmental intelligence, inspectors can shut faulty valves before large-scale methane emissions occur, farmers can treat soil degradation before crop yields crash, and glaciologists can refine sea-level forecasts in almost real-time.

By providing trustworthy, probabilistic snapshots of Earth's vital signs, this research empowers industry and policy-makers to make confident, climate-smart decisions.



State-of-the-art research from MARS Lecturer, Dr Alice Peng, is pioneering a patient-centred approach to wound healing.

Optimising Wound Recovery

PERSONALISED WOUND HEALING WITH MATHEMATICAL MODELLING

Despite extensive research into wound healing, many aspects remain poorly understood. Even when patients receive the same diagnosis, their healing processes can vary significantly. Subtle variations, often too small to detect manually, can have a major impact on recovery.

This is where mathematical modelling can make a difference. By adjusting patient-specific parameters, mathematical models can predict healing scenarios that may not be directly measurable. This enables clinicians to design and refine optimal treatment strategies tailored to each patient.

This research uses agent-based modelling, which treats individual cells as distinct entities, allowing precise tracking of their location and activity. It has already demonstrated that early-stage wound conditions are strongly linked to long-term healing outcomes.

The ultimate goal of this research is to develop a patient-specific digital twin - a virtual model that continuously monitors a patient's wound. This will enable personalised treatment for wound healing, improving outcomes and enhancing patient well-being.



MARS Lecturer, Dr Jixiang Qing, is developing mathematically rigorous methods to help scientists collect data more efficiently.

Streamlining Scientific Experimentation

ADAPTIVE ALGORITHMS FOR TARGETED SCIENTIFIC MODELLING

Running experiments costs time and money. In drug discovery, a single reaction can take days. In engineering, one simulation might run for hours. Scientists must decide carefully which experiments or conditions to investigate, but the most informative options are not always obvious at the start – they only become apparent after some initial results are obtained. Collecting the right data is essential, yet figuring out which data will be most useful is a major challenge.

This research tackles this problem using techniques from active learning, which focus on selecting the experiments that provide the most valuable information; and bandit optimisation, a method for exploring different possibilities while gradually focusing on the most

promising ones. By developing new algorithms with mathematical guarantees, these techniques are proven to reliably identify the best options for scientists. They have already outperformed existing approaches on molecular modelling tasks, achieving accurate predictions with fewer experiments.

The ultimate aim is to accelerate scientific discovery across disciplines by reducing wasted experiments. By providing scientists with principled, reliable tools for deciding where to collect data next, this research could speed up progress in molecular science, materials design, engineering, and beyond.

This work is being carried out in collaboration with Dr Matthias Sachs.

Next-generation mathematics and AI for solving real-world challenges



New research from MARS Lecturer, Dr Matthias Sachs, is developing Machine Learning models to accelerate atomic-scale simulations for real-world application.

Machine Learning for Molecular Modelling

ADVANCING TECHNOLOGICAL DEVELOPMENT THROUGH SYMMETRY-AWARE AI

Machine Learning (ML) is increasingly being used to predict and understand macroscopic properties of atomistic systems. This is especially impactful in fields such as materials science, computational chemistry and engineering, where it supports the development of new materials, drug discovery, and clean energy technologies.

In contrast to many other ML applications, training data on these systems is often scarce due to the high computational cost of generating it using quantum mechanical models. Additionally, many target properties typically follow strict symmetry rules which are not inherently known to standard ML models.

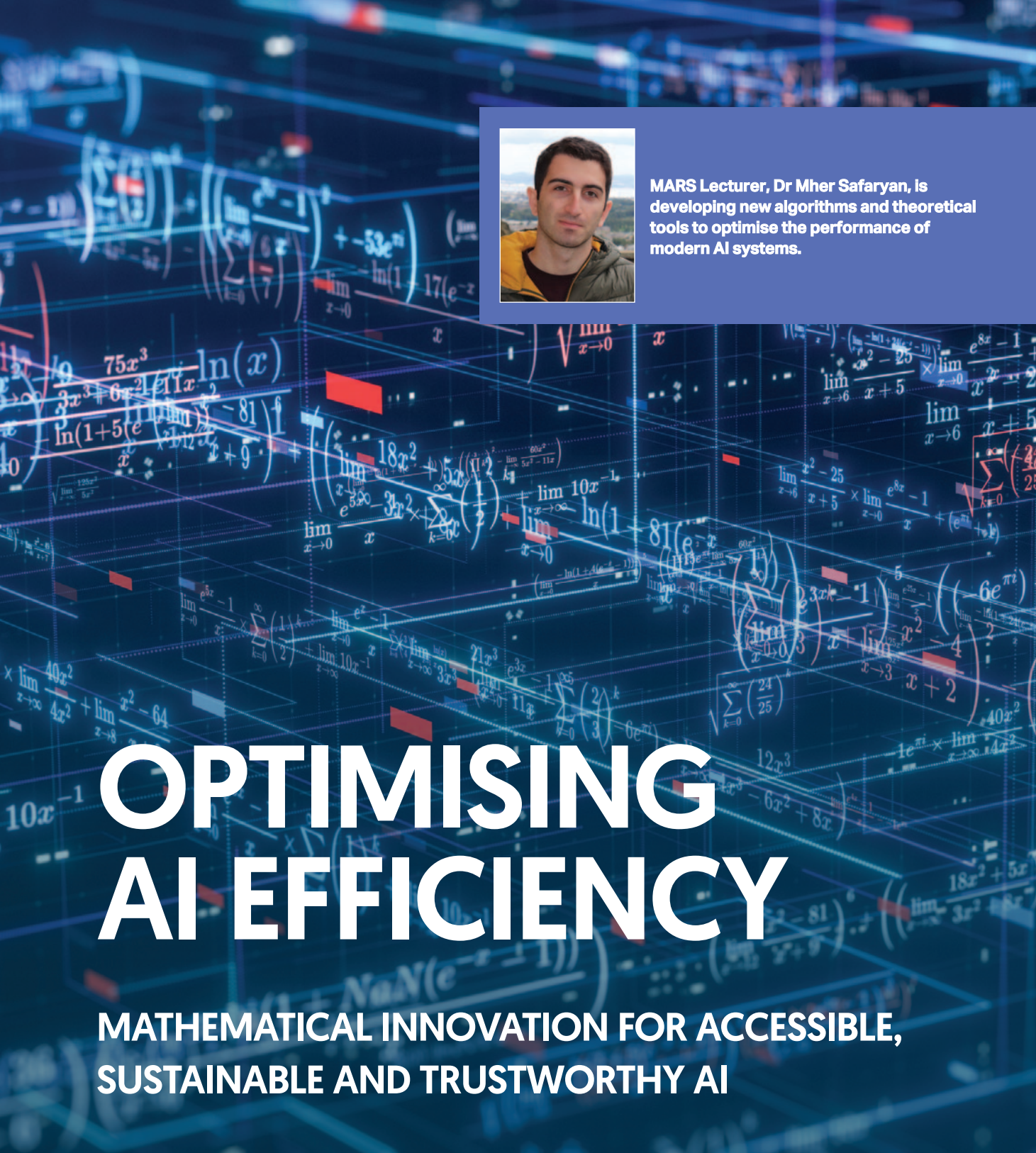
These challenges can be addressed by employing symmetry-adapted neural network architectures. These models are specifically

designed to respect the physical symmetries of the system so that the model treats equivalent atomic arrangements in the same way. This leads to more accurate predictions and significantly reduces the amount of data required for training.

This research develops these symmetry-aware models to learn key atomic-scale quantities, including interatomic force fields and electronic friction tensors. The latter is essential for realistically simulating molecule-surface interactions, which play a crucial role in electrode-electrolyte interfaces in batteries and hydrogen fuel cells.

The long-term aim is to deploy these machine-learned representations in large-scale computer simulations, enabling faster and more cost-effective development of advanced technologies by reducing reliance on laboratory experiments.

Next-generation mathematics and AI for solving real-world challenges



MARS Lecturer, Dr Mher Safaryan, is developing new algorithms and theoretical tools to optimise the performance of modern AI systems.

OPTIMISING AI EFFICIENCY

MATHEMATICAL INNOVATION FOR ACCESSIBLE, SUSTAINABLE AND TRUSTWORTHY AI

From smartphone assistants and medical imaging to online translation and climate modelling, modern AI systems rely on training large models using vast amounts of data. While these systems can be highly accurate, they are also expensive to train and run, requiring large data centres that consume significant energy and memory. This limits where and how AI can be deployed, especially in settings such as hospitals or on mobile devices.

To address this challenge, this research focuses on the mathematics of optimisation: the process by which computer algorithms learn from data by gradually improving their predictions. Optimisation provides the mathematical backbone of modern machine learning, yet its growing scale raises new scientific and practical challenges.

This work develops new algorithms and theoretical tools that allow learning to happen using far less memory, computation, and communication, without sacrificing performance. In particular, the research explores ways to “compress” AI models so they become smaller and lighter, and to train models collaboratively across many devices without sharing sensitive data.

The long-term goal is to make advanced AI systems more accessible, sustainable, and trustworthy. By improving the efficiency of the algorithms behind AI, this research aims to reduce energy use and carbon emissions, support privacy-preserving technologies in healthcare, and enable intelligent systems to run directly on everyday devices - bringing powerful AI out of large data centres and into practical, responsible use across society.

Delivering a New Talent Pipeline



MARS is committed to nurturing the next generation of mathematical innovators, developing their knowledge and skills to solve real-world challenges and help shape the future of AI.

In response, we’ve introduced new undergraduate and postgraduate programmes, and a summer internships scheme. Together with our dedicated mentoring of early career researchers, these initiatives support the development of a new, and diverse, talent pipeline addressing the major skills gap in foundational mathematics and AI for real-world modelling.

Undergraduate Programme

Employers consistently highlight a growing demand for graduates with expertise in applied mathematics and AI. In response, we’ve launched an innovative new undergraduate programme – our **BSc (hons) in Mathematics, AI and Real-world Systems**.

Our degree course is shaped by the close work we do with industry and government partners. Our students will develop deep mathematical knowledge, hands-on experience with AI tools, and the ability to think analytically and solve complex problems. These are the capabilities that will open up exciting career opportunities across a range of sectors.

PhD Programmes

The MARS PhD programmes in **Applied Mathematics** and **Mathematical AI** will empower students to drive advancements at the interface of dynamical mathematical modelling and AI methods.

With a focus on the mathematical innovation required to address long-standing hard problems, MARS PhD students will make meaningful contributions to a rapidly evolving field of research. Through close collaboration with industry, government, and academic partners, their work will have the potential to deliver significant real-world impact.



Summer Internships Scheme

Each year, we’re offering the brightest and best undergraduate students the opportunity to join our **Summer Internships Scheme**.

This scheme offers a unique opportunity for mathematics students to work alongside our talented MARS academics, gaining first-hand experience of cutting-edge research and an invaluable insight into the world of academic and applied innovation.

MARS

Mathematics for AI in
Real-world Systems

School of
Mathematical Sciences

Lancaster
University



MARS is proud to
collaborate and engage
with the following
organisations:



HITACHI

Hitachi Digital Services



A QINETIQ company



Northern Health Science Alliance
A Health Partnership for Northern England



WeAlsoMakeTomorrow



CONTACT US

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