

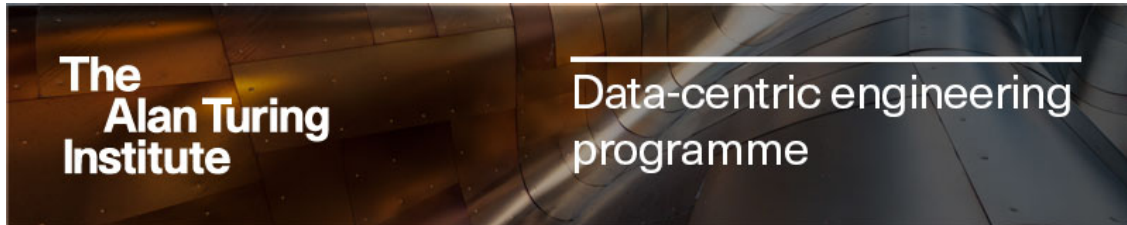
DCE Community Update March 2024

DCE Programme <dceprogramme@turing.ac.uk>

Thu 28/03/2024 2:32 PM

To:Katy Henderson <khenderson@turing.ac.uk>

Click [here](#) if you are having trouble viewing this message.



If you're a Turing Slack user follow [#data-centric-eng](#) for information and reminders about DCE activity between these monthly updates. To submit any items in future updates please contact [Alice Budden](#).

News



Winner of the Wilkes Award 2024 Announced!

This years [winner of the Wilkes award](#) goes to a recently published paper describing work undertaken during the covid pandemic by the [London Air Quality](#) team from The Alan Turing Institute, in supporting Transport for London (TfL) to define and implement policies to mitigate social distancing violations across all boroughs of London. The team from the Data-Centric Engineering Programme, supported by the Lloyd's Register Foundation, developed and deployed AI vision based tools to monitor street level activity and advise TfL in developing effective interventions.

Huge congratulations to the team for winning the Wilkes Award for the paper: [Near Real-Time Social Distance Estimation in London](#). This award is presented once a year to the authors of the best paper published in the volume of The Computer Journal!



Government Backing for AI Businesses to Deliver Net Zero with Innovative Technologies

The governments [AI for Decarbonisation Innovation Programme](#), which currently funds the AI for Decarbonisation Virtual Centre of Excellence ([ADViCE](#)), has announced £1.73 million in funding to be shared between 8 projects developing and scaling up AI technology that supports the UK's green transition.

This new funding will support a variety of projects ranging from improving weather forecasting for solar energy production, to helping consumers and businesses improve their energy efficiency and cut energy costs through AI-optimised energy efficiency software. To see the full list of projects funded through this scheme, follow the link to the [full article](#).

Kimberly Tam Awarded Reviewer of the Year - WMU Journal of Maritime Affairs

[Kimberly Tam](#), Theme Lead for Marine & Maritime in the Data-Centric Engineering programme at The Alan Turing Institute and Associate Professor in Cybersecurity at the University of Plymouth, has been awarded [Reviewer of the Year 2023](#).

A huge congratulations to Kimberly for her substantial contributions to the [WMU Journal of Maritime Affairs](#) over the course of 2023, with an effort devoted in a professional and voluntary manner.



AI UK 2024 Round-Up



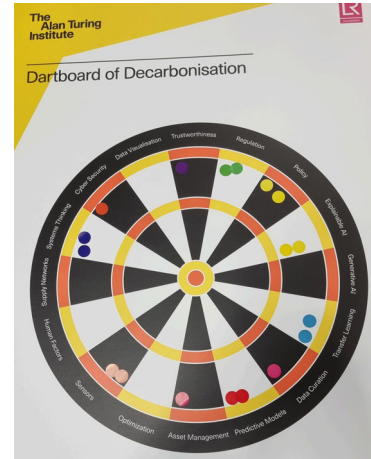
Data-Centric Engineering Stand

It was great to engage with the numerous visitors to the stand over the course of AI UK to explore how data science and AI can be used to solve real-world challenges. If you were one of the visitors and would like to follow up on the discussions we had, or didn't get a chance to visit and want to learn more, [we'd like to hear from you!](#)

Workshop | Driving Decarbonisation with Data-Centric Engineering

This workshop brought together stakeholders from across Manufacturing, Marine, Critical Infrastructure, and Energy sectors to explore the potential for Data-Centric Engineering in reducing carbon emissions and fostering a sustainable future.

It was great to see the extent of interest in this workshop, which quickly reached capacity! If you didn't manage to get a space, please [get in touch](#) to hear about future opportunities to get involved, and how we'll be following up on the insightful discussions from this workshop.

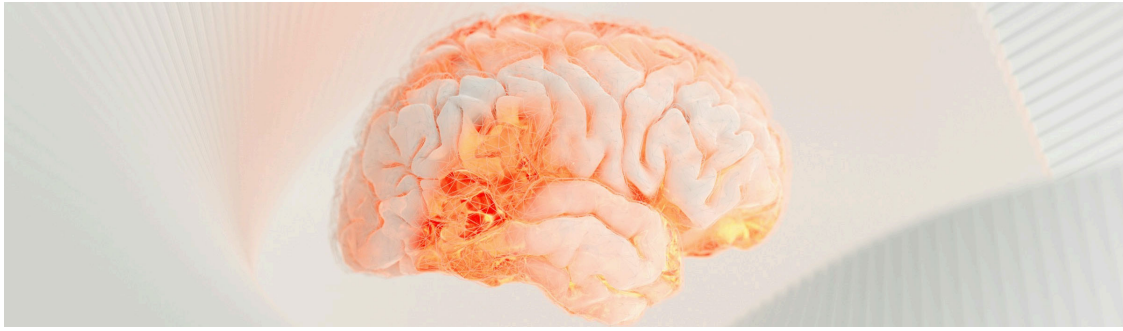


Fringe Event | AI Meets Maths: Latest Developments in Physics-Informed Machine Learning

This event was organised in collaboration with Imperial Departments, Leeds University, and The Alan Turing Institute. Over 150 students, academics and industry practitioners from across the UK attended the workshop to hear the latest developments in Physics-Informed Machine Learning in the form of flash talks and a poster competition.

Congratulations to Zack Xuereb Conti and the rest of the team for organising such a successful event! Follow the link for a [full summary of the event](#).

Events



DCE Workshop at IEEE Conference on AI 2024

25 June 2024, Singapore

Registration for the [Data-Centric Engineering workshop at IEE Conference on AI](#) is now open!

The workshop entitled 'Crafting Data-Centric Engineering' will bring together engineering and machine learning communities to define Data-Centric Engineering through keynote talks and contributed sessions, panel discussions, poster presentations and networking.

If this sounds of interest to you, be sure to follow the links to [register for the workshop](#) and to [register for the conference](#).

In addition, the organisers are delighted to be partnering with the [DCE Journal](#), and would like to invite contributions in the form of extended abstracts for presentation at the workshop. Follow the link for more information on the [call for papers](#) and how to submit.

Seminars

ADViCE CHALLENGE WEBINAR SERIES

Zero Carbon Farms of the Future

Wednesday 10 April 2024
10:00 - 11:30

REGISTER NOW



ADViCE | AI for Decarbonisation's
Virtual Centre of Excellence

CATAPULT
Digital

CATAPULT
Energy Systems

The
Alan Turing
Institute

AI for Decarbonisation: Zero Carbon Farms of the Future

AI for Decarbonisation's Virtual Centre of Excellence (ADViCE) is hosting a webinar to dive into the transformative potential of AI for optimising energy use and productivity in controlled environment agriculture (CEA).

Come along to hear from an expert panel discuss how AI technologies are reshaping the way we cultivate crops indoors, and what future opportunities and trends lie at the intersection of AI and sustainable agriculture.

Follow the links for more information on [this webinar](#), and [how to register](#).

Physics-informed Machine Learning (Φ -ML) Meets Engineering Seminar Series: upcoming dates (online)

18 April, 13:00-14:00 - Paris Perdikaris, PirateNets: [Physics-informed Deep Learning with Residual Adaptive Networks](#)

16 May, 13:00-14:00 - Tobias Heinrich Nagel, [Kalman-Busy-Informed Neural Network for System Identification](#)

How to join, talk abstracts, and details on future seminars can be found on the [seminar webpage](#). If you missed a talk that peaked your interest, be sure to check out [YouTube](#) where you'll find several recordings of past presentations from this series available to watch back.

DCE Community Meeting

25 April, 15:00-16:00 - Panagiotis Papadopoulos, University of Manchester - **Can AI help keep electricity networks secure?**

If you are interested in attending this Community Meeting, and would like to be added to the event mailing list, please contact [Gabin Kayumbi](#).

Publications

Publication Highlight

Stochastic modelling of symmetric positive definite material tensors - February 2024

Sharana Shivanand, Bojana Rosic, and Hermann G. Matthies.

Spatial symmetries and invariances play an important role in the behaviour of materials and should be respected in the description and modelling of material properties. The focus here is the class of physically symmetric and positive definite tensors, as they appear often in the description of materials, and one wants to be able to prescribe certain classes of spatial symmetries and invariances for each member of the whole ensemble, while at the same time demanding that the mean or expected value of the ensemble be subject to a possibly 'higher' spatial invariance class. We formulate a modelling framework which not only respects these two requirements - positive definiteness and invariance - but also allows a fine control over orientation on one hand, and strength/size on the other.

To read the full open access article follow the link [here](#).

Data-Centric Engineering Journal



Securing Cyber-Physical Systems: Economic Adoption and Risk Perception of Cybersecurity

Professor Siraj Shaik

CASSYNI

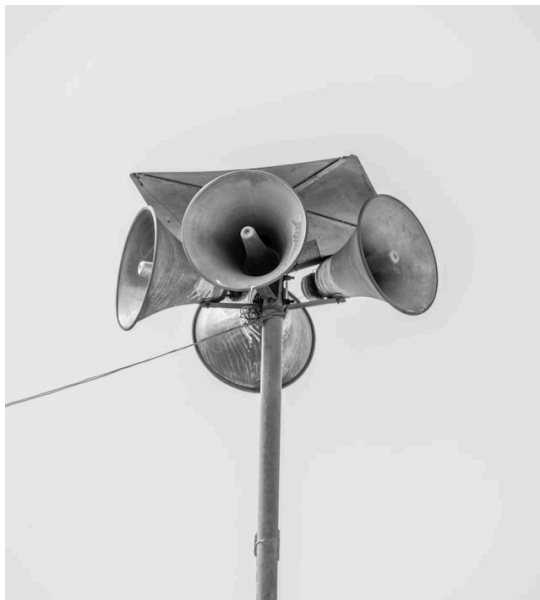
Join us for the next DCE Webinar
2 April 1630 UK
Zoom



DCE Journal Webinar | Securing Cyber-Physical Systems: Economic Adoption and Risk Perception of Cybersecurity

Join Siraj Ahmed Shaikh (Swansea University) for the next talk in the DCE Webinar Series to hear about technological advances in hardware, security, and cyber-physical systems. This webinar will share the results of an in-depth study of two dozen technology leaders to understand the drivers and barriers to secure hardware, while also addressing cyber risk perception and governance of cyber-physical systems.

If this sounds of interest to you, be sure to [register for the webinar](#) by following the link.



Call for Papers!

Artificial Intelligence for Energy Management in Buildings and Cities.

Deadline 30 August 2024

The Data-Centric Engineering journal is calling for papers for use cases in applying data-driven methods to improve the resiliency and efficiency of the building environment as engineering system, especially energy systems. This includes handling buildings energy system in coordination with other buildings, with grid needs, distributed energy resources, energy storage systems, and EV charging.

Follow the links for [more information](#) on this special collection, and for other open [calls for papers](#).

Jobs

DCE jobs at the Turing

Senior Data Scientist, EME

Defence and Security Programme

This role sits within the Electromagnetic Environment (EME) team, a part of the Defence Artificial Intelligence Research (DARE) Centre. This post will work together with the EME team to deliver the science needed to improve our understanding, management, and exploitation of the electromagnetic environment through the application of AI technologies.

Closing date: 21 April 2024

[Full information and how to apply.](#)

DCE jobs elsewhere

Research Associate - GLOW-Energy Nested Bio System Flows

University of Strathclyde

GLOW-Energy nested bio system flows: from the home to the hub. This project aims to develop a new computational system to identify and communicate social and spacial patterns found between individual household energy use and community demand. The ideal candidate will support the project by contributing to coding of the new model characteristics and multi-agent behaviours, and testing of the developed model.

Closing date: 17 April 2024

[Full information, and how to apply.](#)

Research Associate - Trustworthy Machine Learning for Malware Detection

Kings College London

The Department for Informatics is looking to appoint a Research Associate to work on the project, XAdv: Robust Explanations for Malware Detection, at the intersection of AI and Systems Security. The candidate will be responsible for leading the co-design and development of novel solutions for robust explanations for malware detection, in the presence of concept drift and adversarial attacks.

Closing date: 14 April 2024

[Full information, and how to apply.](#)

Please e-mail [Alice Budden](#) with any external opportunities you wish to be circulated in future DCE Newsletters.

Notifications



Communicating about your project

The DCE programme is always looking to communicate the impact of its projects and research activity. If your project is achieving some interesting real-world applications or impact, and you are interested in developing this further, please contact [Francisco Gomez Medina](#), DCE's Research Application Manager.

If you are interested in communicating your research to a wider audience, or would like more information on ways to get involved with the DCE Community, please contact [Gabin Kayumbi](#), DCE's Senior Community Manager.

The Turing hosts a [Blog](#) and a [Podcast](#) and publishes regular [Impact Stories](#) on activity. The Turing Communications team can also help support you on any related media activity.

Attribution in Publications

A reminder that all publications resulting from work on the programme should acknowledge the Lloyd's Register Foundation and The Alan Turing Institute Data-Centric Engineering Programme. More detailed information can be found under 'Acknowledging the Turing in Publications' on the Turing Intranet, or by contacting publications@turing.ac.uk.

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