



DAFNI NEWSLETTER, JUNE 2026



Dear {{ contact.FIRSTNAME }}

Welcome to the DAFNI June 2026 newsletter!

DAFNI is committed to driving cutting-edge research to complement UKRI's missions, empowering experts to tackle complex challenges across diverse industries.

By providing powerful tools, models, and insights, we enable researchers to explore innovative solutions that drive sustainable development and shape the future of infrastructure.

One of these missions, in alignment with the UK's government priorities, is delivering clean power by 2030. The challenges ahead include the need for secure and affordable energy supply, the creation of new energy industries and the need to reduce greenhouse gas emissions. At this year's **DAFNI Conference** we are running a **Clean Energy workshop** in partnership with EPSRC's Supergen Hub, and will focus on the UK Government's Industrial Strategy, with particular emphasis on clean power.

The workshop will bring together perspectives from academia, government and industry to explore shared challenges, opportunities and priorities in this area. Insights gathered will inform a report and impact report, which will be shared with UKRI councils and government to help shape future thinking and activity.

[We are particularly keen to ensure broad representation across sectors, so if the Clean Energy Workshop is of interest to you, please register for the conference now.](#)

We have an exciting new feature on the platform, **DAFNI Data Bridge**! The first phase of this feature enables platform users to access data from the **Centre for Environmental Analysis (CEDA)** archive from the DAFNI platform. This enables earth observation, atmospheric, and climatic data will be available to a new audience of researchers via DAFNI's platform.

Book now to attend our dedicated webinar on how to expand your LinkedIn use, led by our Media Manager, **Catherine Dhanjal**. Catherine will share practical guidance on using LinkedIn effectively to increase impact and engagement of your work, and to enhance your professional profile whether you are at the start of your journey with LinkedIn or further along.

In case you missed it, you can catch up our latest webinar on NERC Digital Solutions and find out how the NERC Digital Solutions Hub (DSH) is developing new approaches to connect, discover, and analyse environmental data across the UK research landscape. In this webinar, **Professor Richard Kingston** introduced the DSH platform and demonstrated how emerging tools, such as AI-assisted data discovery and services built around Unique Property Reference Numbers (UPRNs), can help link environmental, infrastructure, and socio-economic datasets.

Dr Brian Matthews, DAFNI Programme Lead

News from our central team



During June, three new heat records were set in the UK, with temperatures in excess of 37C, according to Met Office records. However, this new ‘temperature extreme’ could be repeated again as early as July, forecasts indicate.

Whilst the heat in itself causes significant danger to life and infrastructure, heatwaves rarely occur in isolation. They cause or arrive with other risks, from drought to strong winds, and associated energy demand spikes and environmental pressures, creating compound challenges for infrastructure systems.

For swathes of the UK, the June heatwave arrived together with the combined impact of storms, lightning strikes and flash floods.

Researchers use the DAFNI platform to explore how these risks combine, using data and modelling to understand cascading effects across sectors.

Because the key question isn’t just *‘What happens when temperatures rise?’*
It’s *‘What happens when everything is under pressure at the same time?’*

Building resilience means planning for complexity, not single events.

CASE STUDY
D-RES: electric vehicle batteries for back-up household power supply

Dr Desen Kirli, Lecturer and Elizabeth Georgeson Fellow, University of Edinburgh



Introduction

The D-RES (Distributed Resilience from EVs during Extreme Weather Events) project demonstrated that electric vehicles can keep the lights and heating on during extreme storm events by providing extra resilience to the power grid. It focuses on mobilising idle electric vehicle batteries as a power source during extreme weather events when the grid is under stress and struggling to meet the energy demand from the end-users.

A case study of the Orkney Islands was chosen due to their high Electric Vehicle (EV) penetration, frequent storms, renewable energy resources and available data.

The work is particularly timely given the increase in decarbonised energy generation, EV uptake and the impact of the extreme weather in recent years.



The D-RES (Distributed Resilience from EVs during Extreme Weather Events) project is an excellent example of how to think differently about ensuring power supply during extreme storm events.

D-RES demonstrates that electric vehicles can keep the lights and heating on during extreme storm events by providing extra resilience to the power grid. Researchers found that idle electric vehicle batteries can be used as a power source when the grid is under stress and struggling to meet the energy demand from the end-users.

"The work is particularly timely given the increase in decarbonised energy generation, EV uptake and the impact of the extreme weather in recent years," says PI Dr Desen Kirli, Lecturer and Elizabeth Georgeson Fellow, University of Edinburgh.

Whilst the D-RES project focused on storms and EVs on the Orkney Islands, the research parameters are editable, so that it could be used on the Shetland Islands for heat pumps and heat waves, for example.

[Click to download or read the full case study.](#)

The D-RES team:

Principal Investigator, **Dr Desen Kirli**, Lecturer (Assistant Professor) and holder of Elizabeth Georgeson Fellowship, University of Edinburgh

Book now for the 2026 DAFNI Conference

📅 10th September 2026
📍 [Rhodes House in Oxford.](#)

We would be delighted to welcome you.

Our theme is '**Climate and Security Resilience**' with a dual focus on Government Industrial Strategy, and on Clean Energy.

Tickets are £50 per person (£25 students)



DAFNI
ANNUAL CONFERENCE

10 September 2026
Rhodes House, Oxford

Clean Energy Workshop
Led by EPSRC Supergen Energy Networks Hub



DAFNI
ANNUAL CONFERENCE

10 September 2026 - Rhodes House, Oxford

Our Keynote Speakers



Margaret Read
Strategy and Policy Director
National Infrastructure and Service
Transformation Authority (NISTA)



Professor Jim Hall
Professor of Climate and
Environmental Risks
at University of Oxford

Shaping clean energy through collaboration

We are currently designing a new workshop for the Conference in partnership with EPSRC's Supergen Hub, focused on the UK Government's Industrial Strategy, with particular emphasis on clean energy.

The workshop will bring together perspectives from academia, government and industry to explore shared challenges, opportunities and priorities in this area. Insights gathered will inform a report and impact report, which will be shared with UKRI councils and government to help shape future thinking and activity.

We are particularly keen to ensure broad representation across sectors, so if this is of interest to you, please register for the conference now.

Secure your space



DAFNI WEBINAR SERIES 2026

 **DAFNI** Data & Analytics Facility for National Infrastructure

Join us on 8th July for our webinar 'Optimise your LinkedIn use' with Catherine Dhanjal, Director of TheAnswer Ltd.

Catherine will share practical guidance on using LinkedIn effectively to increase impact and engagement of your work and to enhance your professional profile whether you are at the start of your journey with LinkedIn or further along.

With extensive experience as a writer, journalist, and PR specialist, she helps organisations communicate complex ideas clearly and engage

key stakeholders across government, industry, and professional services.

Don't miss this opportunity to strengthen your online presence and maximise your impact.

**DAFNI**

Grow your LinkedIn

Ready to elevate your professional profile and make LinkedIn work for you?





Join Catherine Dhanjal, Director of TheAnswer Ltd

Catherine will share practical guidance on using LinkedIn effectively to increase impact and engagement of your work and to enhance your professional profile whether you are at the start of your journey with LinkedIn or further along.

Secure your seat now -

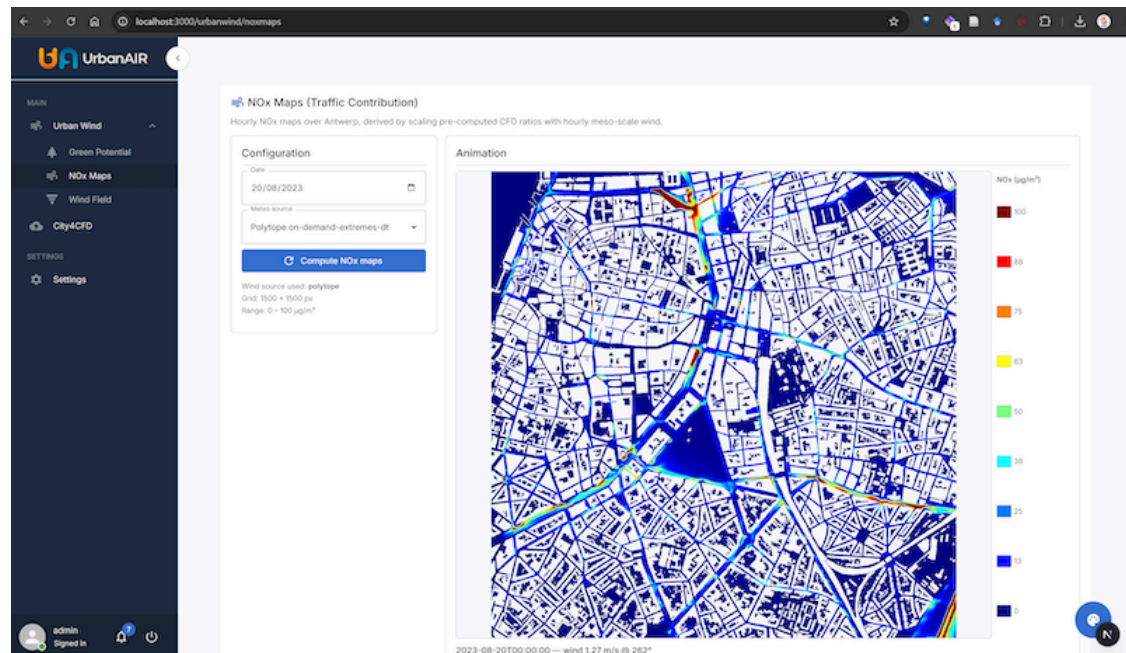
<https://www.dafni.ac.uk/news-and-events/events/webinar-optimize-your-linkedin-use/>
(Wednesday 8th July, 12 noon)

DAFNI's own LinkedIn page has now reached 2,000 followers.

We would like to thank you all for your support. Follow us at:

<https://www.linkedin.com/company/dafni-facility-for-national-infrastructure/>

User liaison news



UrbanAIR - showcasing a robust prototype digital twin

How to better manage air pollution, heat stress, and urban climate risks are at the heart of the UrbanAIR project. This Horizon Europe initiative - consisting of a consortium of top research institutions and engineering firms across Europe - is developing high-fidelity digital twins for urban climate action, equipping European cities with real-time, street-level forecasts to improve air quality and heat resilience.

STFC's role is to leverage the DAFNI platform to seamlessly integrate domain-specific tools - such as City4CFD (a tool that automatically reconstructs highly detailed 3D city geometries for microscale urban flow simulations) and Urban Wind - with the Destination Earth (DestinE) data lake.

Ultimately, this collaboration will deliver an innovative digital twin shaped by co-design with domain experts to enhance their daily workflows.

Dr. Saiful Khan is leading the UrbanAIR digital twin development on behalf of STFC and DAFNI. He recently presented on UrbanAIR to the consortium, marking a major milestone in integrating physics-based air quality models with the DestinE data lake, showcasing a robust prototype digital twin that features an intuitive user interface and a powerful backend architecture for managing execution services.

The demonstration highlighted two core domain-specific components: City4CFD: successfully deployed on STFC with efficient job execution and interactive request handling, and Urban Wind: featuring dynamic visualisations for Green Potential, Nitrogen Oxides maps, and Wind Fields. These models extract and process data directly from the DestinE data lake, providing users with visual analytics support to adjust configuration parameters and weights for air quality, wind comfort, and heat stress.

<https://www.urbanair-project.eu/>

Partnership news



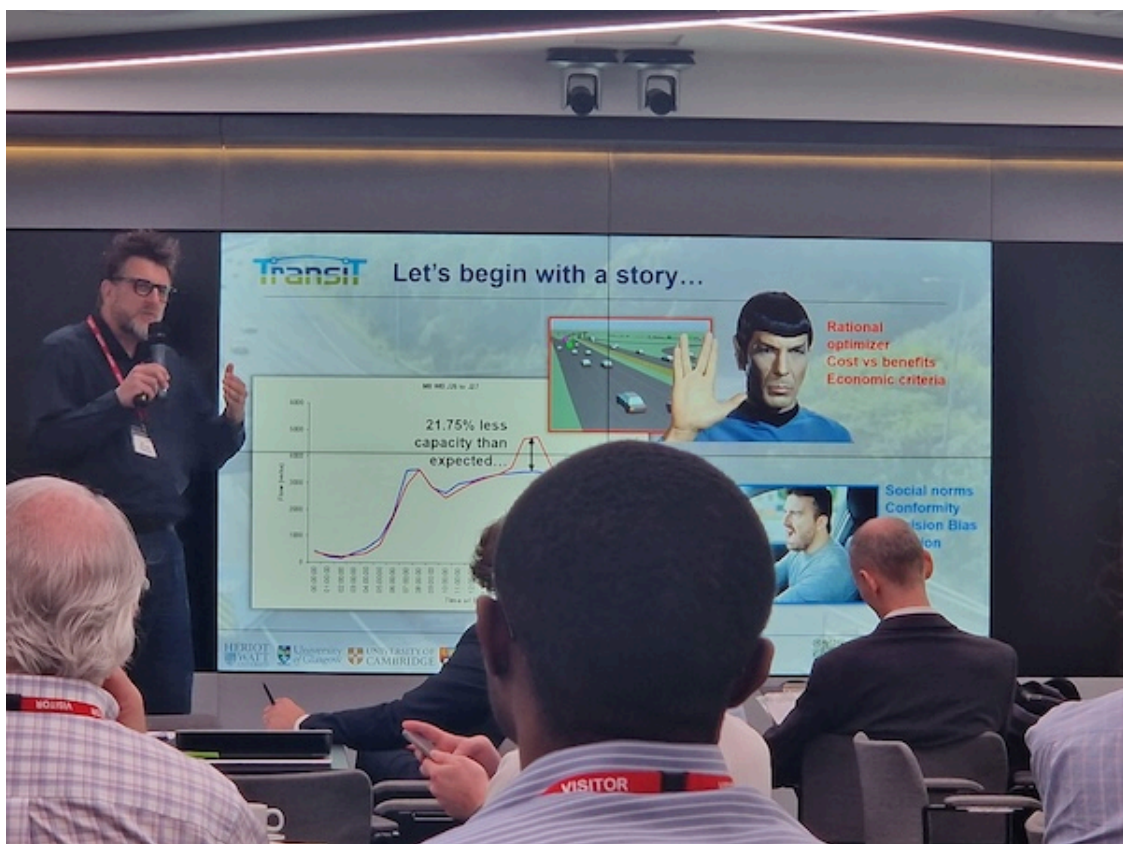
In June, DAFNI attended the AI Futures event: [Edinburgh Innovations | Fast Forward 2026: AI futures beyond the hype](#). The event showcased research being commercialised by the university, which ranks in the UK's top three institutions in this field.

It was a great opportunity to hear from researchers and businesses who are active in the applied research domain. A common theme within the event was how businesses can trust AI and apply it safely, with the opening session exploring this topic with respect to Generative AI.

DAFNI researchers are actively using AI. [Find out more about them here.](#)

Through his DAFNI Fellowship, Dr Manuel Herrera is exploring how trustworthy AI can support infrastructure asset management decisions under uncertainty. **Dr Mingshu Wang's** Fellowship is exploring developing GeoAI-enabled workflows that turn complex geospatial and infrastructure data into decision-ready evidence for scenario-based analysis.

Image: Courtesy of AI Futures



[The TransiT project](#) held a workshop at the [Connected Places Catapult](#) this month entitled 'Cybersecurity in Transport Digital Twins'. TransiT is a national research hub focused on using digital twins to rapidly decarbonise transport in the UK, including road, rail, air and maritime, across both passenger and freight. The project funded by EPSRC is collaboration of eight universities and almost 70 industry partners, jointly led by Heriot-Watt University in Edinburgh and the University of Glasgow.

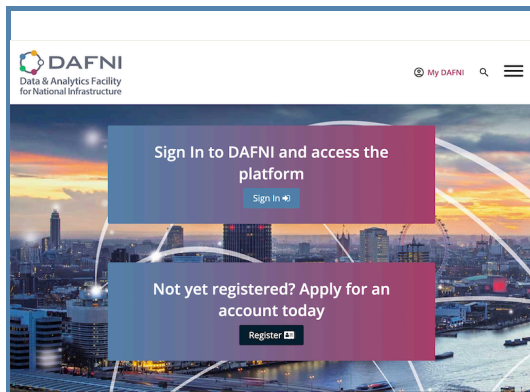
The national centre for cybersecurity gave the introductory presentation to the day and outlined the scale of the challenge the country faces in protecting our infrastructure against cyberthreats, as the attack surface expands rapidly alongside the adoption of digital technology.

In exploring different modes of transport and emerging challenges, it was interesting to hear how modelling and simulation can play a key role in the detection and mitigation of cyberthreats.

The DAFNI programme is working closely with TransiT's technical team on a pilot project, which would enable the TransiT's project to use DAFNI infrastructure as a secure repository of their data, facilitate AI processing, which will result in the project being able to produce visual results.

<https://transit.ac.uk/>

DAFNI platform features and updates



This month the DAFNI development team have been making some final tweaks to the new public pages while they are in final testing ahead of release.

These pages will be a great new way to showcase the work of a person/group/project held on the DAFNI platform in one central place, highlighting any stand-out assets and linking to any publications, affiliations, external sites and more.

Alongside this we have been working towards introducing a new type of dataset in our data catalogue: reference datasets. This new type of dataset has initially been designed to support projects who hold large or secure datasets off the platform, and want a metadata-only entry in the DAFNI catalogue that can act as a pointer to the source of the data. We would love to hear from you if this would be of interest to you or your work - please email support@dafni.ac.uk to get in touch!

Access our help

If you are a user of the platform and have any feedback or platform requests, please contact support@dafni.ac.uk

Basic and expert user accounts are available - find out more at the foot of this email.

DAFNI researchers' news



In June, Anna Murgatroyd co-organised the [British Hydrological Society event "Drought Hydrology: 50 Years Since 1976" at the Institution of Civil Engineers \(ICE\) in London](#). This was a timely and thought-provoking discussion on how far drought science and policy have come, and what

challenges still lie ahead and prompted discussions about the intersection of science, policy, and practice, reinforcing the critical role of evidence-led decision-making in a changing climate.

Anna also delivered an excellent presentation exploring five decades of scientific advances in drought research, highlighting how research has shaped our understanding of risk, resilience, and water management.

Speakers included:

- Philip Duffy, CEO of the Environment Agency
- Professor Dame Angela McLean, Government Chief Scientific Adviser
- Jean Spencer, Chair of the National Framework for Water Resources

Anna Murgatroyd is a Lecturer in Hydrology at Newcastle University. During her time working with DAFNI and the Pywr-WREW project, Anna played an important role in bringing together stakeholders, researchers, and industry partners to address key challenges facing the sector.

To help improve countries' drought resilience, the Pywr-WREW water resource systems model for England and Wales aims to enable strategic analysis and foster improved water supply planning. It simulates water movement from source to end user, through major supply infrastructures, going beyond regional or water company scale to national scale.

Hear Anna speak about Pywr-WREW and read the full case study at: <https://www.dafni.ac.uk/projects/pywr-wrew-coe/>



Congratulations to Dr Laiz Souto, Lecturer, University of Bath, on a successful study visit to the renowned [Grenoble Electrical Engineering lab \(G2Elab\)](#)!

Laiz was co-investigator on the DAFNI D-RES project, examining Distributed Resilience from EVs during Extreme Weather Events. We are delighted to see her career going from strength to strength.

Find out more about D-RES above.

Image: Courtesy of Laiz Souto

Community news

The UK Parliament has made a decision to pass the Seventh Carbon Budget into law.

This sets a legally binding target of around 87% emissions reduction for 2038–42, in line with advice from the Climate Change Committee.

Find out more at:

<https://www.argusmedia.com/en/news-and-insights/latest-market-news/2844005-uk-to-set-in-law-ghg-cuts-of-87pc-over-1990-2042>



Watch our past webinars

View recordings of past webinars at <https://www.dafni.ac.uk/news-events/events/webinars/>

DAFNI YouTube channel: catch up on conferences and interviews

Visit <https://www.youtube.com/@dafnifacility118>

DAFNI technical training



If you would like to attend a DAFNI Technical Training Event covering how to best use DAFNI to complement your work and projects, please visit our Eventbrite page to register your interest.

We plan to run training sessions in the near future.
<https://www.eventbrite.co.uk/o/dafni-31793198351>

Access our help

Please contact us directly for any assistance on info@dafni.ac.uk

DAFNI accounts

It is now much simpler to register for an account and to gain access to our data & models.



Apply for a DAFNI account: interested in working with infrastructure data, models and analytics? Creating an account on the Data & Analytics Facility for National Infrastructure (DAFNI) is the first step.

DAFNI offers two account options depending on how you want to use the platform:

- 🔍 **Basic account**
Provides read-only access to explore:
 - Data catalogue and dataset details
 - Model catalogue and model details
 - Workflow catalogue and workflow details

- ⚙️ **Expert account**
Includes everything in the Basic account, plus the ability to:
 - Upload your own assets
 - Run models within workflows and upload results as datasets
 - Explore datasets through visualisations
 - Create groups to share assets with selected collaborators

Whether you want to explore infrastructure datasets or actively run models and collaborate, DAFNI provides the tools to support research and innovation in national infrastructure.

Visit: <https://www.dafni.ac.uk/my-dafni/>

About DAFNI

The DAFNI platform supports research that aims to provide the UK with a world-leading infrastructure system that is more integrated, efficient, powerful, reliable, resilient and affordable. It is enabling the community to conduct research that is able to generate new insights at a higher level of detail and accuracy than ever before.

DAFNI was originally funded by an £8 million EPSRC investment in the UK Collaboratorium for Research in Infrastructure and Cities (UKCRIC) and a £1.2m grant under EPSRC's Resource Only Strategic Equipment. Its aim has been to become the national platform to satisfy the computational needs in support of data analysis, infrastructure modelling and visualisation, and encourage whole-system thinking for the UK's infrastructure research needs.

In March 2023 UKRI awarded £4m to STFC Scientific Computing to establish a national Centre of Excellence for Resilient Infrastructure Analysis, and move the Data & Analytics Facility for National Infrastructure (DAFNI) into its new phase.

To find out more about DAFNI, visit: www.dafni.ac.uk



Science and
Technology
Facilities Council



UKCRIC™

UK COLLABORATORIUM
FOR RESEARCH ON
INFRASTRUCTURE & CITIES



Engineering and
Physical Sciences
Research Council

DAFNI
Rutherford Appleton Laboratory,
Harwell, Oxford,
Didcot,
OX11 0QX
W: www.dafni.ac.uk
E: info@dafni.ac.uk



© 2026 STFC

This email was sent to {{ contact.EMAIL }} You received this email because you are
registered with DAFNI's STFC Send-in-Blue Mailing List

[Unsubscribe here](#)

