DAFNI NEWSLETTER, MARCH 2025

Dear {{ contact.FIRSTNAME }}

Welcome to the DAFNI March newsletter.

We are working hard on the preparation of our conference in September and are delighted to announce our Invited Speakers.

- Professor Richard Kirkham, Principal investigator on Building a Secure And Resilient World: Research and Coordination Hub (SALIENT)
- Rachael Steller, Resilient Infrastructure Lead at the Climate Change Committee
- Professor Nicholas Vasilakos, Professor of Sustainable Business Economics and Public Policy at the University of East Anglia, speaking on CROSSEU
- Oliver (Olly) Tones, Head of Data Sharing and Technology, Department for Science, Innovation and Technology

Our Invited Speakers will help us explore our theme of 'Bridging the Gap between Academia, Government and Industry', offering new perspectives, creative ideas and insights as they share their journeys of innovation, vision and impact.

On 12th March, we were delighted to hold our DINI-DAFNI showcase event, highlighting the enormous achievements of all our partners' research. It was fantastic to discuss together what more is needed to support researchers to access and use data, and how we can deliver the impact of research to government, industry and society.

Thank you all who attended, and particular thanks to all our speakers: Oliver Tones, Catherine Jones, Gea Mikic, Ceri Stanaway, Clara Diaz and Joanne Leach for their lightning talks, Elizabeth Newbold for use cases, our Champions: Professors Liz Varga and Theo Tryfonas and Dr Giuliano Punzo, and our panel speakers: Professor Varga, Miranda Sharpe and Mark Enzer.

Dr Brian Matthews, DAFNI Programme Lead

Book now
2025 DAFNI Annual Conference

Venue: [The Edge](#) at the University of Sheffield

Our theme this year is 'Bridging the Gap between Academia, Government and Industry' and we already have an exciting line-up of speakers, including our two keynote speakers, Dr Juliet Mian, Director of Arup's Climate Services and Sustainability portfolio, and Dr Sarah Hayes, Climate Resilience Demonstrator (CReDo) Strategic Advisor, from Connected Places Catapult

Prices: £50, student £25.
Book via: https://web.cvent.com/event/f255b158-1692-49f3-9efd-a68e3c86eba1/summary

09:30 Arrival - Networking breakfast
09:30 Welcome
09:45 Keynote: Juliet Mian, ARUP
10:15 Update on DAFNI
10:35 Networking break
11:00 Invited speakers: Dr Richard Kirkham, Rachael Steller, Professor Nicholas Vasilakos
12:00 Networking lunch, poster session and demonstrations

13:30 Keynote: Sarah Hayes, Connected Places Catapult
14:00 Oliver (Olly) Tones, DSIT
14:20 DINI project results and recommendations
14:50 Networking break
15:15 Trusted Research Panel
16:05 Paul Hickey, Ofwat
16:30 Conference closing remarks - Dr Brian Matthews
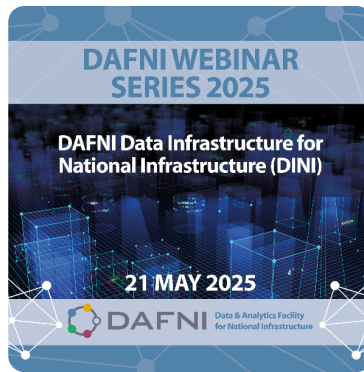

30th April: STORMS webinar

Dr Xilin Xia, Assistant Professor in Resilience Engineering, University of Birmingham, will present on the **STORMS** project – **Strategies and Tools for Resilience of Buried Infrastructure to Meteorological Shocks**.

Book now

21st May: DAFNI-DINI webinar

Dr Brian Matthews, DAFNI programme lead, will present on the DAFNI-DINI (Data Infrastructure for National Infrastructure project) and DAFNI's role in UKRI's project for DSIT, aiming at better and safer use of data in research.

Book now

News from our central team

Heathrow Airport outage highlights importance of DAFNI-funded MARS project

Earlier this month, Heathrow Airport was closed for 18 hours when a substation set alight. A total of 1,300 flights were impacted and 250,000 passengers affected.

Dr Fabian Steinmann, Lecturer in Organizational Resilience and Change & Deputy Aviation Safety & Compliance Manager, Cranfield University and Cranfield School of Management, worked on the **MARS: Flight Diversion Modelling for the UK Aviation System** project with Cranfield colleagues**:** Co-Investigator, **Dr Irene Moulitsas**, and Researcher, **Dr Desmond Bisandu**.

Fabian said, "Incidents like this demonstrate just how timely and relevant this field of research is. Every connection we add to the system brings added dependencies. This disruption is a prime example that some major risks facing businesses are often beyond their immediate control. Recognising these dependencies is the first step; developing mitigation strategies is the next."

[Click to watch the MARS presentation from last year's DAFNI Conference](#).

Dr Hannah Bloomfield and the BRINES team have been studying whether our present and future energy systems are prepared for traditional weather extremes and new climate change challenges, and how to manage them during weather-driven stress on the network.

The DAFNI-funded BRINES project (Building Risk-Informed redundancy for netzero Energy Systems) focuses on how to ensure resilience in the energy system now, as we head towards Net Zero in 2030, and as far ahead as 2080.

The multi-disciplinary team comprises Dr Hannah Bloomfield, an Academic Track Fellow in Climate Resilient Energy Systems at Newcastle University,

in a collaborative project with **Professor Sean Wilkinson** and **Dr Colin Manning** of Newcastle University and **Dr Ji-Eun Byun** of University of Glasgow.

DAFNI houses the redundancy model created by Dr Ji-Eun Byun, as well as datasets covering energy demand, wind and solar, plus damage datasets. The model and data is now available on DAFNI.

Click to read the full case study.

Partnerships update

CROSSEU visualisation tool
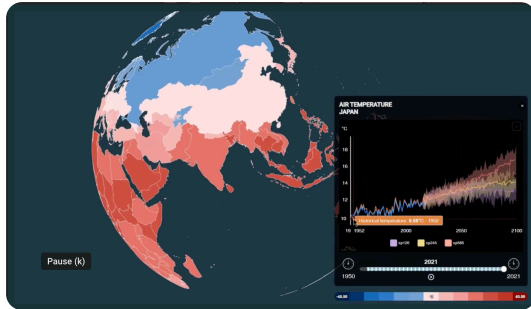
DAFNI is to support a new collaboration between The World Energy and Meteorology Council (WEMC) and UK Research and Innovation (UKRI) in a joint venture to produce an online decision support system as an outcome from the CROSSEU project.

The CROSSEU project was created to address growing societal needs for effective climate action and stronger socio-economic resilience. As climate change continues to impact our world, it becomes crucial to understand and manage its complex effects. CROSSEU uses a cross-sectoral approach to address emerging socio-economic risks and improve our grasp of climate change's economic impacts. The project focuses on developing practical solutions that address these challenges across different regions, particularly in a post-COVID-19 world.

CROSSEU's Decision Support System (DSS) is designed to help stakeholders make more informed decisions. Based on in-depth case study data and modelling, the DSS will be built in collaboration with users to enable them to make actionable decisions, or to explore possible outcomes for future time periods and different projected socio-economic scenarios. The DSS will include the support of DAFNI who will host the WEMC Teal tool, a free visualisation tool that enables the exploration of climate variables from 1950 to near real time, and carbon emissions from 1960.

With DAFNI enabling a user-friendly development approach for workflows and the addition of the WEMC Teal tool, users will now have the flexibility to consider bespoke modelling options and examine the visualisation of results.

The CROSSEU project was launched in response to growing societal needs for effective climate action and stronger socio-economic resilience. CROSSEU uses a cross-sectoral approach to address emerging socio-economic risks and improve our grasp of climate change's economic impacts. The project focuses on developing practical solutions that address these challenges across different regions, particularly in a post-COVID-19 world.

The CROSSEU project is funded under the Horizon Europe initiative. The partners from the United Kingdom are co-funded by UK Research and Innovation (UKRI).

DAFNI platform features and updates

Work on upgrading the DAFNI platform's web interface is now fully underway by the DAFNI development team. Over the next few months you may see fewer updates to the current interface as we focus our efforts on delivering an upgraded portal which will pave the way to new and exciting platform features.

Join our Zoom drop-in for users

Join us for a drop-in session where we will be available on an open Zoom call for 2 hours to give you 1-to-1 support with any problems that you may be having on the DAFNI platform. No technical question is too big or small. The next date is **Wednesday 23rd April** at 2pm-4pm

Join at: https://ukri.zoom.us/j/91689519352 or contact us on info@dafni.ac.uk

DAFNI technical training

A great opportunity to get up to speed quickly on DAFNI and to ask our technical experts your burning questions. **Highly recommended for those developing a research proposal and are thinking of including DAFNI as the platform of choice for the research.**

Our regular technical training events (Wednesdays, 1:30pm-4:30pm) on DAFNI are available to book via Eventbrite. Next training dates:

- 7th May 2025
- 2nd July 2025
- 27th August 2025

To attend the event you will need experience of entering code through a command line interface, for more information and to book, please visit: https://www.eventbrite.co.uk/o/dafni-31793198351

Apply for a DAFNI account

Join our community
If you would like to join the community of DAFNI users, please visit the DAFNI website for more information.

Current users of DAFNI
Get updated on the latest technical updates and features, visit: https://www.dafni.ac.uk/dafnilogin/

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