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DAFNI NEWSLETTER, JULY 2025

Dear {{ contact.FIRSTNAME }}

Welcome to the DAFNI July 2025 newsletter.

I'm pleased to say that it's not long now until we welcome you all to Sheffield for the **DAFNI Annual Conference** and I am delighted to announce that **Kathryn Dally**, Director of Programmes at the UK Research Integrity Office (UKRIO) will be joining us for our Trusted Research Panel.

Kathryn's role is focused on coordinating and delivering UKRIO's growing portfolio of projects and initiatives, in collaboration with key stakeholders.

We are also announcing that spaces are available for exhibitors at the conference this year.

Tables and space for pull-up banners will be available. If you would like to take part, contact us as soon as possible on info@dafni.ac.uk as they will be allocated on a first-come, first-served basis. There is no charge for this opportunity. (Sorry, no screens or posterboards available.)

Our featured case study this month looks into ***Improving flood disruPted road networks with a dynamic people-Centric digital Twins*** **(IMPACT)**, developing an innovative people-centric digital twin (DT) to evaluate the dynamic congestion risks across multiple transportation modes during flooding events.

Our featured blog reflects on our **DAFNI-DINI Showcase** event in March 2025, including information on the project use cases, workshops, champions and project results and recommendations. The project is part of an exciting programme of work driven by the Department for Science, Innovation and Technology (DSIT), aiming for better and safer use of data in research, with the DAFNI-DINI project funded by UK Research and Innovation (UKRI)'s Digital Research Infrastructure programme.

The recording of our June webinar led by **Professor Richard Dawson** is now available online. Professor Dawson discussed the Flood Infrastructure Resilience Model (FIRM), which simulates flooding and the human response to events.

On the **DAFNI Platform**, work continues apace to allow quick entry in the form of Basic user accounts. This month we are working with the penetration testing team at UKRI for their security sign off. When released later this year, the Basic user accounts will allow new users to register and enter the platform in seconds, gaining immediate access to view the public data, models and workflows held on the DAFNI Platform.

Dr Brian Matthews, DAFNI Programme Lead

Book now
2025 DAFNI Annual Conference

Join us at The Edge at the University of Sheffield

Our fantastic line-up of speakers, includes our **two keynote speakers**, **Dr Juliet Mian**, Director of Arup's Climate Services and Sustainability portfolio, and **Dr Sarah Hayes**, Chair Data Sharing Working Group, Independent Consultant.

Invited speakers

- **Oliver (Olly) Tones**, DSIT
- **Dr Richard Kirkham**, University of Manchester, on SALIENT
- **Rachael Steller and Karina Rodriguez Villafuerte**, Climate Change Committee
- **Professor Nicholas Vasilakos**, University of East Anglia, on the CROSSEU project
- **Paul Hickey**, Ofwat and **Jonny Wilson**, Environment Agency, on National Water Resources Quality

Trusted research panel:

- **Emily Jefferson**, Health Data Research UK
- **Jason Feehily**, University of Nottingham
- **David Batho**, Jisc
- **Tash Buckley**, Cranfield University
- **Kathryn Dally**, UK Research Integrity Office

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

Timetable:

Morning

- **09:00 Arrival** Breakfast networking
- **09:30 Welcome and introduction**
- **09:45 Keynote: Making good choices** Juliet Mian, Arup
- **10:15 Update on DAFNI** Sarah Byrne
- **10:35 Networking break**

Invited Speakers Session

- **11:00 SALIENT: Building a Secure and Resilient World: Research and Coordination Hub**
  Dr Richard Kirkham, The University of Manchester
- **11:20 Assessing the resilience of infrastructure in the UK**
  Rachael Steller and Karina Rodriguez Villafuerte, Climate Change Committee
- **11:40 Climate Extremes and Income Inequality: First Glimpses of Econometric Evidence and Policy Insights from the CROSSEU Project** Professor Nicholas Vasilakos, University of East Anglia
- **12:00 Networking lunch** Poster session and demonstrations

Afternoon

- **13:30 Keynote: Do it once and share it many times**
  Sarah Hayes, Chair Data Sharing Working Group, Independent Consultant
- **14:00 Learning to Fly: Research Data Access Pilots**
  Oliver (Olly) Tones, Department for Science, Innovation and Technology
- **14:20 DINI Project Results and recommendations**
  Dr Brian Matthews, DAFNI Programme Lead, Scientific Computing, STFC
- **14:40 Networking Break**
- **15:05 Trusted Research Panel:**
  - Emily Jefferson, Health Data Research UK
  - Jason Feehily, University of Nottingham
  - David Batho, JISC
  - Kathryn Dally, UK Research Integrity Office
  - Tash Buckley, Cranfield University
- **15:55 From hackathon to legislation - the journey of NUAR**
  Holger Kessler, AtkinsRéalis
- **16:15 National Water Resources Quality Modelling: From research to delivery**
  Paul Hickey, Ofwat and Jonny Wilson, Environment Agency
- **16:35 Conference closing remarks**
  Dr Brian Matthews, DAFNI Programme Lead, Scientific Computing, STFC
- **16:45 Close of Conference**

DAFNI WEBINAR SERIES 2025

DAFNI Data & Analytics Facility for National Infrastructure

Building systemic resilence

Click to book for our September webinar featuring **Dr Raghav Pant** of University of Oxford.

Raghav will speak on **NIRD National Infrastructure Resilience Demonstrator –** Building systemic resilience of interdependent infrastructure networks at the national scale

Book now

Watch our past webinars

View recordings of past webinars https://dafni.ac.uk/past-events/

Including Professor Richard Dawson on FIRM Flood Infrastructure Resilience Modelling

News from our central team

DAFNI is now on Wikipedia!

We are excited to announce DAFNI is now on Wikipedia!

Please check out our profile at: https://en.wikipedia.org/wiki/Data_and_Analytics_Facility_for_National_Infrastructure

Our page details the history of DAFNI as well as our funding and partners. This is a great read to find out more about how DAFNI started and highlights how embedded DAFNI is at the heart of UK infrastructure research.

Digital Twins at the heart of improvements to flood disrupted road networks

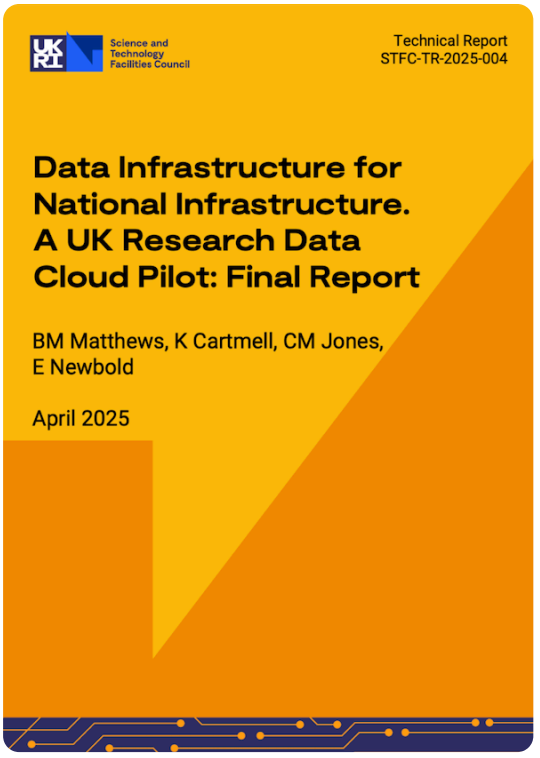
The effects of climate change have resulted in record rainfall, with October 2023 to March 2024 the wettest winter half-year on record for England and Wales. Such conditions significantly disrupt road networks and transport, causing damage to infrastructure, road closures, increased travel times, and potential economic and social impacts. The IMPACT project focused on Improving flood disruPted road networks with a dynamic people-Centric digital Twins.

The team consists of **Dr Qiuchen Lu**, Professor at the Bartlett School of Sustainable Management, UCL and **Professor Tao Cheng**, Head of UCL SpaceTimeLab, and Vice Dean (International) for UCL Engineering. They have developed an innovative people-centric Digital Twin that sits at the heart of the project.

The Digital Twin is used to evaluate the dynamic congestion risks across multiple modes of transport during flooding events, to feed into government initiatives by providing evidence-based insights into climate-resilient transport infrastructure. Digital Roads of the Future in Cambridge is already working with the team and they are planning for potential collaboration with Transport for London.

Click here to read the case study

A vision for trusted research for the future



Our blog capturing the highlights from our DAFNI-DINI (Data Infrastructure for National Infrastructure) March showcase event includes an introduction to the DINI project, a pilot study on the requirements and impact of supporting the sharing and analysis of data across national infrastructure systems, with a focus on energy, water and transport, and the related natural, built, social and economic environment, and the workshops and research projects run within the DINI project. Read the blog at: https://www.dafni.ac.uk/latest/a-vision-for-trusted-research-for-the-future-highlights-from-the-dafni-dini-showcase/

Since the March event, we have published the DAFNI DINI report '*Data Infrastructure for National Infrastructure. A UK Research Data Cloud Pilot: Final Report*' which synthesises the huge amount of evidence from across the UK collected in the field of National Infrastructure Systems within the UK, with a focus on energy, water and transport.

The DSIT-funded work contains potential impacts of sharing infrastructure data for research, and the barriers which can get in the way. It also considers some key technologies needed to build a data cloud, highlights from sponsored demonstrator use cases to illustrate the use of data in research practice, and provides recommendations for the future.

Partnership news

Climate risks under the spotlight in Bristol

In September 2025, the USARIS team (Uncertainty Quantification and Sensitivity Analysis for resilient infrastructure systems) will speak at the 5th National Climate Impacts & Risks Meeting in September in Bristol.

For more information or to sign up: https://www.climatebristol.org/projects/nci-rm/

DAFNI researchers promoted

Professor Richard Dawson has been appointed to the Science and Technology Advisory Council (STAC) at the Department for Energy Security and Net Zero (DESNZ). Congratulations to Richard! We are delighted to work with him on the FIRM Flood Infrastructure Resilience Model.

Congratulations to **Xilin Xia** who has been promoted to Associate Professor at School of Engineering, University of Birmingham, starting from 1st August 2025! Well deserved - we are wishing you continued success in your new role. DAFNI is delighted to work with Xilin on the STORMS project: Strategies and Tools for Resilience of Buried Infrastructure to Meteorological Shocks.

User liaison news

Building a Secure and Resilient World

The Building a Secure and Resilient World (BSRW) projects are now coming to a close. This DAFNI research strand comes as part of the overarching UKRI programme 'Building a Secure and Resilient World' (BSRW)', a 5-year programme which seeks to tap the UK's research and innovation system to tackle large-scale, complex challenges for the UK. In order to better share these excellent projects, work has begun on enhancing their metadata to increase their re-usability prior to their public release. We aim to have the BSRW projects available on the DAFNI platform and to showcase them on our website as exemplar examples of the work that can be done on the platform.

They are:

- STORMS: Strategies and Tools for Resilience of Buried Infrastructure to Meteorological Shocks
- USARIS: Uncertainty quantification and Sensitivity Analysis for Resilient Infrastructure Systems
- RIWS: Resilience for Integrated Water Systems
- SCQUAIR: Small Changes, QUANT and AI Resilience
- FIRM: Flood Infrastructure Resilience Model
- SOFRAMODE: Sewer Overflow Flood Risk Analysis Model DAFNI-Enabled
- NIRD: National Infrastructure Resilience Demonstrator
- Pywr-WREW: a Water Resources model for England and Wales built in Python water resources simulation system

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DAFNI platform features and updates

The DAFNI development team have been continuing their work towards upgrading the platform's web interface. Alongside this work they have been working on updating the platform's back-end dependencies in preparation for the platform to go through penetration testing. The pen testing is scheduled for August, and will ensure we continue to deliver our users a safe and secure platform for their research.

Access our help

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

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DAFNI technical training

A great opportunity to get up to speed quickly on DAFNI and to ask our technical experts your burning questions. **Especially 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) are available to book via Eventbrite (see weblink below) Next training dates:

- 3rd September
- 22nd October
- 17th December 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/

Community news

Contribute to the UK's Climate Resilience Strategy

The Climate Change Committee (CCC) is calling for evidence to inform its Well Adapted UK report, a key part of the next UK Climate Change Risk Assessment (CCRA4).
This is a chance for researchers, practitioners, policymakers, NGOs and private sector stakeholders to contribute data, case studies and practical insight on:

- Identifying high-impact actions to manage climate risks across systems
- Understanding investment needs and enabling delivery at scale
- Creating frameworks for monitoring adaptation outcomes over time
- Setting a shared vision for a well adapted, resilient UK

🗓️ Deadline: 29 August 2025
📩 Submit to: WAUKevidence@theccc.org.uk
🔗 Full details: https://macchub.co.uk/knowledge-base/national-adaptation-planning/opportunity-to-contribute-evidence-to-the-climate-change-committees-well-adapted-uk-report/

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

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