



## DAFNI NEWSLETTER, SEPTEMBER 2025



Dear {{ contact.FIRSTNAME }}

Welcome to the DAFNI September 2025 newsletter.

It was fantastic to welcome you all to Sheffield for our annual conference! The day was a testament to the hard work of the DAFNI team and our collaborators, with whom we look back on an incredible year of innovative research and collaboration. We would like to personally thank all our speakers and panellists for doing an excellent job of covering this year's themes of climate change, security and trusted research.

Our keynote speakers, **Juliet Mian** and **Sarah Hayes**, gave insightful talks on the importance of making good choices and data sharing to ensure a collaborative and FAIR future in data and infrastructure. Our invited speakers gave exciting project updates on **SALIENT**, **climate change** and **CROSSEU**, whilst our STFC and DAFNI colleagues, **Sarah Byrne**, **Elizabeth Newbold** and **Catherine Jones**, informed us of the latest developments and updates in DAFNI and the results from the DAFNI-DINI project.

Our **Trusted Research panel** members offered insight and recommendations into what makes the best Trusted Research Environment and the implications for the future, whilst speakers **Holger Kessler** and **Jonny Wilson** completed the day with their excellent talks on the latest developments at NUAR and the Environment Agency.

We have already received some very kind feedback. If you attended, please could you take a moment to complete [our feedback form](#). We value your feedback, and we are always striving to improve.

Please save the date for our 2026 conference, which will be held on 10<sup>th</sup> September 2026 at [Rhodes House in Oxford](#). We would be delighted to welcome you again next year. [Registrations are now open!](#)

We are in the planning stages of a new DAFNI Fellows programme and we are looking forward to sharing our Fellows announcement. If this is of interest, [please sign up to our Eventbrite](#) where the information will first be released.

*Dr Brian Matthews, DAFNI Programme Lead*

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## Reflecting on the 2025 DAFNI Annual Conference



DAFNI ANNUAL CONFERENCE

# BRIDGING THE GAP

## BETWEEN ACADEMIA, GOVERNMENT AND INDUSTRY



THE EDGE, SHEFFIELD 11 SEPTEMBER 2025

This month we held the DAFNI conference, with the theme of bridging the gap between Academia, Government and Industry. The day was a great opportunity to network and hear from a wide range of speakers from all sectors. Our thanks go to **Dr Giuliano Punzo** of the School of Electrical and Electronic Engineering and Director of the Urban Flows Observatory at the University of Sheffield, who chaired the morning sessions and welcomed us to the Steel City.

A key theme that emerged from the conference sessions was that of climate resilience. Representatives from the **Climate Change Committee** described the [recent call for Climate Risk Evidence and the emerging 4th assessments of UK Climate Change Risks](#).

The theme of resilience was explored by speakers in the morning session with respect to climate change risks. Particular focus was on transportation (**Arup**), how communities come together to tackle challenges such as misinformation ([SALIENT project](#)) and the impacts of climate change on society ([CROSSEU - Advancing climate resilience](#)). For participants in the room, it was clear that the climate challenge is moving from a mitigation to an adaptation challenge.

The afternoon sessions shifted the focus onto practical data challenges with results from the [DAFNI-DINI \(Data Infrastructure for National Infrastructure\) project](#) being presented. Potential future work in the data domain as outlined in the UK Industrial Strategy 2025 was presented by **Oliver (Ollie) Tones** from DSIT. **Sarah Hayes** presented the work of the [Data Sharing Working Group](#) which is an open group that addresses challenges of data sharing.

A **panel on trusted research** kicked off the final sessions (pictured below). **Jason Feehily, Kathryn Dally, David Batho, Tash Buckley** and **Emily Jefferson** highlighted how, in recent years, the infrastructure to enable the use of sensitive data in research has expanded from both a technical and governance perspective. In addition, how the future economy depends on such data sharing and the challenges with respect to transparency, presented by increased use of AI-related technologies and algorithms.

Finally **Holger Kessler** of AtkinsRéalis gave a good use case and set of challenges to be addressed by the trusted research community as he explained the journey of the [National Underground Asset Registry](#). **Jonny Wilson** ended the conference with a demonstration on how the Environment Agency is using the DAFNI platform to model water resource quality.

It was great to see so many people at the event, and to have the opportunity to meet in person with others who share our passion for tackling the challenges that DAFNI is working to solve.

The next DAFNI conference will be held in [Oxford in 2026](#), and we look forward to seeing you there.



## Watch our past webinars

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



**NIRD CoE – Building systemic resilience of interdependent infrastructure networks at the national scale**



**FIRM – Flood Resilience Simulation Model on DAFNI**



**DAFNI-DINI (Data Infrastructure for National Infrastructure)**

## News from our central team

**Building a Secure and Resilient World: Tackling large-scale, complex challenges for the UK**





DAFNI's Centre of Excellence for Resilient Infrastructure Analysis, launched in April 2023, fosters research in the area of resilience in the natural and built environment.

The Centre's first research strand, part of the overarching UKRI programme '[Building a Secure and Resilient World](#)' (BSRW)', has just completed.

In our latest blog, we explore the BSRW-funded projects across flood resilience, buried infrastructure, road network resilience, drought resilience, land use and transportation patterns, and uncertainty quantification and sensitivity analysis for modelling.

[Click to read the blog](#)

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## PoliticsHome article from DAFNI & UKCRIC

In September DAFNI was invited to collaborate with the UK Collaboratorium for Infrastructure and Cities (UKCRIC) to draft an article for PoliticsHome's audience of government and policymakers.

Data is at the heart of all infrastructure research. It underpins every decision made by central government, local government, private sector and others involved in the nation's infrastructure.

### Driving improved national infrastructure through better data sharing



Catherine Dhanjal, Media Manager and Alison Oliver, Research Community Manager, DAFNI | [UKCRIC](#)

6 min read | 15 September [Partner content](#)

And that infrastructure is the bedrock of our daily lives – from the moment we wake in the morning and turn on our taps, put the kettle on to boil, heat our homes, and on our commute to work or school onwards... But the way that we plan for maintenance, new infrastructure and developments is changing fast, and for the better. Part of that change is driven by climate change and some of it is due to technological developments which allow researchers to work more precisely and more intelligently than previously.

[Click to read the full article on the PoliticsHome site.](#)

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## The STORMS project: surging towards more resilient buried infrastructure



**CASE STUDY**  
**The STORMS project: surging towards more resilient buried infrastructure**

**Dr Xilin Xia: Assistant Professor in Resilience Engineering, University of Birmingham**



**Introduction**

The UK's buried infrastructure network covers an estimated 4 million kilometres and includes water and gas pipelines, electricity and telecom cables, and sewer structures.

These underground structures carry essential services and are at risk from increasing weather extremes caused by climate change. Flooding erodes soil and tarmac surfaces and can expose the pipes to the elements. Wet and dry cycles weaken the soil and compromise the integrity of the pipelines.

The STORMS (Strategies and Tools for Resilience of Buried Infrastructure to Meteorological Shocks) project has developed a weather-related risk assessment framework. The work will increase resilience to weather-related risks, including analysing soil structure changes and damage calculations for buried pipes. This will inform national guidance and planning, to increase resilience at network and national scale.



**What would you identify as the main impact of this work?**

*"STORMS provides a very robust and quantitative set of models and datasets, creating important evidence for planners. It provides hitherto unattainable insights. It could become an essential tool for companies to understand their risk across their own network and ultimately across multiple regions, as well as having significant potential to influence national policy."* Dr Xilin Xia.

In terms of national policy, the outputs from the STORMS project could fill in a critical gap of evidence about climate risk to buried infrastructure such as the national and regional natural gas networks for the Climate Change Risk Assessment (CCRA). The UK Government publishes the CCRA every five years, as required by the 2008 Climate Change Act, to assess the risks to the UK from climate change. The fourth CCRA is due to be published in 2027.

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

JULY 2025 1/5

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The team is led by Principal Investigator: **Dr Xilin Xia**, Assistant Professor in Resilience Engineering, University of Birmingham.

Co-Investigators from University of Birmingham: **Professor Nicole Metje; Professor David Hannah; Dr Asaad Faramarzi, Dr Soroosh Sharifi.**

Researchers: **Dr Nikolaos Reppas**, Research Fellow (currently Assistant Professor at the University of Warwick); and **Dr Qian Li**, Research Fellow at University of Birmingham.

**UK Centre for Ecology & Hydrology (UKCEH)**

Co-I: **Dr Steven Cole** Co-I: **Mr Bob Moore;** Co-I: **Dr Adam Rich-Griffin;** Co-I: **Dr Alison Kay**

**British Geological Survey** - Co-I: **Dr Andrew Hughes**

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

# DAFNI platform features and updates

## Apply for a DAFNI account

Please choose how you would like to access DAFNI

### Basic

A Basic DAFNI account grants you read only access to:

- Data Catalogue and Dataset Details
- Model Catalogue and Model Details
- Workflow Catalogue and Workflow Details

Select

### Expert

An Expert DAFNI account grants you access to:

- Everything in Basic
- Upload your own assets
- Run Models within Workflows, uploading any results as Datasets
- Explore Datasets in Visualisations
- Create groups to allow you to share your assets with select users

Select

The release of 'Basic User' accounts has made it a very exciting month for the DAFNI platform. If you are not already a user of the platform, it is now much simpler to register for an account and to gain access to our data and models catalogues.

Visit <https://facility.secure.dafni.rl.ac.uk/> and click 'apply for an account' and you will see the option to register for Basic Access, with no approval from our team required to get you browsing the public data and models that the DAFNI platform has on offer.

Alongside this update, we have also introduced new email notification options for our users, allowing you to receive email updates when uploading assets or running workflows on the platform. These can be turned on or off from your account details page.

# Partnership news

## DAFNI community accolades



Congratulations to CASA's Chairman, **Professor Michael Batty**, and member of DAFNI's Strategy Board, who has been elected a foreign member of the [Indian National Science Academy - INSA](#), in honour of his pioneering contributions to the world of science. His Fellowship will take effect in January 2026.



**David Flynn**, Professor of Cyber Physical Systems at the University of Glasgow, is starting a supplementary position as Honorary Professor at [The University of Edinburgh](#), in recognition of his academic achievements and distinction in research leadership.



**Qiuchen Lu**, Professor/RAEng/Leverhulme Trust Research Fellow, Bartlett School of Sustainable Management, has been appointed to the editorial board of *Artificial Intelligence for a Sustainable Built Environment* (AISBE), a new open access, peer-reviewed journal. <https://www.emeraldgroupublishing.com/journal/aisbe>. She has also been listed in the Stanford/Elsevier Top 2% Scientists List for 2025.

## DAFNI researchers' speaking engagements



**Laiz Souto**, Assistant Professor at the University of Bath, spoke on D-RES at the 2025 International Conference on the Cooperation and Integration of Industry, Education, Research and Application at the Northeast Electric Power University in China in September 2025. D-RES focuses on digital twin modelling, aiming to ensure optimal use of existing assets, leveraging their flexibility to ensure energy security and inter-operability as volume of renewables increase.



**Dr Qian Fu** of the University of Birmingham (pictured at the DAFNI Conference 2025) presented his work on the DAFNI-funded ClimaTRACKS project at the Euro Working Group on Transportation 27th Annual Conference in Edinburgh in September 2025. ClimaTRACKS looked into forecasting the resilience of railway networks through propagating uncertainty and aimed to compute risks of weather-related disruptions and asset failures in a railway network.

## Access our help

Please contact us directly for any assistance on [info@dafni.ac.uk](mailto: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. **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:

- 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

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#### 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

### New climate course from Newcastle University

Newcastle University's Climate Risks and Resilience in a Warming World CPD course offers the opportunity to gain the expertise to understand, evaluate, and respond to climate-related hazards.

[Sign up here for the October intake](#)

### Expressions of interest for FCDO Multi-Hazard Research Network

An opportunity for UK- based academic and other non-profit institutions to:

- Coordinate a global, multi-disciplinary network
- Deliver tools, evidence, and expert advice to reduce suffering and save lives

Expression of Interest deadline: 8 October 2025

<https://www.grtd.fcdo.gov.uk/funding/call-for-expressions-of-interest-establishing-a-multi-hazard-research-network/>

### Apply now for The Foundation Future Leaders Programme

Open to universities and national facilities, the Civil Service, and Applicants from industry, independent not-for-profit Research & Technology Organisations, and RTOs. There are 35 places available to support the leaders of tomorrow in building the links and knowledge that they will need.

Apply by 25 November at: <https://www.foundation.org.uk/Future-Leaders/Foundation-Future-Leaders-2026>



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# 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](http://www.dafni.ac.uk)

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