



DAFNI NEWSLETTER, OCTOBER 2025



Dear {{ contact.FIRSTNAME }}

Welcome to the DAFNI October 2025 newsletter!

Thank you again to all of you who were able to attend last month's conference. Talks, interviews and photos will be shared on our new website and on LinkedIn over the coming weeks, so keep an eye out.

We are already working on our next conference, and to make it even better we'd love to hear about your experience this year. If you joined us in Sheffield, please take a moment to complete [our feedback form](#).

Save the date for our 2026 conference, which will be held on 10th September 2026 at [Rhodes House in Oxford](#). We would be delighted to welcome you. [Registrations are open now](#).

Our case study this month focuses on SCQUAIR (Small Changes, QUANT and AIResilience - Simulating the Resilience of Transport Infrastructures using QUANT), read more below on this DAFNI-funded project from Dr Richard Milton and Professor Michael Batty of UCL.

We successfully launched new account types for the DAFNI platform in September, making it easier than ever to register for an account and access the public data and models the platform has to offer. Click to [apply for an account](#) on the platform and select the 'Basic User' option to get immediate access to our catalogues.

Dr Brian Matthews, DAFNI Programme Lead

News from our central team

DAFNI Fellows call

Get in touch if you are interested in:

- Community engagement events
- Sponsor White papers
- Help improve exchange of knowledge between policy and academia
- DAFNI Ambassador, inspiring others to use DAFNI
- Travel grants
- Demonstration of technical work
- Collaboration on research projects
- Networking with the community
- Helping shape DAFNI's future direction
- Involvement in Network Hub



Katie Cartmell
Project Delivery Manager
DAFNI
Contact: info@dafni.ac.uk

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

Thank you to DAFNI conference attendees for providing their input and feedback on the DAFNI Fellows call.

The programme team are reviewing and incorporating the feedback, and will be sharing more news on the details and announcement of opportunity before Christmas.

The team are planning a January webinar which will enable the community to learn more about the opportunity and ask questions before submission is due in Early February 2026. We are looking forward to speaking to you about this opportunity, if this is of interest, [please sign up to our Eventbrite](#) to secure early access to funding information.

DAFNI team members attended the Digital Research Infrastructure (DRI) Congress meeting in Leeds earlier in the month.

This was a great opportunity to understand the DRI landscape and its future priorities and initiatives. The DAFNI-DINI project team were invited by the Department of Science, Innovation and Technology to give a lightning talk on the DINI project in one of the interactive sessions.

Image: Thanks to Stephen Longshaw, Director of Computational Science Centre for Research Communities (CoSeC)



CASE STUDY

SCQUAIR: Small Changes, QUANT and AI Resilience - Simulating the Resilience of Transport Infrastructures using QUANT

Dr Richard Milton - Senior Researcher, Bartlett Centre for Advanced Spatial Analysis (CASA), UCL



Introduction

The SCQUAIR project simulates the pattern of land use and transportation for England, Scotland and Wales, running myriad simulations to identify the impact of new jobs, in terms of where people live and how they travel there.

The underlying spatial interaction model is called QUANT, developed by Professor Michael Batty of UCL, and runs very rapidly in a web-based environment.

It is configured in terms of thousands of small zones and three modes of transport (bus, rail, road) which bind together employment at place of work and population at place of residence.

The SCQUAIR project involved teaching artificial intelligence (AI) to add scenarios to QUANT which project the magnitude and direction of people commuting, the differences in kilometres travelled when new transport options are introduced, the impact of job swaps between regions on road kilometres driven, and the transport they use to commute, as well as other elements.

Who's involved?

SCQUAIR is led by Dr Richard Milton, Senior Researcher, Bartlett Centre for Advanced Spatial Analysis (CASA), UCL. When on secondment to the Alan Turing Institute for AI and Data Science, Richard developed the current evolution of the "QUANT" spatial interaction model with an emphasis on AI for building new transport infrastructure scenarios for carbon net zero. His Co-Investigator for SCQUAIR is Professor Michael Batty, Emeritus Professor of Planning at UCL's CASA, together with Xinyi Liu and Yuet Yung Lung from UCL.

When did the project start and finish?

October 2023 to June 2024

Key challenges that SCQUAIR aims to solve

The QUANT model and its application for simulating the resilience of transport infrastructures is optimised to deliver results to the user in a matter of minutes, so that users can speedily derive and test future scenarios for land use and transport.

The model looks at 'what-if' scenarios so users can run thousands of scenarios around the use of land and transport, to predict impacts and to enable stakeholders to test various plans.



DAFNI Data & Analytics Facility for National Infrastructure

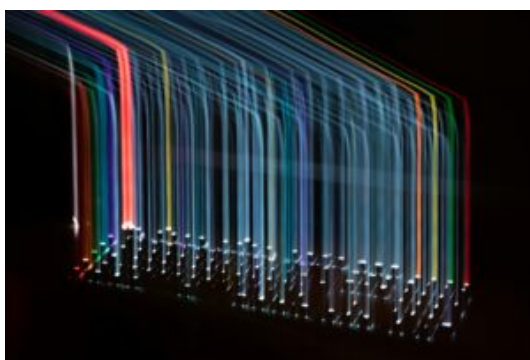
The SCQUAIR project simulates the pattern of land use and transportation for England, Scotland and Wales, running myriad simulations to identify the impact of new jobs, in terms of where people live and how they travel there.

The SCQUAIR project involved teaching artificial intelligence (AI) to add scenarios to the underlying QUANT model, which project the magnitude and direction of people commuting, the differences in kilometres travelled when new transport options are introduced, the impact of job swaps between regions on road kilometres driven, and the transport they use to commute, as well as other elements.

The data from the scenario runs can be used by urban planners to show how future plans for the location of land uses and transport can be massively improved – optimising outcomes for the carbon budget, for example

The team is led by **Dr Richard Milton**, Senior Researcher, Bartlett Centre for Advanced Spatial Analysis (CASA), UCL with Co-Investigator **Professor Michael Batty**, Emeritus Professor of Planning at UCL's CASA, together with **Xinyi Liu** and **Yuet Yung Lung** from UCL.

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



As part of DAFNI's data sharing project 'Data Infrastructure for National Infrastructure' (DINI), DAFNI commissioned two workshops on data sharing with the Collaboratorium for Research on Infrastructure and Cities' (UKCRIC) Stakeholder Advisory Group and Urban Observatory network.

The DINI project was funded by the Department for Science, Innovation and Technology (DSIT), aimed at better and safer use of data in research.

It was funded by UK Research and Innovation (UKRI)'s [Digital Research Infrastructure \(DRI\) programme](#), a £129m initiative aimed at developing a system that's interconnected, human, FAIR and sustainable.

The first workshop ran in May 2024 and the second in September 2024, with the final report submitted to DAFNI in December 2024. [Click to read the blog](#)

Our team is busy exploring the second phase of the DAFNI-DINI project, meanwhile a refresher about the final report from the project is below.

Data Infrastructure for National Infrastructure (DINI) is a pilot study within the Department for Science, Innovation and Technology's UK Research Data Cloud Pilot programme. Its aim is to explore the potential of data to drive research and its impact on policy.

Data Infrastructure for National Infrastructure. A UK Research Data Cloud Pilot: Final Report

BM Matthews, K Cartmell, CM Jones,
E Newbold

April 2025

DAFNI's scope was national infrastructure systems within the UK with a focus on energy, water and transport. [Click to read the full report](#)



Watch our past webinars

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

DAFNI YouTube channel: catch up on conferences and interviews

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

Partnership news

DAFNI team members connected with the NERC Digital Solutions team at a workshop this month to discuss the two platforms and how we can work together to build ties to JASMIN.

Our project to enable access to JASMIN data from inside DAFNI is continuing, following great discussions with the team in Manchester.


Supporting large-scale data analysis Unique combination of resources enables data-intensive science.	Designed for collaboration Tailored to the needs of the academic community.	Compute co-located with the data Providing easy access to curated archive data and persistent collaborative workspaces.	Flexible compute options Interactive and batch compute for performance, or community cloud resources for autonomy and flexibility.
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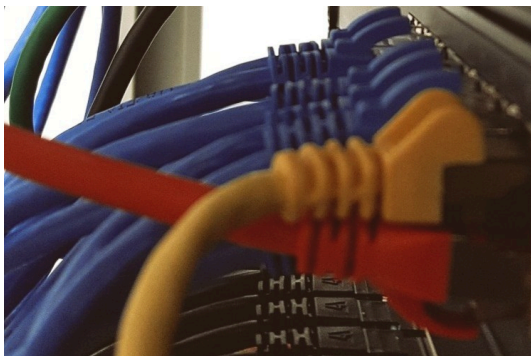
JASMIN is a globally-unique data analysis facility. It provides storage and compute facilities to enable data-intensive environmental science.

Over 1500 users are currently supported exploring topics ranging from climate change and oceanography to air pollution, earthquake deformation and analysis of wildlife populations.

Centred more around storage and data analysis than a "traditional" supercomputer, JASMIN provides flexibility for a wide range of data-intensive analysis workflows.

Tens of petabytes of storage are combined with several types of compute resources: managed interactive and batch compute for building and executing large workflows, and a "community cloud" offering projects and communities a set of service components with which to build and manage their own computing needs. All with high-performance access to massive data resources, including the curated archives of the Centre for Environmental Data Analysis (CEDA).





The NERC Digital Gathering took place earlier this month at Cranfield University, creating an opportunity for researchers and infrastructure providers to come together to share research highlights and take place in hands-on hackathons.

Highlights and talks from the event can be found on the conference website: [NERC Digital Gathering 2025](#)

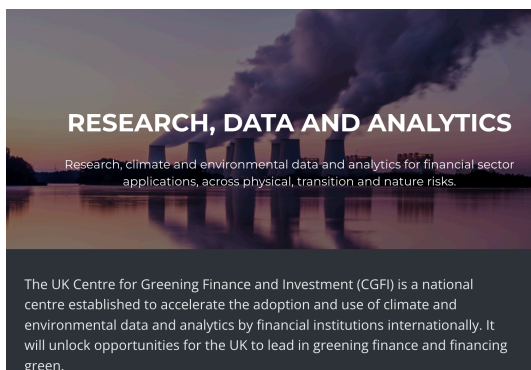
October is traditionally a busy month for EU grant submissions. ***The DAFNI team has partnered on a number of EU proposals over the years and are currently working on the CROSSEU and UrbanAIR projects.***

Details of upcoming funding opportunities under **Horizon Europe** can be found here: [EU Funding & Tenders Portal](#).

This portal also has a request for experts which is an opportunity for you as (experts in the field) to register and gain great experience as an EU reviewer or monitoring officer.



User liaison news



The UK Centre for Greening Finance and Investment (CGFI): The objectives for DAFNI programme have been achieved.

Datasets from Flagship (FS) Projects 1 and 2 have been uploaded to DAFNI, as well as the spatial finance (SFI) data, and Basic User (LAU) accounts have been introduced into DAFNI allowing these datasets to be accessed by external partners. Visualisations for the SFI data, and FS1, have been deployed on DAFNI, as well as deployments of the Oxford models TRISK and PRISK.

[CGFI](#) has made significant progress in translating academic research into useful data and analytics for the finance industry and financial regulators, via its series of flagship projects. Other highlights include the foundation of the Leeds and London Innovation Hubs, which created an outreach ecosystem supporting green fintech start-ups, student entrepreneurs, as well as collaborations aiming to link-up academics with industry partners. A full overview of these and other benefits are detailed in the full CGFI impact report, which is due to be shared soon!

DAFNI platform features and updates



The technical team have been working hard on planning technical logging this will enable users to download and access their logs for their workflow(s), this has been a community ask, and we're pleased to say plans are now underway to start this work.

Our Data Curator officers have been reviewing the DAFNI platform and providing feedback to the technical team on how metadata can be improved on the platform. In addition, the data curators have been working with our Centre of Excellence research projects to improve their metadata on the platform. This is linked to a wider goal of the DAFNI programme of showcasing on our website what models and data we have, we are hoping to release this soon on our new website.

The development team is continuing work on the platform's front-end, progressing an upgrade to a newer framework and undertaking a comprehensive accessibility and usability review.

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

DAFNI researchers' speaking engagements

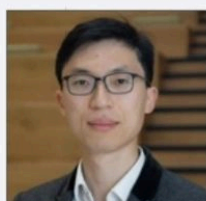


Dr Nikolaos Reppas, Assistant Professor in Civil/Geotechnical Engineering at University of Warwick and **Dr Xilin Xia**, Associate Professor in Resilience Engineering at University of Birmingham, presented the STORMS (Strategies and Tools for Resilience of Buried Infrastructure to Meteorological Shocks) project focusing on developing a national-scale buried pipelines climate risk assessment model.

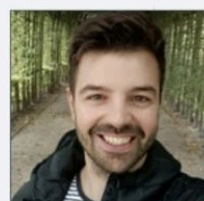
They presented at the prestigious International Water Association conference "Water Horizons 2025-Transforming Utilities for a Resilient, Net Zero Future" in September 2025.

2:10 - 2:30pm **INTERACTIVE SESSION: AUDIENCE-DRIVEN CLIMATE SOLUTION WORKSHOP** **WATER UTILITY ADAPTATION AND RESILIENCE**

A collaborative, fast-paced session where attendees propose and refine practical climate adaptation and resilience strategies for water utilities.



Dr. Xilin Xia
Associate Professor
in Resilience Engineering
**University of
Birmingham**
UK



Dr Nikolaos Reppas
Assistant Professor
in Geotechnical
Engineering
University of Warwick
UK



DAFNI TECHNICAL TRAINING EVENT



Our technical training events (Wednesdays, 1:30pm-4:30pm) are available to book via Eventbrite (see weblink below).

Next training date:

- 4 February 2026

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>

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.**

Access our help

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



Apply for a DAFNI account

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/dafnlogin/>

Community news

New UKCRIC courses on systems thinking in the built environment

In partnership with the [Build Environment Connective](#), UKCRIC Services (formally UKCRIC Limited) has launched the first listing of UK courses that apply systems thinking to the built environment to improve and create buildings, infrastructure, and human-made constructions.

Read the prospectus on courses including BA and MA degrees at:

https://www.ukcric.com/media/g4alnckn/stbe-prospectus_september-2025_final.pdf

Funded Global Development Fellowship with Imperial College London

Applications are now open for an exciting opportunity enabling PhD researchers based in Low and Middle Income Countries to undertake short, high-impact placements at Imperial College London. Under the guidance of a host academic from Imperial and support from their supervisor, researchers can spend between 2 and 4 months at Imperial from March 2026.

Apply by 28 November at: <https://www.imperial.ac.uk/global-development-hub/global-development-fellowship/>

Funded PhD opportunity with Newcastle University

Applications are open now for a PhD: Developing Robust Drought Projections for Resilient UK Water Resources Futures.

Future droughts pose a major threat to UK water security. This PhD will redefine drought assessment through a multi-scenario risk approach, combining state-of-the-art climate and hydrological science with direct collaboration with water companies.

Apply by 28 November at: <https://www.ncl.ac.uk/postgraduate/fees-funding/search-funding/?code=eng158>

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>

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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