



UNIVERSITY OF
SURREY

**THE FUTURE OF
INFRASTRUCTURE & THE
ROLE OF PHYSICAL
TESTING**

WORKSHOP PROGRAMME

10 July 2025

OUR SPONSOR



The Institute of Advanced Studies (IAS) at the University of Surrey sponsors workshops and Fellowships at the 'cutting edge' of science, engineering, social science and the humanities. Through this scheme the Institute fosters interdisciplinary collaborations and encourages a flow of international scholars to visit, enjoy their stay at Surrey and leave behind excellent ideas and innovations.

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INTRODUCTION

As the UK faces increasing pressure to adapt its infrastructure to meet the challenges of climate resilience, net zero, infrastructure circularity, and long-term sustainability, the role of physical testing facilities in producing actionable insights has never been greater. This half-day workshop serves as a platform to:

- Showcase Surrey's cutting-edge testing facilities capable of supporting research in accelerated failure testing under extreme environmental and operational conditions to identify adaptation needs.
- Explore how emerging technologies, such as digital fabrication, 3D printing, automated digital twinning and direct/indirect monitoring, can be leveraged for existing and future structure/infrastructure resilience and unlocking opportunities for reuse, repurposing and sustainable lifecycle extension.
- Demonstrate live applications of micro-to-city scale testing methodologies in fields spanning civil, mechanical, space, environmental, and computer sciences.

- Foster collaboration across the sector to identify pressing research needs and establish a blueprint for the future of infrastructure across grey and nature-based assets.

Organising committee:

Dr Donya Hajjalizadeh, Dr Dan Bompa, Dr Boulent Imam, Dr Juan Sagaseta and Dr Marco Funari - School of Sustainability, Civil and Environmental Engineering

Professional Supporting Team:

**Uche Ezeakachi O-Ogugua, Mohamed Alnasser and Amelia Dos Santos - School of Sustainability, Civil and Environmental Engineering
Louise Jones, Institute of Advanced Studies**

PROGRAMME

THURSDAY 10 JULY

Thomas Telford Building, 40AA03

(BST)

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| 12.00 – 12.45 | Registration and Networking Lunch
<i>Welcome refreshments and networking opportunities with industry and academic experts.</i> |
| 12.45 – 13.00 | Host Welcome and Outline of the Workshop
<i>Introduction to the event, key objectives, and expected outcomes.</i> |
| 13.00 – 13.15 | Keynote Opening Lecture - Santosh Singh, Structures Group Manager, Safety, Engineering and Standards, National Highways |
| 13.15 – 13.45 | Infrastructure-Related Research Highlights
<i>An overview of infrastructure-focused research centres and projects and their implications for infrastructure design, resilience, and sustainability.</i> |
| 13.45 – 15.15 | Live Demonstrations: Micro-to-City Scale Testing Facilities
<i>Tours and demonstrations of Surrey's physical testing environments showcasing infrastructure innovation across disciplines.</i> |
| 15.15 – 15.45 | Coffee Break |
| 15.45 – 17.00 | Co-Ideation Workshop: Future-Proofing Infrastructure Research Blueprint
<i>Discussion session to define urgent research priorities and outline future-ready solutions for the sector.</i> |
| 17.00 – 17.15 | Plenary and Close of the Event |

KEYNOTE SPEAKER

Santosh Singh

Structures Group Manager, Safety, Engineering and Standards, National Highways

Santosh is a Chartered Civil and Structural Engineer with over twenty-five years of experience in consultancy and client organisations, managing and delivering multidisciplinary transport infrastructure projects. He has an in-depth experience in asset management, engineering leadership, delivering, and sponsoring projects from the business planning stage to commissioning.

Working in both private and public sectors on complex projects for the highways, rail, and aviation sectors, he brings together the best practices from both sides. Santosh has a Master's in Structural Engineering from the University of Surrey and is a Fellow of the Institution of Civil Engineers.



**FACULTY OF ENGINEERING
AND PHYSICAL SCIENCES**

University of Surrey
Guildford, GU2 7XH, UK

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