AGILE workshops – AGILE 2024
Glasgow, UK, Tuesday 4 June 2024

W4: Mapping Minds: Exploring the Intersection of Spatial Cognition, Computational Design, Neuroscience and Spatial Data Science

Jia Wang, Silvio Carta and Sabine Timpf

1. Workshop scope

Spatial cognition is an emerging field in design that encompasses studies at the intersection between computer science, neuroscience, spatial data science and computational design in architecture. While each of these disciplinary fields includes comprehensive studies on the impact that spatial elements may have on people, to date there is a limited number of studies that combine these areas of work.

This workshop aims to consolidate expertise in spatial cognition, bridging the gap between various disciplines like computer science, GIScience, architecture, and neuroscience. We'll delve into how spatial and computational design influence cognitive load, human perception, and behaviour. We encourage contributions addressing the built environment in its broadest sense - from urban and territorial scales to architectural and interior spaces. We are particularly interested in studies employing geospatial data in the context of architecture and the built environment through the lens of cognitive load. We also welcome discussions on the application of computational techniques to address key issues such as health, wellness, poverty, disparity, and more broadly, one or more Sustainable Development Goals (SDGs).

2. Workshop format

This is a half-day workshop that will be structured as follows:

9:30: Kick-off with introduction of the workshop
9:40: Keynote by Prof. Sean Hanna, Professor of Design Computing, UCL (online)
10:15 – 10:30: Coffee break
10:30 – 12:15: Presentations from selected extended abstracts
12:15: Final roundtable
12:30: Close

3. Workshop submission

We welcome submissions as extended abstract covering but not limited to the following topics:

- Effective and sustainable design informed by spatial cognition research
- Cognitive load and its impact on human behaviour (attention, wayfinding, and overall wellbeing)
- The integration of big geospatial data and AI to improve cognition and memory
- Computational design, cognitive load and emergency responses
- Spatial cognition, intelligent navigation strategies and realisations
- Spatial cognition in virtual and augmented reality

Submission format: Maximum two-page including introduction, method, outcomes or expected outcomes, and conclusion. Extended abstract shall be written with Times New Roman font, single line spacing and 11 font size. Extended abstracts can contain figures and tables. **Submission as a single PDF sent via email to Jia Wang (J.Wang@greenwich.ac.uk).**

Submission deadline: May 13th, 2024

Acceptance notification: May 20th, 2024

Accepted abstracts will have the opportunities to be presented at the workshop, and their extended full paper versions will be invited for submission to a special issue on Spatial Cognition in Computational Sustainability and Design, Part of City and Built Environment - Springer.