

ICC 2025 Vancouver
Pre-conference Workshop
Spatial Representations and Thinking in Navigation: A Cognitive Perspective
Sunday, August 17, 2025, 8:00–11:30 am

Organized by the *ICA Commission on Ubiquitous Mapping*
Dr. *Toru Ishikawa*, Toyo University, Tokyo, Japan
and
Dr. *Armand Kapaj*, University of Zurich, Switzerland

This workshop, to be offered as a pre-conference event at the 32nd International Cartographic Conference (ICC 2025), discusses human spatial orientation and navigation from a cognitive perspective with a particular focus on the use of geographic information displays and the user's understanding of the surrounding environments. The format of the workshop will be a series of presentations by experts from a wide variety of disciplines, including geography, cartography, psychology, and cognitive science, followed by a panel/group discussion with participants in the session.

The organizing commission of the workshop, the International Cartographic Association's (ICA) Commission on Ubiquitous Mapping, emphasizes human and cognitive aspects of cartography and geographic information science with a view to fostering interdisciplinary collaboration among researchers in related disciplines. The organizers and speakers, therefore, would welcome researchers and practitioners from any discipline who are interested in computational, technological, societal, and cognitive-behavioral issues of geospatial information and technology. We hope to have a lively discussion with workshop participants about the importance of spatial thinking in various academic and everyday contexts and the present and future of human spatial awareness in a society where advanced geospatial capabilities are enabled by technologies.

Our speakers will be:

- *Navigating and Learning Space: Individual Strategies and Cognitive Abilities in Action*

Chiara Meneghetti, General Psychology Department, University of Padova

- *Advancing Knowledge on the Relationship between GPS Use, Navigation Abilities and Strategies*

Laura Miola, General Psychology Department, University of Padova

- *“Put It Here!”: An Ontogenetic Investigation of Young Children’s Mapping Concepts Involving Direction and Location during Block Play*

Daniel Ness, The School of Education, St. John’s University

- *Indigenous Mapping and Spatial Cognition: A Cultural Perspective on Spatial Knowledge Acquisition and Transfer*

Teriitutea Quesnot, Department of Geography, Université de Bretagne Occidentale

- *Spatial Awareness in Autonomous Driving: Potentials, Issues, and Challenges of Windshield Display*

Rui Li, Department of Geography and Planning, University at Albany, SUNY

- *Landmark Visualization on Navigation Aids: Effects on Spatial Learning and Long-Term Memory Retention*

Armand Kapaj, Department of Geography, University of Zurich

- *Mapping and Navigation in the Environment: How We Know Where We Are*

Toru Ishikawa, Department of Information Networking for Innovation and Design (INIAD), Toyo University

We look forward to seeing you all there!