

Monday, September 5, 2022

09:00–09:30 Welcome—Registration

09:30–10:30 Keynote Lecture 1: Ruth Dalton (Lancaster Institute for the Contemporary Arts, Lancaster University)

10:30–11:00 Coffee Break

11:00–11:30 Paper Presentations: “Moving through Space I”

- *Smart crowd management: The data, the users and the solution*

Laure De Cock, Nico Van de Weghe, Steven Verstockt, and Christophe Vandeviver

- *Improving pedestrians traffic priority via grouping and virtual lanes in shared spaces*

Yao Li, Vinu Kamalasanan, Mariana Batista, and Monika Sester

- *Collaborative wayfinding under distributed spatial knowledge*

Panagiotis Mavros, Saskia Kuliga, Ed Manley, Hilal Fitri, Michael Joos, and Christoph Hölscher

11:30–12:00 Discussion with the Paper Presenters

12:00–13:00 COSIT Themed Discussion (two parallel sessions)

- Session A (hot topic talk): *Cognitive mapping and spatial awareness: Individual differences, skill training, and geospatial technology*, Toru Ishikawa (Toyo University)

- Session B (interview session): *Got my PhD—Where to from here in academia?*

Scholars share their personal experiences

13:00–14:00 Lunch Break

14:00–15:30 COSIT Themed Discussion (Vision Papers): “Envisioning the Future of Space”

- *New human dynamics in the emerging metaverse: Towards a quantum phygital model by integrating space and place*

Daniel Sui and Shih-Lung Shaw

- *Are psychological variables relevant to evaluating geoinformatics applications? The case of landmarks*

Jakub Krukar and Angela Schwering

15:30–16:00 Coffee Break

16:00–16:35 Paper Presentations: “Moving through Space II”

- *I can tell by your eyes! Continuous gaze-based turn-activity prediction reveals spatial familiarity*

Negar Alinaghi, Markus Kattenbeck, and Ioannis Giannopoulos

- *Eye blink-related brain potentials during landmark-based navigation in virtual reality*

Bingjie Cheng, Enru Lin, Klaus Gramann, and Anna Wunderlich

- *Abnormal situation simulation and dynamic causality discovery in urban traffic networks*

Yadi Wang, Yicheng Pan, Meng Ma, and Ping Wang

16:35–17:05 Discussion with the Paper Presenters

17:05–17:25 Poster Pitches

- Sponsor Talks (AGILE and T&F/IJGIS)

- *aMPdist: Improving the performance of time series similarity computation using approximation and indexing*

Mihalis Tsoukalos, Georgios Chatzigeorgakidis, Nikos Platis, and Spiros Skiadopoulos

- *Towards improving pilots' spatial awareness through cross-sectional weather visualizations*

Adrian Sarbach, Peter Kiefer, and Martin Raubal

- *Place-based semantic similarity*

Sarah Battersby, Grant McKenzie, and Vidya Setlur

17:25– Ice Breakers (saké hours)

Tuesday, September 6, 2022

09:00–09:15 Registration

09:15–09:45 Paper Presentations: “Seeing Space”

- *Rethinking route choices! On the importance of route selection in wayfinding experiments*

Bartosz Mazurkiewicz, Markus Kattenbeck, and Ioannis Giannopoulos

- *Generalized, inaccurate, incomplete: How to comprehensively analyze sketch maps beyond their metric correctness*

Angela Schwering, Jakub Krukar, and Charu Manivannan

09:45–10:15 Discussion with the Paper Presenters

10:15–10:30 Coffee Break

10:30–11:00 Paper Presentations: “Moving through Space III”

- *Spatial information, the brain, and the potential cognitive benefits of the environment*

May Yuan and Kristen Kennedy

- *Abnormal trajectory-gap detection*

Arun Sharma, Jayant Gupta, and Shashi Shekhar

- *Spatial and spatiotemporal matching framework for causal inference*

Kamal Akbari and Martin Tomko

11:00–11:30 Discussion with the Paper Presenters

11:30–12:30 COSIT Themed Discussion (two parallel sessions)

- Session A (classics of COSIT): *Qualitative spatio-temporal reasoning beyond deductive reasoning*, Reinhard Moratz (University of Muenster)
- Session B (interview session): *Making research proposals a success*. Scholars share their insights

12:30–14:00 Lunch Break

14:00–15:30 COSIT Themed Discussion: “Pedestrian Space”

Ehsan Hamzei, Martin Tomko, Nico van de Weghe, Laure de Cock, Stephan Winter, and others

15:30–16:00 Coffee Break

16:00–17:00 Keynote Lecture 2: *Guidance in a complicated world*, Jeremy Wolfe (Brigham & Women’s Hospital / Harvard Medical School)

Wednesday, September 7, 2022

09:00–09:15 Registration

09:15–09:45 Paper Presentations: “Computing Space I”

- *An online algorithm for handling qualitative spatio-temporal information*

Zhiguo Long, Qiyuan Hu, Hua Meng, and Michael Sioutis

- *Predicting distance and direction from text locality descriptions for biological specimen collections*

Ruoxuan Liao, Pragyan Das, Christopher Jones, and Kristin Stock

09:45–10:15 Discussion with the Paper Presenters

10:15–10:30 Coffee Break

10:30–11:00 Presentations: “Reasoning about Space I”

- *Qualitative spatial reasoning over questions*

Mohammad Kazemi Beydokhti, Matt Duckham, Yaguang Tao, Maria Vasardani, and

Amy Griffin

- *Representing computational relations in knowledge graphs using functional languages*

Yanmin Qi, Heshan Du, Amin Farjudian, and Yunqiang Zhu

- *Transcepts: Connecting entity representations across conceptual views on spatial information*

Eric Top and Simon Scheider

11:00–11:30 Discussion with the Paper Presenters

11:30–12:30 COSIT Themed Discussion (two parallel sessions)

- Session A (panel discussion): *Spatial information theory and/vs.*

GeoAI—Opportunities and challenges

- Session B (classics of COSIT): *How will wayfinding research find its way at COSIT?*

Daniel R. Montello (University of California, Santa Barbara)

12:30–14:00 Lunch Break (SCC Editorial Board meeting)

14:00–15:30 COSIT Themed Discussion: “Spatial Question Answering”

Ehsan Hamzei, Martin Tomko, Simon Scheider, Chris Jones, Bill Palmer, and others

15:30–16:00 Coffee Break

16:00–16:30 Paper Presentations: “Reasoning about Space II”

- *Perceptions of qualitative spatial arrangements of three objects*

Ningran Xu, Ivan Majic, and Martin Tomko

- *Empirical evidence for concepts of spatial information as cognitive means for interpreting and using maps*

Enkhbold Nyamsuren, Eric Top, Haiqi Xu, Niels Steenbergen, and Simon Scheider

16:30–17:00 Discussion with the Paper Presenters

17:00–17:30 Paper Presentations: “Reasoning About Space III”

- *An entropy-based model for indoor self-localization through dialogue*

Kimia Amoozandeh, Ehsan Hamzei, and Martin Tomko

- *A computational method for the classification of mental representations of objects in 3D space*

Samuel S Sohn, Panagiotis Mavros, Mubbasir Kapadia, and Christoph Hölscher

- *Platial rhythm*

Daniel Romm and Grant McKenzie

17:30–18:00 Discussion with the Paper Presenters

Thursday, September 8, 2022

09:00–09:15 Registration

09:15–10:15 Keynote Lecture 3: *4D Digital Infrastructure*TM, Shigeru Fujimura
(Nippon Telegraph and Telephone Corporation)

10:15–10:30 Coffee Break

10:30–11:00 Paper Presentations: “Computing Space II”

- *Large-scale spatial prediction by scalable geographically weighted regression: Comparative study*

Daisuke Murakami, Narumasa Tsutsumida, Takahiro Yoshida, and Tomoki Nakaya

- *A comparison of geographically weighted principal components analysis methodologies*

Narumasa Tsutsumida, Daisuke Murakami, Takahiro Yoshida, Tomoki Nakaya, Binbin Lu, Paul Harris, and Alexis Comber

- *A weather-aware framework for population mobility modelling*

Vanessa Brum-Bastos, Kamil Smolak, Witold Rohm, and Katarzyna Sila-Nowicka

11:00–11:30 Discussion with the Paper Presenters

11:30–12:30 Doctoral Mentoring Programme: Student Presentations (two parallel sessions)

- Session A: “Moving through Space”

Kristina Jazuk (ETH Zurich), Chelsie McWhorter (University of California, Santa Barbara), and Adrian Sarbach (ETH Zurich)

- Session B: “Reasoning about Space”

Kimia Amoozandeh (University of Melbourne), Kamal Akbari (University of Melbourne), Eric J. Top (Utrecht University), and Haiqi Xu (Utrecht University)

12:30–14:00 Lunch Break (COSIT Steering Committee meeting)

14:00–18:00 Excursion

18:30–21:00 Banquet Dinner

Friday, September 9, 2022

09:00–09:15 Registration

09:15–09:45 Best Full Paper Presentations

- *Automatically discovering conceptual neighborhoods using machine learning methods*

Ling Cai, Krzysztof Janowicz, and Rui Zhu

- *What do you mean you're in Trafalgar Square? Comparing distance thresholds for geospatial prepositions*

Niloofar Aflaki, Kristin Stock, Christopher B Jones, Hans Guesgen, Jeremy Morley, and Yukio Fukuzawa

09:45–10:15 Discussion with the Paper Presenters

10:15–10:30 Coffee Break

10:30–11:00 Best Short Paper Presentations

- *Geographically varying coefficient regression: GWR-exit and GAM-on?*

Alexis Comber, Paul Harris, Daisuke Murakami, Narumasa Tsutsumida, and Chris Brunsdon

- *3D sketch maps: Concept, potential benefits, and challenges*

Kevin Gonyop Kim, Jakub Krukar, Panagiotis Mavros, Jiayan Zhao, Peter Kiefer, Angela Schwering, Christoph Hölscher, and Martin Raubal

- *The effect of abstract vs. realistic 3D visualization on landmark and route knowledge acquisition*

Armand Kapaj, Enru Lin, and Sara Lanini-Maggi

11:00–11:30 Discussion with the Paper Presenters

11:30–12:00 Audience voting and awards—Farewell