

# Mobile Tartu 2024 Programme

## PhD School and Conference

### 11 June PhD School (Kavastu, Outside of Tartu)

- 11:00-12:00 PhD School Opening and Morning Coffee
- 12:00-13:00 **PhD School lecture by Prof. Kristjan Vassil**
- 13:00-14:00 Lunch
- 14:00-16:00 4 Parallel Workshops
- 16:00-16:30 Coffee Break
- 16:30-17:15 Public Sector Lecture by Grigori Parfjonov, Tallinn Transport Department
- 17:15-18:00 Private Sector Lecture by Joonas Puura, Bolt
- 18:00-21:00 Dinner and Social Event

### 12 June PhD School & Conference

- 9:00-9:30 Morning Coffee
- 9:30-12:00 PhD School Workshops
- 12:00-13:00 Lunch
- 13:00-15:00 PhD School Workshops
- 13:45-15:15 Tartu City Bike Tour
- 15:00-16:00 Conference Registration
- 16:00-16:30 Conference Opening
- 16:30-17:30 **Rein Ahas Lecture by Prof. Jukka Krisp**
- 17:30-18:00 Welcome Drinks and Snacks
- 18:00-18:40 Poster Session
- 18:40-20:00 Paper Sessions – 1A & 1B

### 13 June PhD School & Conference

- 8:30-9:00 Morning Coffee and Registration
- 9:00-10:00 **Keynote Speech by Prof. Nico Van de Weghe**
- 10:00-11:40 Paper Sessions – 2A & 2B
- 11:40-13:00 Lunch
- 13:00-14:40 Paper Sessions – 3A & 3B
- 14:40-16:00 PhD School Workshop Presentations
- 16:00-16:30 Coffee Break
- 16:30-17:15 **Keynote Speech by Assoc. Prof. Anu Masso**
- 17:15-18:00 Panel Discussion
- 19:00-22:00 Conference Dinner

### 14 June PhD School & Conference

- 8:30-10:00 Morning Coffee and Registration
- 9:00-10:00 PhD School Reflections (PhD School participants only)
- 10:00-11:00 **Keynote Speech by Dr. Robin Lovelace**
- 11:00-12:30 Paper Sessions – 4A & 4B
- 12:30-14:00 Lunch
- 14:00-14:40 Paper Session – 5A
- 14:40-15:40 Panel Discussion
- 15:40-16:00 Conference Closing
- 17:30-21:00 Informal Post - Conference Social Event

### 15 June Field Trip - Visiting Piirissaar

This field trip explores the island's nature and unique culture related to its Old Believers religious community. The start from Tartu will be at 9:15 from Tartu and we will arrive back to Tartu at 18:15.

# 11 June PhD School Outside of Tartu

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|-------------|--|
| 11:00-12:00 | PhD School Opening and Morning Coffee  |
| 12:00-13:00 | <b>PhD School lecture by Prof. Kristjan Vassil (University of Tartu)</b> "Sensors, data, and decisions: The next generation of predictive public services" |
| 13:00-14:00 | Lunch  |
| 14:00-16:00 | 4 Parallel Workshops   |
| 16:00-16:30 | Coffee Break   |
| 16:30-17:15 | Public Sector Lecture by Grigori Parfjonov (Tallinn Transport Department) – „Transport data as the key to social engineering.“                             |
| 17:15-18:00 | Private Sector Lecture by Joonas Puura (Bolt) – „Data-Driven Mobility: Improving trip experience with location data at Bolt“                               |
| 18:00-21:00 | Dinner and Social Event  |
| 21:00-21:40 | Transport back to Tartu  |



# 12 June PhD School & Conference

9:00-9:30 Morning Coffee

9:30-12:00 PhD School Workshops

12:00-13:00 Lunch

13:00-15:00 PhD School Workshops

13:45-15:15 Tartu City Bike Tour

15:00-16:00 Conference Registration

16:00-16:30 Conference Opening

- Age Poom (University of Tartu)
- Kstina Noormets (University of Tartu, Director of Administration)
- Jiri Tintera (Tartu City Government, City Architect)

16:30-17:30 **Rein Ahas Lecture by Prof. Jukka Krisp (University of Augsburg)**  
"Location Based Services – conceptual perspectives for mobility research, navigation, and wayfinding"

Session Chair: Age Poom (University of Tartu)

17:30-18:00 Welcome Drinks and Snacks

18:00-18:40 Poster Session - "Human Mobility Analysis for Advancing Just and Sustainable Futures"

18:40-20:00 Paper Sessions – 1A & 1B

## Session 1A – Advancing the methodologies for population mobility studies and official statistics

Session chair: Olle Järv (University of Helsinki)

- **Erki Saluveer (Positium)**, Margus Tiru (Positium), Florabela Carausu (GOPA Worldwide Consultants), Kadri Arrak (Positium), Loredana Di Consiglio (Italian Statistical Institute - ISTAT), Matthias Offermans (Statistics Netherlands - CBS), Miguel Picornell (Nommon Solutions and Technologies), Ricardo Herranz (Nommon Solutions and Technologies), Tiziana Tuoto (Italian Statistical Institute - ISTAT), Villem Tonnison (Positium) - [A processing pipeline for European official statistics: towards standardisation of mobile network operator data processing](#)
- **Anto Aasa (University of Tartu)**, Jürgen Öövel (University of Tartu) - [Beauty contest of activity spaces. Comparison of five different methods](#)
- **Kamil Smolak (Wrocław University of Environmental and Life Sciences)**, Luca Pappalardo (ISTI-CNR), Katarzyna Sila-Nowicka (The University of Auckland), Vanessa Brum-Bastos (University of Canterbury) - [Revisiting temporal scales of human mobility](#)
- **Yeray Cara Santana (Complutense University of Madrid)**, Borja, Moya Gómez (Complutense University of Madrid), Juan Carlos (Complutense University of Madrid), García Palomares (Complutense University of Madrid) - [Spatial clustering strategies for analysing urban mobility dynamics](#)

## Session 1B – Urban travel environments and greenery in support of active mobility

Session chair: Tuuli Toivonen (University of Helsinki)

- **Elias Willberg (University of Helsinki)**, Robert Klein (University of Helsinki), Christoph Fink (University of Helsinki), Roope Heinonen (University of Helsinki), Tuuli Toivonen (University of Helsinki) - [Access to green travel in Europe - Comparison across 43 large cities](#)
- **Maarten Hogewei (Radboud University)** - [Physiologically vulnerable pedestrians' exposure to heat stress in four cities in the Netherlands](#)
- **J Rafael Verduzco-Torres (University of Glasgow)**, Michael Sinclair (University of Glasgow) - [Exploring accessibility to urban green spaces: A novel approach using spatial interaction models and mobile app data](#)
- **Age Poom (University of Tartu)**, Daiga Paršova (University of Tartu), Kairi Kreegipuu (University of Tartu), Kristian Pentus (University of Tartu), Andres Kuusik (University of Tartu) - [Does seasonality matter? Measuring pedestrian perception of seasonal greenery and soundscapes in walking environments](#)



8:30–9:00 Morning Coffee and Registration

9:00–10:00 **Keynote Speech by Prof. Nico Van de Weghe (Ghent University)**  
 “Exploring Possibilities: generative AI in human mobility research”

Session Chair: Erki Saluveer (Positium)

10:00–11:40 Paper Sessions – 2A & 2B

## Session 2A – Understanding active mobility through advanced tools and policy approaches

Session chair: Karl Samuelsson (University of Gävle)

- **Andres Sevtsuk (MIT)**, Abdulaziz Alhassan(MIT), Rounaq Basu(MIT), Liu Liu(MIT), Maryam Hosseini(MIT) – [Foot-traffic in New York: a model of pedestrian volumes on the city’s sidewalk network](#)
- **Avital Angel (Technion Israel)**, Achituv Cohen (University of California), Trisalyn Nelson (University of California), Pnina Plaut (Technion-Israel Institute of Technology) – [Walking on sunshine: studying street-level walkability using mobile app data and machine learning techniques](#)
- **Ayda Grisiute (ETH Zurich)**, Martin Raubal (ETH Zurich)– [Cognitive route planning: Leveraging graph-based methods and movement data to align perceived and objective environments in cycling routes](#)
- **Jordi Grau (Eurecat: Centre Tecnològic de Catalunya)**, Aleix Bassolas (Fundació Eurecat), Julian Vicens (Fundació Eurecat) – [Electric and mechanical bike usage dynamics in Barcelona’s bike-sharing system: a predictive maintenance perspective](#)
- **Karl Saidla (Mobility Lab)**, Elias Willberg (University of Helsinki), Bryan Vallejo (Aalto University), Siiri Silm (University of Tartu), Age Poom (University of Tartu)– [Policy for bike share success in cities big and small: Helsinki, Finland, and Tartu, Estonia](#)

## Session 2B – Understanding population mobility flows for crisis management

Session chair: Siim Esko (Positium)

- **Ago Tominga (University of Tartu)**, Henrik Veenpere, (Estonian Rescue Board), Siiri Silm, (University of Tartu) – [What population statistics crisis managers actually need? Calculating indicators based on four years of mobile positioning data](#)
- **Bilgecag Aydogdu (Utrecht University)**, Albert Ali Salah (Utrecht University), Subhi Gunes (Turkcell Technology) – [The role of social connections in crisis-driven migration and mobility behaviour](#)
- **Rodgers Iradukunda (University of Liverpool)**, Francisc Rowe (University of Liverpool), Elisabetta Pietrostefani (University of Liverpool) – [Using smartphone GPS data to explore internal population displacement during the early months of the Russia-Ukraine conflict](#)
- **Egor Kotov (Max Planck Institute for Demographic Research)** Frederic Bartumeus (Centre d'Estudis Avançats de Blanes/Institutació Catalana de Recerca i Estudis Avançats), John Palmer (Universitat Pompeu Fabra) – [Effects of human mobility on the spread of disease-transmitting mosquitoes in Spain: Insights from mobile phone data](#)

11:40–13:00 Lunch

13:00–14:40 Paper Sessions – 3A & 3B

## Session 3A – Mobile big data in tourism and cross-border commuting research

Session chair: Ate Poorthuis (KU Leuven)

- **Olle Järv (University of Helsinki)**, Håvard W. Aagesen (University of Helsinki), Ate Poorthuis (KU Leuven) – [Understanding cross-border regions in Europe from the mobility of people: Insights from Big Data](#)
- **Oleksandr Karasov (University of Helsinki)**, Olle Järv (University of Helsinki), Kamyar Hasanazadeh (University of Helsinki)– [Understanding temporal variations in activity spaces of cross-border commuters from social media in the Greater Region of Luxembourg](#)
- **Tuomas Väisänen (University of Helsinki)**, Olle Järv (University of Helsinki), Michaela Söderholm (University of Helsinki) – [Is long-distance commuting dead in Europe after COVID-19? Insights from georeferenced social media data](#)
- **Kamil Choromański (Warsaw University of Technology)**, Mariusz Ciesielski (Forest Research Institute), Karolina Taczanowska (University of Natural Resources and Life Sciences, Vienna) – [Spatial big data perspective on forest tourism in Poland based on floating car data](#)
- **Janika Raun (University of Tartu)**, Olle Järv (University of Helsinki), Tatu Leppämäki (University of Helsinki), Tuuli Toivonen (University of Helsinki) – [Understanding changes of visitors in national parks from mobile data: the COVID-19 short- and long-term influence](#)

## Session 3B – Special NECTAR session: Transport information extraction from mobile big data

Session chair: Luc Wismans (University of Twente) & Siiri Silm (University of Tartu)

- **Marina Toger (Uppsala University)**, Liel David (Weizmann Institute of Science), Eran Ben-Elia (Ben-Gurion University), Dan Vilenchik (Ben-Gurion University) – [Privacy-sensitive approach for sparse reconstruction of users’ points-of-interest and route trajectories from mobile phone data using a Hidden Markov Model](#)
- **Zachary Strain-Fajth (Flowminder Foundation)**, Roland Hosner (Flowminder Foundation), Dr. Véronique Lefebvre (Flowminder Foundation) – [Using survey data to correct for representation biases in mobility indicators derived from mobile operator data to produce high-frequency estimates of population and internal mobility](#)
- **Raquel Sánchez-Cauce (Nommon Solutions and Technologies)**, Oliva G. Cantú Ros (Nommon Solutions and Technologies), Pablo Ruiz (Nommon Solutions and Technologies), Javier Burrieza-Galán (Nommon Solutions and Technologies) – [Identification and characterisation of delivery trips from mobile network and logistic operator data](#)
- **Gerard Franco Panades (Servei Català de Trànsit (GENCAT-SCT) & CARNET Barcelona & Technical University of Catalonia (UPC))**, Lluís Jofre-Roca (CommSensLab-UPC), Laia Pagès Giralte (CARNET Barcelona), Oscar Llatje Hierro (Servei Català de Trànsit) – [Detecting road accidents through deep learning models trained on GPS speed data](#)
- **Lennert Verhulst (Ghent University)**, Corneel Casier (Ghent University), Frank Witlox (Ghent University) – [Street closures, shared mobility and their potential travel behaviour effects: an agent-based simulation approach](#)



# 13 June PhD School & Conference



14:40-16:00 PhD School Workshop Presentations

Session Chair: David Duran (TUM School of Engineering and Design)

16:00-16:30 Coffee Break

16:30-17:15 **Keynote Speech by Assoc. Prof. Anu Masso (Tallinn University of Technology)** – “[Mobility data justice: Estonian data Manifesto](#)”

Session Chair: Anto Aasa (University of Tartu)

17:15-18:00 Panel Discussion “Advancing human mobility research with AI”

Moderator: Anto Aasa (University of Tartu)

- Nico Van de Weghe (Ghent University)
- Anu Masso (Tallinn University of Technology)
- Erki Saluveer (Positium)

19:00-22:00 Conference Dinner



UNIVERSITY  
OF TARTU



TARTU



Urban Mobility  
DOCTORAL TRAINING NETWORK



Co-funded by the  
European Union

# 14 June : PhD School & Conference

8:30-10:00 Morning Coffee and Registration

9:00-10:00 PhD School Reflections (PhD School participants only)

10:00-11:00 **Keynote Speech by Dr. Robin Lovelace (University of Leeds/Active Travel England) – “Reproducible research and open tools for future-proof transport planning”**

Session Chair: Henrikki Tenkanen (Aalto University)

11:00-12:30 Paper Sessions – 4A & 4B

## Session 4A – Accessibility to public transit and shared mobility

Session chair: Elias Willberg (University of Helsinki)

- **Ate Poorthuis (KU Leuven)** – [A standardized dataset for comprehensive national analysis of public transportation accessibility in Belgium and the Netherlands](#)
- **Eirik Melaa Skjelsvik (Norwegian University of Technology and Science)**, John Østh (Oslo Metropolitan University) – [The modifiable temporal unit problem in public transport equity](#)
- **Martin Haamer (University of Tartu)**, Age Poom (University of Tartu), Anto Aasa (University of Tartu) [Student movement flows between university campuses in Tartu based on individual timetables](#)
- **Henrikki Tenkanen (Aalto University)**, Ngoc Chau (Aalto University), Subhrasankha Dey (Aalto University), Newsha Modjrian (Aalto University), César Marin Flores (Aalto University) – [Big data-driven scenario tools for estimating carbon-reduction potential of transport](#)

## Session 4B – Daily use of urban space: understanding mobility and segregation with mobile big data

Session chair: Marina Toger (Uppsala University)

- **Kerli Müürisepp (University of Helsinki)**, Matti Manninen (University of Helsinki), Venla Bernelius (Ministry of Education and Culture), Tiit Tammaru (University of Tartu), Tuuli Toivonen (University of Helsinki), Olle Järv (University of Helsinki) – [Spatial integration or isolation? Residential communities' daily use of urban space in Helsinki based on mobile phone data](#)
- **Siiri Silm (University of Tartu)**, Veronika Mooses (University of Tartu), Ago Tominga (University of Tartu) – [Ethnic exposure in activity places – a study with GPS and survey data](#)
- **Karl Samuelsson (University of Gävle)**, Anders Brandt (University of Gävle), Stephan Barthel (University of Gävle), Noah Linder (Royal Swedish Academy of Science), Nancy Joy Lim (University of Gävle), David Hallman (University of Gävle), Matteo Giusti (University of Surrey) – [Diverse experiences by active travel for carbon neutrality: Longitudinal study reveals a persistent discrepancy across residential contexts](#)
- **Olena Dominika Holubowska (KU Leuven)**, Ate Poorthuis (KU Leuven) – [Spaces of diversity: The relation between amenities and mixing among residents with varied income and migration backgrounds in Auckland](#)

12:30-14:00 Lunch

14:00-14:40 Paper Session – 5A “The spatial, digital, and temporal dimensions in mobility and urbanity”

Session chair: Kerli Müürisepp (University of Helsinki)

- **Luc Wismans (University of Twente)**, Karst Geurs (University of Twente), Mehmet Baran Ulak (University of Twente), Sander van der Drift (DAT.Mobility) – [Proximity and digital connectivity measures and impact on social-spatial accessibility inequalities](#)
- **Matthew Zook (University of Kentucky)** – [Un-fixing the City: The curious case of Burning Man](#)

14:40-15:40 Panel Discussion “Understanding accessibility and socio-spatial disparities with mobile big data”

Moderator: Matthew Zook (University of Kentucky/University of Tartu)

- Robin Lovelace (University of Leeds/Active Travel England)
- Kerli Müürisepp (University of Helsinki)
- Luc Wismans (University of Twente)
- Kertu Vuks (Tartu City Government)

15:40-16:00 Conference Closing

17:30-21:00 Informal Post-Conference Social Event



**Aaron James Nichols (Technical University of Munich)** - Development and Use of an Open, User-Friendly, Accessibility Tool

**Caroline Beckers (Ghent University)**, Frank Witlox (Ghent University), Greet Cardon (Ghent University), Long Cheng (Ghent University) - Travel behaviour of older adults in Ghent (Belgium): the role of the subjective & objective built environment

**Cesar Marin Flores (Aalto University)**, Henrikki Tenkanen (Aalto University) - Towards Accessible Urban Futures: Integrating Bicycles and Transit for Sustainable Mobility

**Daniel Richard Vester (University of Augsburg)**, Jukka Krisp (University of Augsburg) - Estimating night populations on a high spatial resolution using mobile network data

**Filippos Adamidis (Technical University of Munich)**, Constantinos Antoniou (Technical University of Munich) - Investigating the impact of an external cost pricing scheme on population segments

**Fruzsina Stefan (University of Natural Resources and Life Sciences Vienna)**, David Ganhör (The University of Natural Resources and Life Sciences, Vienna) - Digital skills and recreational behaviour across generations - implications for monitoring leisure mobility - case study of urban fringe in the metropolitan area of Vienna, Austria

**Helen Tera (University of Tartu)**, Mozhgan Pourmorad Nasser (University of Tartu) - Data-driven Approach for Assessing the Impact of Newly Developed Cycling Infrastructure on Cyclists' Route Choice

**Iaroslav Kriuchkov (Aalto University)**, Timo Kuosmanen (University of Turku) - Capacity drop in road service level: Semiparametric estimation and testing

**Jana Verdoodt (Ghent University)**, Kenzo Milleville (Ghent University), Nico Van de Weghe (Ghent University), - Twitter's Take on Energy: A Geolocated Text Classification Analysis using NLP

**Jialin Deng (Ghent University)**, Tanhua Jin (Ghent University), Long Cheng (Ghent University), Frank Witlox (Ghent University) - High-Speed Tracks to Urban Futures: Unlocking Transit-Oriented Development (TOD) Potential in China's Capital Cities

**Kofoworola Modupe Osunkoya (Tallinn University of Technology)**, Tuomas Väisänen (University of Helsinki, Finland), Olle Järv (University of Helsinki), Jenni Partanen (Tallinn University of Technology) - Mapping Vital Urban Areas Through Social Media Activity: A Case of Tallinn, Estonia", "comment": "The paper contribute to the focus area: Measuring and understanding human mobility with mobile big data

**Laurel Brooke Sparks (University of Kentucky)** - "For Whom?" Big Mobility Methods and a Feminist Interjection

**Lika Zhvania (University of Augsburg)**, Anto Aasa (University of Tartu), Anniki Puura (Tallinn University of Technology) - Exploring Social Networks and Spatial patterns of Information Dissemination in Passive Mobile Positioning Data

**Márton Márk Magyar (University of Oulu Kerttu Salaasti Institute)**, Ossi Kotavaara (University of Oulu Kerttu Salaasti Institute), Terhi Ala-Hulkko (University of Oulu Geography Research Unit), Harri Antikainen (University of Oulu Geography Research Unit), Tiina Lankila (University of Oulu Geography Research Unit) - Detecting modal mobility in urban form using mobile phone tracking data: Case of Finnish cities

**Mengyi Wei (Technical University of Munich)**, Puzhen Zhang (Technical University of Munich) - Analysing Hotspots and Trends in Autonomous Vehicles News: A Public Opinion Perspective

# Mobile Tartu 2024 Poster Session

**Mergime Ibrahim (TalTech)**, Anu Masso (TalTech), Mauro Bellone - Investigating Sociotechnical Imaginaries of Autonomous Vehicles: Comparing Laboratory and Online Eye-Tracking Methodology

**Merja Kristiina Kajava (Aalto University)**, Miloš Mladenović (Aalto University) - Exploring global dynamics of micromobility systems - An open data approach

**Mohamed Elgohary (Politecnico di Milano)**, Paola Pucci (Politecnico di Milano) - Classifying Potential Multimodal Hubs in the Milan Metropolitan Area. A scalable tool for addressing Multimodality in urban areas

**Newsha Modjrian (Aalto University)**, Henrikki Tenkanen (Aalto University) - Dialogue Between City and Residences Well Being in Response to Climate Related Risks

**Nianhua Liu (Technical University of Munich)**, Linbing Zhuang (University of Münster) - An Exploratory Study of Promoting the Crisis Crowdsourcing Mapping Workflow with Generative Pre-trained Transformer (GPT) model

**Sandra Karina Meza Parra (Polytechnic University of Catalonia)** - Beyond the proximity of Climate Shelters in Barcelona Municipality. A study on real availability of the network established in the city

**Shir Gravitz-Sela (Technion - Israel Institute of Technology)**, Dalit Shach-Pinsly (Technion-IIT), Pnina Plaut (Technion-IIT) - Deep learning based analysis of spatiotemporal patterns in pedestrian movement

**Zhengrong Li (Technion - Israel Institute of Technology)**, Karel Martens (Technion - Israel Institute of Technology) - Can anonymous GPS movement data provide insight into people's mobility problems? A first exploration

**Tanhua Jin (Vrije Universiteit Amsterdam & Ghent University)**, Xiaobing Wei (Ghent University), Long Cheng (Southeast University), Kailai Wang (University of Houston), Yanan Xin (ETH Zurich), Frank Witlox (Ghent University) - Exploring the Impact of Built Environment Factors on Bike-Sharing Usage for Older Adults in Chicago

**Tatiane Borchers (University of Duisburg-Essen)**, Dirk Wittowsky (University of Duisburg-Essen), Ricardo Augusto Souza Fernandes (Federal University of São Carlos) - Optimising urban mobility systems: an intersection of smart cities and sustainability

**Xuca Zhang (Ghent University)**, Tanhua Jin (Ghent University), Nico Van de Weghe (Ghent University), Frank Witlox (Ghent University), Haosheng Huang (Ghent University) - Generating Mobility Flows without Historical Flow Data

**Yuanyuan Tao (Ghent University)**, Frank Witlox (Ghent University), Hossein Azadi (Ghent University), Veerle Van Eetvelde (Ghent University) - Urban Spatial Analysis and Urban Sustainable Development