Development in *Transportation System*

22 Jan - 26 Feb 2024

1 session /week

Register online at:
bit.ly/rtl-virtual-workshop-2024

About our *University*

The Technical University of Munich (TUM) was founded in 1868 and is one of the most research-intensive and innovative universities in Europe. It is ranked top 10 in Europe in QS World Ranking 2024, Times Higher Education (THE) 2023, and Shanghai Ranking 2022, and has produced 18 Nobel Prize winners.

To bring German academic excellence beyond borders, TUM Asia was established in 2002 and is most successful overseas campus of any German university. Apart from providing bachelor's and master's degrees conferred by TUM and jointly with renowned universities in Singapore, TUM Asia also offers executive education courses in areas like Industrie 4.0, Precision Engineering, and Railway and Logistics. To boost competencies in the manufacturing industry, the Competence Centre for Digitalisation, Technologies and Innovation (CDTI) was set up in collaboration with FESTO Singapore to provide lifelong learning courses. To date, more than 2,300 students from 35 countries have graduated from TUM Asia, establishing their footholds in various industries.

In 2010, TUMCREATE was founded as a multidisciplinary research platform to foster bilateral research exchanges between TUM and world's leading universities, local institutions, public agencies and industry partners to contribute towards the sustainable transformation of societies. It is funded by the National Research Foundation Singapore, making advances in research topics like urban mobility, food science and technology, biomedical technology and preventive healthcare, and energy.

To know more, visit https://tum-asia.edu.sg

About *Development in Transportation System*

Fast track your knowledge and discover the latest mobility solutions in our transportation systems from a line-up of academic professors and industry experts.

Combining global insights and perspectives from a cadre of speakers from leading universities such as National Institute of Technology Calicut, Institute of Technology in Surat as well as Technical University of Munich (TUM), the workshop will share some of the leading-edge development in transportation systems in India, Singapore and Germany.

Programme Schedule

22 Jan 2024, Monday	
19:00 SGT (GMT+8)	**Open Data for Transportation Systems Analysis: Challenges and Opportunities *by Prof. Dr. Constantinos Antoniou***
29 Jan 2024, Monday	
19:00 SGT (GMT+8)	**Performance Evaluation of BRTS: A Case Study of Hubbali-Dharwad BRTS System *by Dr Yogeshwar Navandar***
9 Feb 2024, Monday	
19:00 SGT (GMT+8)	**Advanced level Traffic Data Collection and Extraction using Unmanned Aerial Vehicles: Towards Traffic Operations and Safety *by Dr. Ashish Dhamaniya***
23 Feb 2024, Monday	
19:00 SGT (GMT+8)	**Applications of Vehicular Trajectory Data Under Heterogeneous Non-Lane Based Traffic Conditions in India *by Dr. Shriniwas S. Arkatkar***
29 Feb 2024, Friday	
19:00 SGT (GMT+8)	**What is a smart transportation system? by Dr.-Ing. Andreas Rau**

Our Sessions

22 Jan 2024, Monday

Prof. Dr. Constantinos Antoniou
TUM

Open Data for Transportation Systems Analysis: Challenges and Opportunities

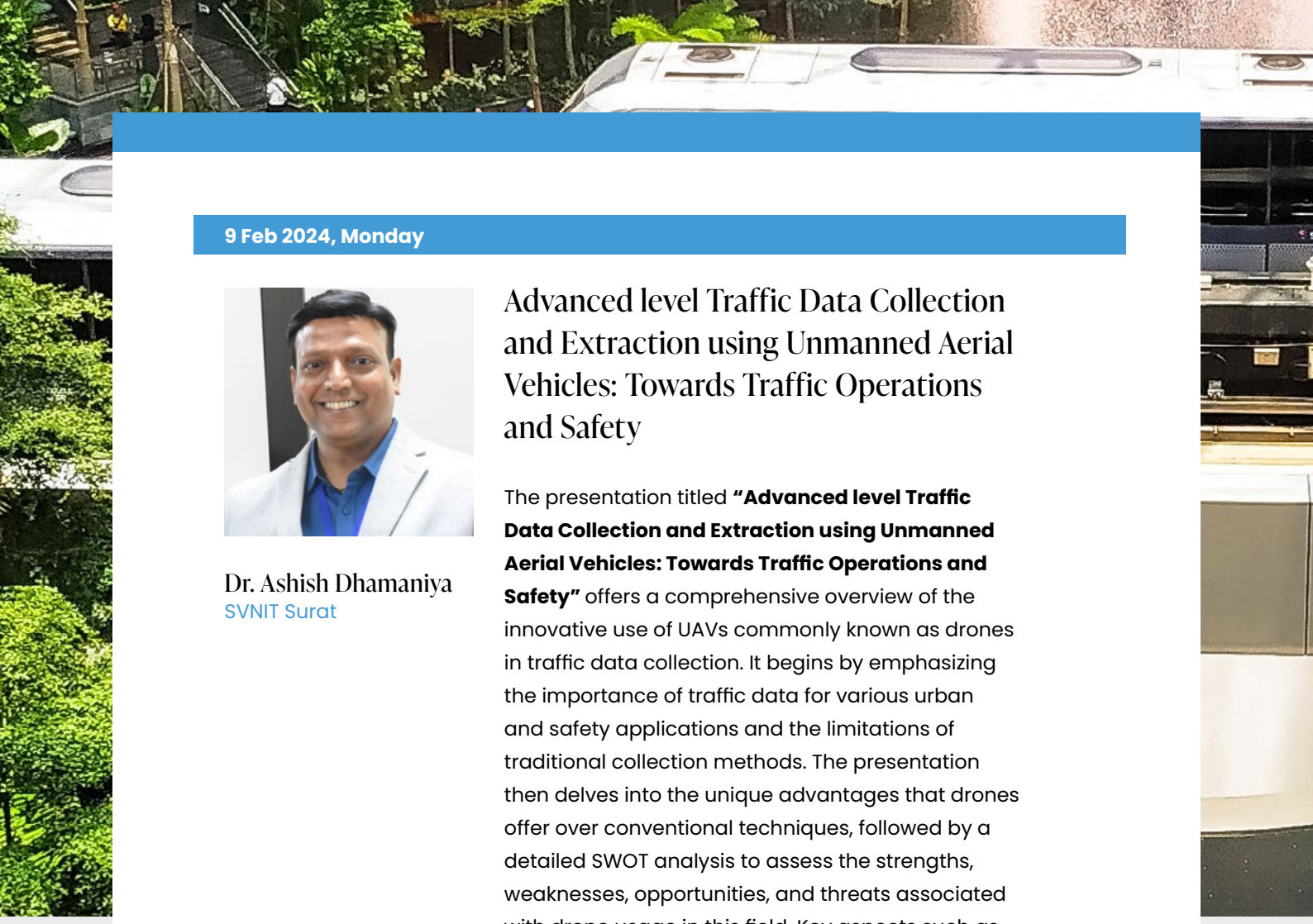
Emerging data sources offer a multitude of opportunities for further analyses in transportation systems. In this talk we will introduce a typology of open data sources. Applications of open data in transportation systems will then be presented, with an emphasis on challenges associated with the data, and ways to overcome them.

29 Jan 2024, Monday

Dr Yogeshwar Navandar
NIT Calicut

Performance Evaluation of BRTS: A Case Study of Hubbali-Dharwad BRTS System

Performance evaluation is important in understanding the performance of the system. Many methods have been utilised to understand the performance evaluation of BRTS. In this present study, performance evaluation is done through an ordered probit model. Customer satisfaction surveys are conducted to understand the factors affecting the overall satisfaction level of the customers. The results of the ordered probit model show that, factors like overall safety, behaviour of staff, boarding facility, accessibility to elderly and physically challenged and travel cost to be the significant factors. In the second part of study, the sentiment analysis has been done using the online comments. Unsupervised and supervised analysis has been performed. The results revealed that, most of the comments were positive and in supervised analysis, support vector machine performed better compared to all other methods. data, and ways to overcome them.



9 Feb 2024, Monday

Dr. Ashish Dhamaniya
SVNIT Surat

Advanced level Traffic Data Collection and Extraction using Unmanned Aerial Vehicles: Towards Traffic Operations and Safety

The presentation titled **"Advanced level Traffic Data Collection and Extraction using Unmanned Aerial Vehicles: Towards Traffic Operations and Safety"** offers a comprehensive overview of the innovative use of UAVs commonly known as drones in traffic data collection. It begins by emphasizing the importance of traffic data for various urban and safety applications and the limitations of traditional collection methods. The presentation then delves into the unique advantages that drones offer over conventional techniques, followed by a detailed SWOT analysis to assess the strengths, weaknesses, opportunities, and threats associated with drone usage in this field. Key aspects such as legal prerequisites, technical requirements, and best practices for drone operation, particularly in restricted zones, are thoroughly covered. The presentation also includes an exploration of advanced methods like Eye Tracker analysis and the integration of various technologies, including P-box and drones, for gathering driving behavior data. This insightful session concludes by highlighting the significant advantages and potential of drone data collection in traffic management and safety assessment, showcasing a cutting-edge approach in the field of traffic analysis. This presentation will be particularly beneficial for B.Tech, M.Tech, and Ph.D. students who are keen on exploring the latest trends and technologies in traffic data analysis and who are looking to apply innovative methods in their research and studies.

23 Feb 2024, Friday

Dr. Shriniwas S. Arkatkar
SVNIT Surat

Applications of Vehicular Trajectory Data Under Heterogeneous Non-Lane Based Traffic Conditions in India

Trajectory data are one of the potent sources to analyse, model, and evaluate important components in traffic engineering such as prevailing safety-level in vehicle movement, driver's aggressiveness, and comprehending traffic flow stability. Even the effectiveness of geometric design or improvement can be well evaluated using high-quality trajectory data. In addressing this need, the United States Federal Highway Administration (FHWA) under the Next Generation Simulation project (NGSIM) developed trajectory datasets for selected road sections in the US. For the mixed traffic conditions prevailing in emerging South Asian countries like India, developing these kinds of vehicle trajectory data is a much-complicated task. This may be attributed to a wide range of variation in driving behavior, due to multi-class of vehicles interacting with each other based on space availability with weak lane-discipline. The talk will be focused on the methodology and possible applications of the developed vehicular trajectory data set under the prevailing traffic conditions.

26 Feb 2024, Monday

Dr.-Ing. Andreas Rau
TUM Asia

What is a smart transportation system?

New technologies like fast communication (5G) and autonomous vehicles will change the transport system in the future. However, is technology enough to solve problems of our transport system like increasing energy demand and congestion? The presentation will show how these new technologies can be used to make the transport system smart and what else we need to do to make the transport system better.

Get in Touch

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