TRA NSW

Invitation to the TRANSW Virtual Symposium 2020

The Transport Research Association for NSW (TRANSW) invites practitioners, researchers and transport enthusiasts to join the TRANSW Virtual Symposium 2020.

In past years' the annual face to face symposium provided a platform for transport research students, academics and practitioners to discuss relevant topics in transport. Research students and post-doctoral researchers have the opportunity to showcase their research and attendees can meet transport researchers, academics and practitioners in an informal setting.

The Symposium is organised each year by one of the participating universities. Following the success of the Symposiums in 2018 (organised by University of Sydney) and 2019 (organised by the UNSW), UTS had begun preparing to host the 2020 version. Unfortunately, due to COVID-19, the face to face Symposium has been postponed until 2021 (or when possible to conduct in person meetings). For 2020, as a means to maintain the link between industry and research, the TRANSW Symposium Committee has decided to host a "Virtual Symposium" co-hosted by each of the education institutions. The TRANSW Virtual Symposium will be held as lunch time learning sessions during the following dates and times:

- **Tuesday, November 17, 2020 – 12:00PM – 1:00PM**
- **Wednesday November 18, 2020 – 12:00PM – 1:00PM**
- **Thursday, November 19, 2020 – 12:00PM – 1:00PM**

The format of the virtual sessions will involve pre-recorded video presentations prepared by students and post-doctoral researchers, succinctly describing the objectives and outcomes of their research projects. This will be followed by an interactive question and answer session allowing the audience to provide feedback to the presenters and have a discussion.

The topics covered focus on Mobility as Service, Sustainability, Autonomous Vehicles, Transport Resiliency and more (see draft schedule on the following pages) with the focus of each presentation highlighting the potential impact on industry and practice.

<u>Registration is free</u> for interested researchers, government and industry professionals in the transport landscape.

Please register for the symposium by using the following link:

https://www.eventbrite.com.au/e/transw-virtual-symposium-2020-tickets-127232611165

If you have any further questions or require more information please also email: symposium@transw.org.au

Looking forward to seeing you virtually in November!

What is TRANSW?

The Transport Research Association for NSW (TRANSW) began in 2018 as a joint initiative of the University of Sydney, University of New South Wales (UNSW), University of Technology, Sydney (UTS) and Transport for New South Wales (TfNSW). It aims to foster and support cross-disciplinary and cross-institutional transport research and practice. For more information, please visit transw.org.au.

TRANSW Virtual Symposium Program

Tuesday 17 November		
12:00 – 12:15	**Welcome**	
12:15 – 12:45	**Session 1** *Automated vehicles and their impacts* *Chair: TBA* **Self-driving lanes for a seamless transition to future mobility** – Shantanu Chakraborty (UNSW) **Decentralised autonomous fleet dispatch strategy** – Linji Chen (USYD) **The environmental impact of autonomous vehicles** – Abdulrahman Alhariqi (UNSW) **Will the future of travel be automated or active? Qualitative findings from Australia and the Netherlands** – Tony Arnold (USYD)	**Session 2** *Transport planning: learning from the past to define smart future cities* *Chair: TBA* **Smart city applications in land use and transport** – Teck Kean Chin (USYD) **Value of narrative frameworks in active transport planning** – Miguel Loyola (USYD) **Sydney's transit access: 1925 - 2020** – Hema Rayaprolu (USYD) **Aviation sustainability in Australia** – Alicja Gajewska (USYD)	**Session 3** *Network design and analysis* *Chair: TBA* **Network econometrics and the evolution of transport systems** – Bahman Lahoorpoor (USYD) **Ferry network design problem: spanning tree analysis couple with demand estimation** – Kam Fung Cheung (USYD) **Transport network resilience analysis using crowd-sourced data** – Tingting Zhang (UNSW)
12:45 – 1:00	**Q&A**	

Wednesday 18 November			
	Session 1 *City logistics*	**Session 2** *Network modelling: diseases, machine learning and mathematics – how they all can solve transport problems?*	**Session 3** *Mobility-as-a-Service*
12:00 – 12:45	*Chair: TBA* **Autonomous mobile lockers in parcel distribution** – Jun Li (USYD) **Co-modality for freight delivery in congested urban environments** – Shengda Zhu (USYD) **A game theoretical analysis of metro-integrated city logistics systems** – Mingyou Ma (UNSW) **Evaluating the vulnerability of urban railway network infrastructure by analysing railway accident reports** – Wei-Ting Hong (USYD) **A hybrid drone-truck delivery system for grocery products** – Hamidreza Ensafian (USYD)	*Chair: TBA* **Modelling impact of traffic disruptions by using machine learning methods** – Artur Grigorev (UTS) **Improving forecasting of intersection delays in macroscopic transport models** – Xiaolin Gong (USYD) **Modelling congestion propagation as a spreading phenomenon** – Mudabber Ashfaq (UNSW) **A path-based credit model for urban congestion management** – Mingye Luan (UNSW) **Footpath network model** – Tanapon Lilasathapornkit (UNSW)	*Chair: TBA* **How to improve trust and collaboration among stakeholders in a MaaS eco-system** – Thiranjaya Kandanaarachchi (USYD) **Incentive-compatible mechanisms for continuous resource allocation in mobility-as-a-service: pay-as-you-go and pay-as-a-package** – Haoning Xi (UNSW) **Consumer preferences in public transport ecosystems** – James Bushell (USYD) **Unlocking public procurement as a tool for place-based industry strategy** – Christopher Day (USYD) **The ownership of mobility service in MaaS by applying the fabric blockchain framework** – Shuangqing Gong (UNSW)
12:45 – 1:00	**Q&A**		

	Thursday 19 November		
	Session 1 *Travel demand analysis*	**Session 2** *Congestion management and pricing*	**Session 3** *Traffic management and control: data collection, analysis, and interpretation to better understand and manage traffic*
12:00 – 12:45	*Chair: TBA* **Towards a reliable understanding of travel time unreliability** – Muhammad Fayyaz (USYD) **Ensemble forecasting in transport** – Hao Wu (USYD) **A paradigm shift toward an activity-based structure for Sydney area** – Farshid Safari (UNSW) **Knowledge adaption for demand prediction based on multi-task memory neural network** – Can Li (UNSW)	*Chair: TBA* **Temporal capacity allocation and tolling schemes for morning commute with carpooling** – Bangyang Wei (UNSW) **Joint routing and pricing control in the mixed equilibrium simulation-based dynamic assignment** – Mohammadhadi Mansourianfar (UNSW) **Dynamic pricing strategies for ridesourcing platform considering time-dependent order cancellation** – Kai Xu (UNSW) **Robust perimeter control with cordon queues and heterogeneous transfer flows** – Ye Li (USYD)	*Chair: TBA* **A novel vehicle detection, classification and speed estimation method using magnetic sensors** – Yimeng Feng (UTS) **Are wildfire fatalities related to road network characteristics?** – Chence Niu (UNSW) **Machine learning in humanitarian relief through employing rule-based verification on aerial imagery** – Hafiz Suliman Munawar (UNSW) **Robust aircraft conflict resolution under trajectory prediction uncertainty** – Fernando Hugo Cunha (UNSW)
12:45 – 1:00	**Q&A + Closing**		