**BTR#4 - 2022 Headline Presentations**

Please join us each day to kick off BTR sessions with **Thailand**’s **Agachi Sumalee, Singapore**’s **Lynette Cheah, UK**’s **Charisma Choudhury, and Chile**’s **Juan de Diós Ortúzar**.

**Eastern track: Aug. 4, 11:00 am- 12:00 pm AEST**

****Dr **Agachi Sumalee** presents **IOT, DATA ANALYTICS AND TRANSPORT SYSTEM IN THE SMART MOBILITY ERA**

**ABSTRACT:** The internet of things (IoT) and Big Data are making it easier to collect, store, analyze, use, and disseminate multi-source data. The Smart Mobility platform capitalizes on these opportunities to improve how we collect data, analyze problems, and manage our multi-modal transportation system. This talk will cover data acquisition platform for smart mobility, with on-line and long-term analytics, and on-demand service applications in Thailand - ranging from safety management and demand prediction, to highway operations. It will also highlight lessons learned for implementing advanced methods in real-world deployments, with a future outlook of the field.

**BIO:** Professor in Smart Cities at Chulalongkorn University, Agachi Sumalee was also a full Professor at The Hong Kong Polytechnic University and Vice President of King Mongkut’s Institute of Technology in Ladkrabang. He is a Founding Editor of *Transportmetrica B: Transport Dynamics*, and his research interests include intelligent transportation systems, smart cities, and IoT applications in smart mobility, transport technology, policy and system optimization. He is a member of Bangkok’s new station operations committee and Thailand’s Transport Company, as well as chair of Thailand’s sub-committee on common-ticket development. He led deployment of Thailand national’s GPS, Smart Bus Terminal system and national Smart Highway system. He received the ASPIRE Prize in 2014 for the best scientist in Asia Pacific Economic Community (APEC) under 40 years old. His papers can be found here: <https://scholar.google.com/citations?user=u_DjNeAAAAAJ&hl=en>.

**Eastern track: Aug. 5, 11:00 am- 12:00 pm AEST**

A person smiling for the camera

Description automatically generatedDr **Lynette Cheah** presents **Decarbonizing road freight transport**

**ABSTRACT:** Demand for global freight transport is expected to grow more than three times by year 2050 and the associated greenhouse gas emissions will increase faster than that from passenger transport. Road vehicles currently dominate global transport-related CO2 emissions, yet road freight is considered one of the harder-to-abate sectors. In this presentation, Cheah will review options for decarbonizing road freight and discuss challenges and opportunities. Beyond alternative fuel and vehicle technologies, there is a role for optimising system operations, as well as demand-side mitigation approaches. These encompass changing the way we use infrastructure and modifying behaviours to limit transport-related emissions.

**BIO:** Lynette Cheah is an Associate Professor of Engineering Systems at the Singapore University of Technology and Design (SUTD). She directs the Sustainable Urban Mobility research laboratory, which develops data-driven approaches to reduce the environmental impacts of passenger and freight transport. She is a member of Singapore’s Public Transport Council and an Associate Editor for the *Journal of Industrial Ecology*. She recently served as a Review Editor for the United Nations Intergovernmental Panel on Climate Change’s (IPCC) Sixth Assessment Report, examining climate change mitigation approaches in the transport sector. Her engineering degrees come from Northwestern, Stanford, and MIT. More on her work can be found here: <https://esd.sutd.edu.sg/people/faculty/lynette-cheah>.

**Western track: Aug. 4, 10:00 am - 11:00 am CDT**

****Dr **Charisma Choudhury presents LEVERAGING PASSIVELY COLLECTED DATA SOURCES FOR TRAVEL BEHAVIOUR MODELLING**

**ABSTRACT:** Recent advances in data science and ubiquitous computing have led to the availability of a wide range of new inputs for travel behaviour modelling. These range from passively generated traces from mobile phones, smart phone apps etc. to physiological sensor data (e.g. skin conductance, heart rate recordings etc.) which provide insights regarding the traveller's state of mind. The presentation will focus on the promises offered by such emerging data sources and frameworks to utilise them. Case studies will include mode, route and destination choice modelling using passively generated mobility data as well as detailed models of driving and cycling behaviour where skin-conductance, heart rate, EEG and eye-tracking data have been used for improving the behavioural insights.

**BIO:** Charisma Choudhury is the Chair in Behaviour Modelling and a UKRI Future Leader Fellow at the Institute for Transport Studies, University of Leeds (UoL), where she leads the Choice Modelling Research Group. She also serves as the Deputy-Director of the interdisciplinary Choice Modelling Centre, UoL. Charisma received her PhD from the Massachusetts Institute of Technology (MIT). Prior to joining UoL, she worked at the Bangladesh University of Engineering and Technology, MIT, RAND Europe and Cambridge Systematics. Her current research focuses on travel behaviour modelling using emerging data sources, particularly in the context of the Global South. Charisma is an Honorary Guest-Professor at Beijing Jiaotong University, China and a Turing Fellow at the Alan Turing Institute. She is the current Vice-Chair (Chair-elect for 2024) of the International Association for Travel Behaviour Research. More details can be found here: <https://environment.leeds.ac.uk/transport/staff/924/dr-charisma-choudhury>

**Western track: Aug. 5, 10:00 am - 11:00 am CDT**

Dr **Juan de Dios Ortúzar presents Role of Habit and the Built Environment in the Willingness to Conmute by Bicycle**

**ABSTRACT:** The bicycle should be an unbeatable mode in trips of less than 10 kms, which are the large majority in even fairly large metropolis. Why then, especially when weather and terrain characteristics are mild, bicycle trips tend to be less than 10%, in most urban areas? We look at this paradox using data from two studies in Latin American cities, involving habit measurements and latent variables, on top of the more usual level-of-service attributes.

**BIO:** Juan de Dios Ortúzar is a Professor Emeritus in the Department of Transport and Logistics Engineering at the Pontificia Universidad Católica De Chile. He is a pioneer in the development of discrete choice models and their application in determining willingness to pay for reducing externalities (accidents, noise and pollution). He has published ten books and more than 200 articles in international journals and book chapters. He is also co-author of Micro-GUTS simulation game, used in more than 50 universities. He was Co-editor in Chief of *Transportation Research Part A* (2012-2020), and is a member of the editorial board of the journals *Transport Policy, International Planning Studies, Transportation Letters, Research in Transport Economics, Travel Behavior and Society, and Multimodal Transportation*. More on his work can be found here: <https://www.ing.uc.cl/academicos-e-investigadores/juan-de-dios-ortuzar-salas/>.

**BTR#4 - 2022 Special Sessions**

**Special session 1 (Eastern track): Sustainable Development of Shared Mobility Markets**

The rapid expansion of shared mobility services has had substantial impacts on the way people travel and on multi-modal urban transport systems. As the demand for convenient and comfortable mobility grows, on-demand ride-sourcing services are becoming the preferred travel solution for more people. This brings not only opportunities but also challenges to the entire transport system. The massive demand for ride-sourcing puts enormous pressure on ride-sourcing platforms, as more efficient and effective responses are required. In this session, several solutions are explored to maintain the sustainable development of shared mobility markets as well as urban transportation systems. – Sponsored by TRB’s ICT and Transportation Committee (ADB20).

**Special session 2 (Western track): Mobility of Care: Understanding the Role of Gender and Impacts on Travel Behavior**

Travel associated with caregiving such as escorting children, or other individuals with limited independent mobility is an important area of study. Research suggests women are far more likely to perform household-serving travel, it is primarily unpaid, and it is often considered easier to complete by car making it difficult to switch to more sustainable modes. This panel brings together researchers to discuss the role of gender in terms of who is providing mobility of care and the impacts on their travel behavior. – Sponsored by TRB’s Women & Gender in Transportation Committee (AME20). – Moderator: Dr. Victoria DeGuzman, Assistant Director, Programs and Engagement, ITS-Irvine, University of California Irvine.

