Transportation Research Group of India (TRG)

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TRG Webinar Series **(on MS Teams)**

Schedule for the TRG Webinar Series

(for 29th June to 3rd July 2020)

Date & Time	Technical Committee of TRG (TCT)	Speaker's Name and Designation	Title	Webinar link
29 June, 2020 (Monday) 3.30 pm (IST)	TCT-H01: Emerging travel technologies (ITS and IOT)	**Lelitha Devi** Professor, Department of Civil Engineering Indian Institute of Technology Madras	V2X communication: Applications in Transportation Engineering	Individual webinar link is provided in subsequent pages
30 June, 2020 (Tuesday) 3.30 pm (IST)	TCT-E01: Environment (including energy) and sustainability in transportation	**Dr. Pawan Kumar** Associate Town & Country Planner, Town and Country Planning Organization, Ministry of Housing and Urban Affairs, Govt. of India, New Delhi, India	Policies to Promote Sustainable Urban Transportation in India	
1 July, 2020 (Wednesday) 3.30 pm (IST)	TCT-A01: Pavements and materials	**Mr. Satish Pandey** Senior Scientist, CSIR-Central Road Research Institute, New-Delhi India	Utilization of Steel Slag Aggregate in Road Construction: Challenges and Opportunities	
2 July, 2020 (Thursday) 3.30 pm (IST)	TCT-B01: Traffic flow theory, operations and facilities	**Dr. Anuj Kishor Budhkar** Assistant Professor, Department of Civil Engineering, Indian Institute of Engineering Science and Technology Shibpur (IIEST Shibpur), Howrah, West Bengal, India	Towards automation in trajectory extraction of mixed traffic using images	
3 July, 2020 (Friday) 3.30 pm (IST)	TCT-B01: Traffic flow theory, operations and facilities	**Prof. Asish Bhaskar** Associate Professor in the School of Civil and Environmental Engineering (CEE), the Queensland University of Technology (QUT), Brisbane, Australia	Transport network monitoring 'big' data and its applications	

Webinar duration will be typically of 45 min. to 1 hour duration followed by a 15 min. discussion.

Note: These webinars are free and open for all. No pre-registration is required. To join the above webinars, click on the provided link 10-15 min. before the schedule. Feel free to share this information to all your interested friends, colleagues and students.

Help: To more about, how to join a webinar using Microsoft team, click here

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TRG Webinar Details:

Webinar Link:
https://teams.microsoft.com/l/meetup-join/19%3a650b186822ee465eb3c3f95da4557a54%40thread.tacv2/1593349188133?context=%7b%22Tid%22%3a%226f15cd97-f6a7-41e3-b2c5-ad4193976476%22%2c%22Oid%22%3a%22230080fa-c7c1-4df1-aeb1-2c096c888264%22%7d

TCT-H01: Emerging travel technologies (ITS and IOT)

Title: V2X communication: Applications in Transportation Engineering

Schedule: 29 June, 2020 (Monday) 3.30 pm (IST)

Speaker: **Lelitha Devi,** Professor, Department of Civil Engineering, Indian Institute of Technology Madras, India

Abstract: With increasing penetration of electronics in modern automobiles, the amount of in-vehicle data is growing and the possibilities of using V2X (vehicle to vehicle, vehicle to infrastructure, etc.) are promising. This talk will discuss recent developments in this area taking two specific applications as example.

Webinar Link:
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TCT-E01: Environment (including energy) and sustainability in transportation

Title: Policies to Promote Sustainable Urban Transportation in India

Schedule: 30 June, 2020 (Tuesday) 3.30 pm (IST)

Speaker: **Dr. Pawan Kumar,** Associate Town & Country Planner, Town and Country Planning Organization, Ministry of Housing and Urban Affairs, Govt. of India, New Delhi, India

Dr. Pawan Kumar is basically Architect-Town Planner having Bachelor Degree in Architecture, Master Degree in Planning and Ph.D. in Transportation. He is alumnus of IIT, NIT and SPA. At present, he has been working as Associate Town & Country Planner in Town and Country Planning Organization, Ministry of Housing and Urban Affairs, Govt. of India, New Delhi. He has about 23 years professional experience in the field of architecture, town planning, transportation, disaster management, etc. He has authored more than 100 technical papers which have been published in various International and National Journals. He has also authored 10 Chapters on different topics in books of national and international importance. He visited many overseas countries for training as well as presentations of his research works on transportation. He represents as a member of various Technical Committees as well as member/reviewer of various editorial boards.

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Abstract: Sustainable Transportation is as an integral part of urban planning and therefore its efficacy and viability in terms of environmental, economic and social aspects are vital. Availability of various modes, easy accessibility to public transit, fare affordability, user satisfaction, safety & security, etc. make transportation more sustainable. The Government initiatives such as adoption of National Urban Transport Policy (2006), Sustainable Urban transport Project (2010-2018), Metro Rail Policy (2017), Transit Oriented Development Policy (2017), etc. are important steps to encourage sustainable transportation system in the country.

Webinar Link:
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TCT-A01: Pavements and materials

Title: Utilization of Steel Slag Aggregate in Road Construction: Challenges and Opportunities

Schedule: 1 July, 2020 (Wednesday) 3.30 pm (IST)

Speaker: **Mr. Satish Pandey**, Senior Scientist, CSIR-Central Road Research Institute, New-Delhi India

Mr. Satish Pandey is working as a Senior Scientist in Flexible Pavement Division of CSIR-Central Road Research Institute, New-Delhi, India. He is also associated as a Associate Professor in Academy of Scientific and Industrial Research (An Institute of National Importance). In his fourteen years long research carrier in the field of Transportation and Highway engineering, he was associated with the development of new technologies and cost-effective materials for construction, maintenance and rehabilitation of bituminous pavement. He is a recipient of CSIR Technology Award 2017 by Hon. President of India in Vigyan Bhawan for Development of Cold Mix Technology for Construction Maintenance and Rehabilitation of Bituminous Pavement. He is also the recipient of Best Guide Award 2004 by Indian Concrete Institute and ACC cement. He has served as a council member of Indian Road Congress, ASSOCHAM and FICCI besides the part of various Bureau of Indian Standard committees where he credited to develop various standards and specifications for highway profession.
Mr. Pandey did several R&D project to facilitate utilization of Steel Slag as Road Construction Aggregate, with TATA Steel, JSW Steel, Arcellor Mittal & Nippon Steel, HARSCO and RINL. Presently he is coordinating a major R&D project sponsored by Ministry of Steel for “Development of Design Guidelines and Specification for Utilization of Steel Slag in Road Construction” where, JSW Steel, Tata Steel and Rashtriya Ispat Nigam Limited and Arcellor Mittal & Nippon Steel erstwhile Essar Steel are participating as industrial partner. He is also contributed immensely in the development of Indian Road Congress specification: IRC SP:121:2018 “Specification for Utilization of Iron, Steel and Copper Slag for construction of Rural Road.

Abstract: Iron and Steel Slag are one of the major solid wastes generated in an integrated steel plant in India. According to Indian Mineral year book 12 Million ton iron slag and around 18.5 million ton steel slag are generated every year in India. Disposal of these solid wastes are one of the biggest concern to the steel industries. CSIR-CRRI under several R&D projects, sponsored by various steel industries and Ministry of Steel, explore the possible utilization of iron and steel slag in road construction. Different types of slag shows different intrinsic properties and poses different challenges for utilization as road construction material. This presentation will give an overview about the types of iron & steel slag, slag processing methodologies, physical and chemical characteristics of iron and steel slag and potential ways to utilize it as road construction aggregate. Case studies of field trials of processed steel slag in bituminous road construction will be covered to show successful utilization of this material in road construction.

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TCT-B01: Traffic flow theory, operations and facilities

Title: Towards automation in trajectory extraction of mixed traffic using images

Schedule: 2 July, 2020 (Thursday) 3.30 pm (IST)

Speaker: **Dr. Anuj Kishor Budhkar**, Assistant Professor, Department of Civil Engineering, Indian Institute of Engineering Science and Technology Shibpur (IIEST Shibpur), Howrah, West Bengal, India

Dr. Anuj Kishor Budhkar completed his PhD from IIT Guwahati, and thereafter had Post-Doctoral research experience in IIT Bombay, India. Since April 2019, he is serving as an assistant professor in IIEST Shibpur, the erstwhile Bengal Engineering College. He has published research in various reputed journals and has contributed to consultancy projects from State and Central Governments. His research interests include driver behavior, road safety and geometric design.

Abstract: Data extraction of traffic in developing economies has always remained a challenge due to lack of lane-discipline and heterogeneous vehicle presence. Automation can be easily introduced for extracting conventional vehicle streams, since vehicles are expected to travel in predetermined paths. However, a reliable identification, classification and tracking technique of vehicles moving in a chaotic order has not been identified. The author will focus on a novel semi-manual trajectory extraction technique using camera calibration from traffic video images. Further, its applications in various data extraction scenarios, such as speed and flow measurement, car-following, surrogate safety parameters, vehicle movement on curves or intersections, and also pedestrian trajectory extraction would be highlighted. Efforts and issues to automate this technique would be discussed with the audience. In the near-future, an automated traffic extraction technique will certainly reduce mechanical efforts in data extraction of these traffic conditions.

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TCT-B01: Traffic flow theory, operations and facilities

Title: Transport network monitoring 'big' data and its applications Corridors

Schedule: 3 July, 2020 (Friday) 3.30 pm (IST)

Speaker: **Prof. Asish Bhaskar,** Associate Professor in the School of Civil and Environmental Engineering (CEE), the Queensland University of Technology (QUT), Brisbane, Australia

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Dr Ashish Bhaskar is an Associate Professor in the School of Civil and Environmental Engineering (CEE), the Queensland University of Technology (QUT), Brisbane, Australia. He holds a PhD in Intelligent Transport Systems from Swiss Federal Institute of Technology, Lausanne, Switzerland, Masters in Transport Engineering from the University of Tokyo, Tokyo, Japan, and a Bachelor of Technology degree in Civil Engineering from the Indian Institute of Technology, Kanpur. He is serving as the academic lead International and Engagement for the CEE, QUT; the co-chair for Business and Engineering Systems domain, QUT Centre for Data Science; the co-chair for the World Conference on Transport Research Society SIG-C3 on Intelligent Transport Systems; member of the Transport Research Board (TRB) standing committee on Transit Management and Performance; the editorial board member for the Journal of Big data Analytics in Transport, and the International Journal of Intelligent Transport Systems Research; and adjunct faculty at Indian Institute of Technology Chennai, India. The primary focus of his research team is on addressing road network congestion problem. His teams expertise are in transport data analytics, modelling, simulation and control.

Abstract: Brisbane, Australia is equipped with over 1200 Bluetooth MAC Scanners. The loop and GTFS data is public. In the webinar Assoc. Prof. Bhaskar will present the transport network monitoring 'big' data and its applications. Specifically focus on the exploitation of Bluetooth data for origin-destination (OD) modelling for large urban networks. Knowledge of the OD is vital for the real-time operations and control of congestion, and the strategic planning of the transport infrastructure. The state-of-the-art for the OD estimation is a bi-level formulation where at the upper level a priori OD matrix is adjusted iteratively to minimize the gap between the observations and estimations. This is mathematically an underdetermined problem. The availability of traffic monitoring data from a large urban network provides opportunities to restrict the search space and enhance OD estimation accuracy. In the presentation Dr. Bhaskar will present how his team has used Bluetooth data for the estimation of the base year OD. He will also briefly introduce his ongoing work on predictive analytics, data integration, and visualization.

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