**IACIP Webinar (July 02 [9:30 PM China] / [9:30 AM EST USA], 2022)**

**Modeling the Effects of Asphalt Overlay Design on Pavement Distress Initiation and Roughness Progression with Long-Term Pavement Performance Data**

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**Abstract:** Pavement deterioration model is a key input to a pavement management system that optimizes pavement maintenance and rehabilitation (M&R) planning. As a typical pavement M&R technique, asphalt overlay is commonly implemented to restore pavement performance. However, the impact of its design factors on pavement deterioration is not well documented in existing publications. This study aimed to investigate the effects of asphalt overlay design on distress initiation and roughness progression with consideration of endogenous bias and unobserved heterogeneity. A series of random parameters hazard-based duration models and panel data models were developed based on asphalt overlay project data, which were collected from the Long-Term Pavement Performance (LTPP) program. Endogenous overlay design, overlay thickness, milling indicator, existing pavement condition, overlaid pavement deflection, traffic volume, and climate factors were identified to have significant effects on distress initiation and roughness progression in overlaid pavements.



**Bio:** Dr. Xin joined Inner Mongolia University as a faculty member in the Department of Highway Engineering in 2020. He obtained his bachelor’s degree in 2012 from Wuhan Institute of Technology, his master’s degree in 2014 from Southwest Jiaotong University, his Ph.D. in 2020 from the University of South Florida. His research goals for contributing to the transportation field are focusing on promoting informed decisions about addressing safety and sustainability related problems in transportation infrastructure management by applying the integrated data-model-decision approach. Up to now, he has published 14 journal articles in transportation engineering journals, such as Accident Analysis & Prevention, Analytic Methods in Accident Research, Transportation Research Record, Construction and Building Materials, Journal of Cleaner Production, and Sustainability. He is a member of the TRB AKT10 committee and the IACIP academic committee.

**Date and Time:**

9:30 pm - 10:30 pm, July 2nd (Saturday), 2022 (Beijing Time in China)

9:30 am - 10:30 am, July 2nd (Saturday), 2022 (Eastern Time at New York)

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