

# Performance Evaluation of Long-Life Rigid Pavements in Michigan

**Dr. Neeraj Buch, Ph.D.**

Thursday, August 10, 2023 4:00 pm - 5:00 pm (IST)

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Meeting number: 2567 440 2438

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## ABOUT THE TALK :

Perpetual or long-life pavement, a concept introduced in the USA and Europe within the last few decades, involves designing and constructing pavements that can serve for 30 to 50 years without any significant structural rehabilitation and reconstruction. The concept draws support because many well-built, thick pavements categorized as either full-depth or deep-strength pavements have been in service for decades. These pavements required only minor periodic surface rehabilitation to remove defects and improve ride quality. In 2018, two pilot long-life concrete pavement sections were constructed in Michigan. Usage of a cement-stabilized permeable base course and a stabilized subgrade differentiates the long-life pavement design from their traditional counterparts. The laboratory testing showed that the mechanical properties of the concrete used in both projects surpassed their target. In this talk, a detailed comparison between the design and construction-related enhancements employed for long life pavements with standard 20-year design concrete pavements will be presented.

## ABOUT THE SPEAKER :

Dr. Neeraj Buch is Dean of Undergraduate Studies and Associate Provost for Student Success and a Professor of Pavement Engineering at the Rochester Institute of Technology, New York. He holds M.S. degree from the University of Michigan in Ann Arbor, and Ph.D. from Texas A&M University in College Station. From 1996 to 2023, Dr. Buch worked at Michigan State University and served in various leadership roles including Associate Dean for Undergraduate Studies in the College of Engineering, Chairperson of the Department of Civil and Environmental Engineering. Dr. Buch has managed large interdisciplinary research teams and has worked on numerous projects funded by different agencies. Dr. Buch has performed research on characterization of portland cement concrete mixtures. He also explored the impact of portland cement concrete mixtures on pavement design, its performance, pavement responses, performance modeling and pavement preservation. Dr. Buch is also an award-winning instructor, who has been teaching undergraduate and graduate courses related to concrete materials and pavement engineering. Dr. Buch been a past member of different TRB committees, and an AASHTO TIG. He is also a member of the ASCE/T&DI highway pavements committee, ASCE LTPP Task Committee and the chairperson (past) of ACI committee 325 on rigid pavements. Dr. Buch has served on the board of the International Society Concrete Pavements (ISCP), as its past president and he is now an honorary member of ISCP.

