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18|22 23|27 ECCELLENZA

Seminar Announcement

8 April 2026, 15:00 – DICEA-150/stra

Particle Packing-Based Design of Bituminous Mixtures Guided by Mastic Lubricity

Ph.D Gayathri VENUGOPAL GANGESWARI
Indian Institute of Technology Madras (India)

Prof. Francesco Canestrari

Gayathri V. G. is a PhD Research Scholar at the Indian Institute of Technology Madras (IIT Madras, India) in the Civil Engineering Department, Transportation Engineering Division. Her research focuses on the design and mechanical characterization of bituminous mixtures, with particular emphasis on particle packing approaches guided by bituminous mastic lubricity in governing mixture performance. Her doctoral research combines experimental and analytical approaches to investigate the development of a rationalized aggregate gradation design using compressible packing models and to examine the lubrication behaviour of bituminous mastic. Her work integrates rheological and tribological characterization to better understand interfacial friction and lubrication mechanisms within asphalt mixtures. She also studies mixture workability and compactability during production and evaluates their mechanical performance through dynamic modulus, fatigue damage, and rutting characterization.

In this lecture, she will present a systematic methodology for designing bituminous mixtures based on particle packing principles and mastic lubricity. The presentation will highlight the role of mastic rheology and tribology in facilitating aggregate packing, improving mixture workability, and influencing the mechanical response of asphalt mixtures.

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