DISTINGUISHED SEMINAR SERIES

Hosted by the Department of Civil and Environmental Engineering
at Northeastern University

The AISC TR Higgins Lecture

Column Base Connections: Research, Design, and a Look to the Future

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Monday September 26, 2022

12PM - 1PM EDT

Churchill 103

We look forward to you joining us.

ABSTRACT: Column base connections are arguably the most important connections in steel buildings, transferring loads from the entire structure into the foundation. At the interface of steel and concrete, these connections are complex in terms of behavior, design, as well as structural interactions with the building frame. The lecture will present our current understanding of these connections based on numerous studies, with an emphasis on AISC-funded studies conducted over the last 15 years. Exposed, slab-overtopped, and embedded connections will be discussed, addressing their response (strength, failure modes, stiffness, and deformation characteristics). Implications for design of the connections as well as the building will be presented. Prospective developments in base connection design will be foreshadowed, including a revision of the AISC Design Guide One, and the use of dissipative base connections in seismic design.

Bio: Amit Kanvinde is a professor in the department of civil and environmental engineering at the University of California, Davis. His research is focused on the seismic response of steel structures and connections. He is the recipient of the 2022 T.R. Higgins Lectureship Award from AISC (on the topic of base connections), and has previously received AISC's Special Achievement Award (2017) and various awards from ASCE, including the Walter Huber Research Prize (2016), and the State of the Art of Civil Engineering Award (2018), and the Norman Medal (2008). He is the co-author of the column base plate example (for Steel Moment Frames) in the SEAOC Seismic Design Manual, and is the lead author of the next edition of AISC's Design Guide One on column base connections. His research is cited in numerous standards, and he currently serves on the AISC Connection Prequalification Review Panel, which approves the AISC 358 standard on prequalified moment frame connections.

About the TR Higgins Lecture:

"Each year, AISC's T.R. Higgins Lectureship Award recognizes an outstanding lecturer and author whose technical paper or papers, published during the eligibility period, are considered an outstanding contribution to the engineering literature on fabricated structural steel.

The award is named for Theodore R. Higgins, former AISC Director of Engineering and Research, who was widely acclaimed for his many contributions to the advancement of engineering technology related to fabricated structural steel. The award honors Higgins for his innovative engineering, timely technical papers, and distinguished lectures."

-Via AISC website