American Iron and Steel Institute

News Release

AISI STANDARDS COUNCIL SMALL PROJECT FELLOWSHIP PROGRAM ANNOUNCES WINNING RESEARCH PROPOSALS FOR 2019

WASHINGTON, D.C. – The American Iron and Steel Institute (AISI) Standards Council has selected five winning research proposals for its 2019 Small Project Fellowship Program. Launched in 2014, AISI's Small Project Fellowship Program identifies and provides funding for research projects that will significantly impact the reliability, performance and cost-competitiveness of cold-formed steel (CFS) framing products in a variety of end-use applications.

The program provides a streamlined mechanism for AISI's standards development committees (the Committee on Specifications and the Committee on Framing Standards), industry stakeholders, academics and students to collaborate on relatively short-term, highly focused, and mutually beneficial projects. Project selections are based on several factors, including the potential for long-term impact on the industry; steel industry engagement and co-funding; and results for the AISI standards development committees, the student, and the academic institution.

The winning research proposals and academic institutions for 2019 are:

- **"Shear Strength of CFS Clip Angles with Multiple Lines of Screws"—University of North Texas.** This project will produce additional test data to support a comprehensive shear strength design method for cold-formed steel clip angles, which are very common in cold-formed steel construction in both commercial and residential framing applications. The findings will have potential to provide improved guidance for the design of these critical structural components.

- **"Expanding Effective Strip Method to Thicker Stud Walls"—University of North Texas.** This project will conduct full-scale tests on cold-formed steel framed shear walls sheathed with flat steel sheets with the intention of expanding the Effective Strip Method to 68-mil framing and providing additional nominal shear strength values for steel sheet sheathed shear walls in AISI 240, *North American Standard for Cold-Formed Steel Structural Framing* and AISI S400, *North American Standard for Seismic Design of Cold-Formed Steel Seismic Systems.* The Effective Strip Method is an analytical approach to determine the nominal shear strength of sheet steel shear walls for both wind and seismic design.

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- **"Distortional Buckling in Stub Column Testing per AISI S902"—Cold-Formed Steel Research Consortium.** This project will study the effect of distortional buckling on AISI S902, *Test Standard for Determining the Effective Area of Cold-Formed Steel Compression Members.* This project has the potential to provide modifications to AISI S902 to include distortional buckling in the testing procedure and interpretation of the test results and avoid unnecessary conservative results for local buckling capacity of the cross-sections with lower distortional buckling capacity.

- **"CUFSM Usability Enhancements for Elastic Buckling Analysis on Members with Holes"—SUNY Polytechnic Institute.** This project will provide an improved and easy-to-use tool for calculating the relevant buckling modes (local, distortional, and global) of members with holes, which will be incorporated into the Constrained and Unconstrained Finite Strip Method (CUFSM). The new module of CUFSM, along with relevant design examples and tables, will provide a user-friendly and efficient tool for analysis and design of members with holes.

- **"Development of Design Tables of the CFS Sections in AISI D100"—SUNY Polytechnic Institute.** AISI D100, *Cold-Formed Steel Design Manual* provides a list of sections including C-sections with lips (i.e., studs and joists) and without lips (i.e., track), Z-sections with lips and without lips, angle sections with lips and without lips, and hat sections without lips. However, AISI D100 only provides the dimension and sectional properties of the sections. This project will provide new design tables as a readily available aid for design engineers to identify the local and distortional buckling strengths directly.

"The research conducted through the Small Project Fellowship Program since 2014 has advanced our knowledge of cold-formed steel behavior and established improved design methods for a variety of cold-formed steel applications," said Jay Larson, P.E., F.ASCE, managing director of AISI's Construction Technical Program. "By combining academic and industry expertise and sharing funding with several partners, the program has engaged academia, industry and students in unique opportunities for mentoring and research while delivering results to the industry in a cost-effective and efficient manner."

AISI's Standards Council initiates cold-formed steel standards development projects and maintains accreditation by the American National Standards Institute (ANSI).

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