

## **SEAC and RMSCA Joint Meeting** Sponsored by RMSCA

Thursday, September 19, 2013 7:30 a.m. (breakfast provided) Renaissance Denver Hotel 3801 Quebec Street Denver, CO 80207 South of the I-70 & Quebec Intersection

**"Friction Stir Welding"** presented by Dr. Andrea Surovek

Friction Stir Welding is an emerging alternative to fusion welding for steel and other metals. The process uses friction from a non-consumable rotating pin tool to convert mechanical energy into thermal energy. Benefits from Friction Stir Welding include elimination of problems of conventional fusion welding such as dissimilar metals and environmental impact. Issues with filler metals, inclusions and contaminants from the environment are also eliminated. Lower heat input improves the ability to retain critical micro-structure and mechanical properties of high-strength and other special alloys.

While FSW of steel is still a developing technology, its impact on the aluminum industry provides a compelling case for greater development and application with steel. With the development of new materials, the continued application of higherstrength steels, the potential for significant savings in energy and a reduction in hazardous fumes, FSW has the potential to make a major impact on steel construction in the foreseeable future.

Dr. Surovek is an Associate Professor of Civil and Environmental Engineering at the South Dakota School of Mines and Technology in Rapid City, SD. She currently chairs the ASCE/SEI Technical Administrative Committee on Metals.

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