

Rita Lederle, PhD, Assistant Professor of Engineering, University of St. Thomas

Dr. Lederle is interested in improving infrastructure through materials, design, and construction and maintenance techniques. Her research focuses on concrete pavements and bridges, with an emphasis on practical, implementable solutions. Her previous work has included investigating the use of alternative aggregates such as recycled concrete aggregate, using specialty concretes like ultra high performance concrete and pervious concrete for mathematical model validation, developing models to predict curling and longitudinal fatigue damage in concrete pavements, and working towards implementing new solutions in practice, including fiber reinforced polymer retrofits for bridges, self-consolidating concrete for prestressed bridge girders, and fabric interlayers for unbonded concrete overlays. Her work has been funded by the National Road Research Alliance NRRRA and NASA.

Prior to joining the faculty of St. Thomas, Dr. Lederle worked as a structural design engineer for both the Minnesota and Wisconsin Departments of Transportation, where she was responsible for the design of new highway bridges and retaining walls, as well as repairs and rehabilitations of existing bridges. She has also served as adjunct faculty at Minnesota State University at Mankato. Dr. Lederle is a registered Professional Engineer in the state of Minnesota.