

**Michigan State University (MSU)**  
East Lansing, Michigan, USA  
**Pavement Research Center of Excellence (PRCE)**

(Updated June 2008)

**MICHIGAN STATE  
UNIVERSITY**



**Program description**

MSU, founded in 1855, is the nation's pioneer land-grant institution. The university has a long tradition of using the research and knowledge developed to create practical solutions that make a difference. The Department of Civil and Environmental Engineering (CEE) upholds the same tradition and provides a framework for pavement engineering research at MSU. Each year, approximately 280 undergraduate students and 100 graduate students are enrolled in the program.

The current research in pavement engineering includes the development of M-E pavement response and performance models, material characterization using non-destructive field and laboratory testing, advanced cost-effective pavement preservation methodologies, rapid construction quality assurance technologies, innovative pavement management strategies, dynamic vehicle-pavement interaction, and modeling of vehicle operating costs. The major sources for funding include the MDOT, FHWA, NCHRP, NSF and SHRP II.



**Faculty and selected projects**

Dr. Neeraj Buch (email [buch@egr.msu.edu](mailto:buch@egr.msu.edu)) (ISCP Member and Director)

- Modular Pavement Technology
- Characterization of Traffic for the New M-E PDG in Michigan

Dr. Gilbert Baladi (email [baladi@egr.msu.edu](mailto:baladi@egr.msu.edu))

- Resilient Modulus Characterization of Michigan Roadbed Soils

Dr. Rigoberto Burgueño (email [burgueno@egr.msu.edu](mailto:burgueno@egr.msu.edu))

- Self Consolidating Concrete for Precast/Prestressed Bridge Girders
- Seismic Performance of High-Strength Concrete Structural Walls

Dr. Karim Chatti (email [chatti@egr.msu.edu](mailto:chatti@egr.msu.edu))

- Acceptance Criteria and Quantifying its As-constructed Material and Structural Properties
- Using Existing Pavements in Place and Achieving Long Life

Dr. Ronald Harichandran (e-mail [harichan@egr.msu.edu](mailto:harichan@egr.msu.edu))

- Relating Axle Load Spectra to Pavement Performance

Dr. Parviz Soroushian (email [soroushi@egr.msu.edu](mailto:soroushi@egr.msu.edu))

- Reinforcement of Concrete with Corrosion-Resistant FRC
- Inherently Adaptive Structural Materials



**Facilities**

The Civil Infrastructure Laboratory, a dedicated facility for materials, pavement and structural engineering research, provides diverse space and equipment for micro-, meso- and macro-scale testing, and associated office spaces for faculty, staff, and students. The large-scale structures and pavements testing area features a 9 m (30 ft) high-bay area enclosing an 18x12 m (60x40 ft) strong testing floor serviced by an overhead crane. The laboratory is outfitted with materials and structural testing equipment for simulated mechanical and environmental loading capabilities supported by affiliated machine and wood shops. The lab is linked to the University computer facilities.

**Links**

Department of Civil and Environmental Engineering: <http://www.egr.msu.edu/cee>

Civil Infrastructure Laboratory: <http://www.egr.msu.edu/cee/research/structures/facilities.html>