The University of Rhode Island Transportation Center (URITC) selected Christopher Baxter as its 2009 Researcher of the Year. Baxter is an associate professor in URI’s Ocean, Civil and Environmental Engineering Departments. He has worked for the University for 10 years.

“Chris brings everything to the table. He is a top notch researcher, a great teacher and an excellent colleague who is always willing to consider new opportunities,” said URITC Executive Director Deborah Rosen. “His research in the realm of transportation has been extremely productive and he is highly respected by our transportation partners in industry.”

Baxter is recognized for his research achievements in numerous projects involving the liquefaction resistance of silts. The overall goal of the projects is to better understand the behavior of Providence silts under dynamic loading, such as what would occur during pile driving or during an earthquake.

“Silts are a difficult material to characterize and underlie much of downtown Providence. As such, they pose a problem for many geotechnical projects in the state,” Baxter explained. “This has been a great opportunity to work on both fundamental research and on a problem that is relevant to practicing engineers in Rhode Island.”

Baxter began work on the liquefaction resistance of silts in 2004 through grants provided by the URITC and Rhode Island Department of Transportation (RIDOT). One of his studies revealed a relationship between shear wave velocity and cyclic resistance for the Providence silts.

“We were able to show that practicing engineers can use standard field-based approaches to evaluate the liquefaction potential of these difficult soils,” Baxter said.

When asked his reaction to being named URITC Researcher of the Year, Baxter made sure to credit the people he works closely with for helping him achieve the award.

“I am honored to be recognized for my work to the geotechnical engineering community. My success comes from the hard work of my excellent graduate students,” Baxter said.

In addition to teaching college students, Baxter conducts learning labs each year at the URITC Engineering Career Day event for high school students.

“High school students have very little exposure to engineering and events like Engineering Career Day show the students how concepts in science and math can be used to solve real-world problems,” said Baxter. “My goal is to introduce the students to the study of soils and geotechnical engineering, and to get them enthusiastic about learning.”

The subject of Baxter’s current research projects include the settlement of adjacent ground due to pile driving in silts, the cyclic behavior of sands and clays related to offshore wind farms in Rhode Island, the relationship between shear wave velocity and effective stresses at failure for dilatant soils, and the development of load transfer curves for piles in silt.