

UI researcher receives grants for erosion study

IOWA CITY — Thanos Papanicolaou, associate professor of civil and environmental engineering in the



Thanos Papanicolaou
UI associate professor

University of Iowa College of Engineering and associate faculty research engineer at IHR-Hydroscience & Engineering, has received \$192,000 in research grants to study erosion.

The grants are \$112,000 from the Iowa Department of Transportation and \$80,000 from the Hungry Canyon Alliance for a three-year study of ungedged waterways in western Iowa.

His research involves water and sediment propagation at knickpoints — relatively steeper portions of a stream channel.

Papanicolaou said he uses photoelectron sensors to capture the migration of knickpoints in real time.

The study also will evaluate how stream banks migrate over time and how streams erode bridge foundations, damaging highways and causing problems for highway maintenance engineers as well as nearby landowners.

In 2005-06, Papanicolaou used a \$140,000 DOT grant to study stream bank erosion and channel alignment at the Highway 169 bridge on the South Raccoon River about 1.1 miles north of Interstate 80 in Dallas County.

That study evaluated “barbs,” trapezoidal-shaped structures that project out from the stream bank and into the main channel to deflect currents and reduce stream bank erosion.

The goal of his research is to enhance design procedures used by road engineers.