SE&T Colloquium Series-Fall 2012

Speaker	Dr. Dave Stanton Department of Biology
Title	***DNA Fingerprinting of Great Lakes Zebra Mussels (Dreissena polymorpha)***
Abstract	Zebra mussels are an invasive species introduced into the Great Lakes from Europe in 1986. Since then, they have spread aggressively throughout the United States and they have had a dramatic effect on water quality and biodiversity. Genetic studies of invasive species are critical in determining the viability and potential ecological impact of these populations. In order to assess genetic variation, population substructure and patterns of gene flow, samples of zebra mussels were collected from thirty one sites throughout the Great Lakes. DNA was extracted from frozen samples and PCR was performed in order to amplify polymorphic fingerprint loci. The PCR products were checked on agarose gels and analyzed using the CEQ 8000 automated DNA analysis system from Beckman-Coulter. Fragments sizes were determined and genotypes were identified using internal reference standards. The parameters investigated included number of alleles, observed (H_o) and expected (H_e) heterozygosity, population substructure (F_{ST}) and genetic distance (D). The results reveal a great amount of genetic variation and allow for the evaluation of patterns of gene flow in zebra mussel populations in the Great Lakes. The potential for determining the origin of populations in inland lakes and rivers is also examined.
Date	Tuesday, November 27
Time	4:10-5:00pm
Place	Pioneer 240
	Refreshments will be served at 4:00pm.