

MSc opportunity to study the plant geographic ranges.

All species have limits to their geographic and ecological distributions, but the causes of these limits remain largely unknown. While reduced dispersal, physiological limits and/or genetic constraints to adaptation are likely to play a role in determining distributional limits, more empirical research is needed to understand and predict where individual species can and cannot occur.

An MSc position in evolutionary ecology is available in the lab of Dr. Karen Samis at UPEI Biology starting Sept. 2010 (option Jan or May 2011). Dr. Samis is interested in local adaptation and the limits to geographic ranges, and is looking for students interested in plant evolution and ecology. The potential project will assess genetic variation and phylogeography (how plants got to where they are now) in Atlantic Canada populations of *Cakile edentula* (American sea rocket), and survey large (geographic) to small (within a beach)-scale spatial variation in habitat, life history and fitness to assess distributional limits from both ecological and geographic perspectives. This plant is endemic to coastal beaches, tends to occur on white sandy beaches from the high tide line to the open dune and is common in its native Atlantic range from Newfoundland, Canada to Florida, USA. Look for it next time you visit the beach!

The project may involve a combination of range-wide field surveys, common garden experiments and DNA analysis. Potential students should have some experience with field ecology and/or molecular genetics, and have demonstrated an ability to work efficiently and independently. Preference will be given to students who are competitive for Canadian graduate scholarships, but students who are eligible for graduate funding from an international agency will also be considered. Interested students are encouraged to contact Dr. Samis for more information, and to submit a pdf file including a cover letter explaining their interest and suitability for the position, their CV and contact information for at least two references to ksamis@upei.ca.

Please see the departmental (www.upei.ca/biology) and university website (www.upei.ca/vpacademic/graduatestudies) for more information on the graduate program.

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