

# GLC hosts two new Graduate Programs

by Kelly Frothingham and Alexander Karatayev

Two new graduate programs in Great Lakes Ecosystem Science (GLES) will be administered through the Great Lakes Center starting in the fall of 2013. In addition to GLC faculty, members the Geography and Planning, Biology, Chemistry, and Earth Sciences and Science Education Departments are involved in the GLES programs.

The GLES programs provide an opportunity for students to pursue graduate studies through two different interdisciplinary applied environmental science programs, a thesis-based Master of Arts (M.A.) and an internship-based professional Master of Science (M.S.). Both programs provide graduates with the opportunity to attain a broad understanding of the physical, chemical, biological, and social factors that comprise the Great Lakes ecosystems, while at the same time offering graduates the depth they need in a particular discipline to prepare them for entry either into

a Ph.D. program or into the workforce.

The GLES M.S. program provides a strong foundation in environmental science and allows students to approach problems from a purely scientific perspective. Graduates will be trained to deal effectively with a broad range of problems and issues related to ecosystem structure and function within the Great Lakes and surrounding watersheds, which will prepare them for advanced research, professional employment, or study at the Ph.D. level.

The GLES M.S. combines coursework in environmental science with business communication and project management classes and an internship experience. The M.S. program was designed to meet the needs of industry, consulting firms, non-governmental organizations (NGOs), and governmental agencies with graduates



prepared to provide a leadership role as they address a wide range of problems and issues related to the management of resources within the Great Lakes and surrounding watersheds.

#### MORE INFORMATION:

For more information regarding the Great Lakes Ecosystem Science program, see the GLC Education website. <http://greatlakescenter.buffalostate.edu/education>



Visiting R/V Lake Guardian in October 2012. Left to right: Alexander Karatayev (GLC), James Watkins (Cornell U), Lyuba Burlakova (GLC), Glenn Warren (EPA) and Lars Rudstam (Cornell U).

Recently, Buffalo State received a US EPA grant in collaboration with Cornell University. The project, "Great Lakes Long-term Biological Monitoring Program," awards a total of \$3,867,525, including \$1,094,726 for Buffalo State. The EPA Monitoring Program is designed to provide managers access to biological data on zooplankton and benthos to support decision-making.

During this project, we will collect zooplankton, benthos and chlorophyll data across the five Great Lakes from 2013 to 2017. Then we will analyze this data and make

# GLC, Cornell receive large EPA grant to study Great Lakes

by Alexander Karatayev and Lyubov Burlakova

it available to environmental and fisheries managers. Four additional research projects associated with the grant include studies of the deep chlorophyll layer, comparative ecology of mysids, evaluation of an early detection system for invasive species, and evaluation of biotic indices of ecosystem health.

GLC scientists are responsible for collecting benthos and will take an active part in invasive species detection. All benthic samples will be collected onboard EPA R/V Lake Guardian and analyzed in the Aquatic Ecology Lab of the Great Lakes Center, mostly by research technician Susan Daniel.

In addition, we will evaluate and develop new biotic indices of ecosystem health. The project will be conducted in association with the Cooperative Science and Monitoring Initiative, a coordinated effort that focuses on one of the Great Lakes each year.

This will be an excellent opportunity for the GLC to expand our research activity to all of Great Lakes, to increase our visibility among Great Lakes research community, and to further strengthen our collaboration with our colleagues from Cornell.



New research technician Susan Daniel starts this May.