Spring 2013

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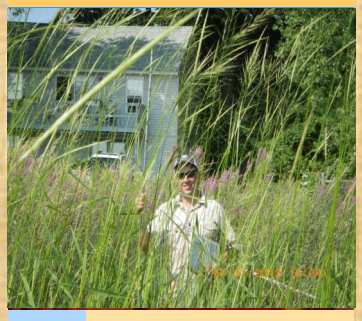

The College at Brockport

Environmental Science and Biology

Dr. James Haynes, Chair, Environmental Science and Biology

Dear students, faculty, staff , alumni and friends of the department,

After nine years this is my last newsletter message to you as department chair. Dr. Christopher Norment will assume that role in June.

Thanks to the hard work of the department's faculty and staff during the past nine years much has been planned and accomplished. The number of undergraduate majors grew from 60 to 120, we began a new graduate program that enrolls 30 students, and the faculty has grown from four to six members. The number of upper division tracks has grown from four to six that include aquatic biology/ecology, terrestrial ecology/biology, combined aquatic and terrestrial ecology/biology, wetland ecology, environmental chemical analysis, and earth sciences.

The department's faculty members continue to be the most productive researchers at Brockport. They have brought millions of dollars of external funding to the college, published dozens of peer-reviewed papers in scientific journals, often with ESB graduate and undergraduate students, and have supervised dozens of MS thesis and BS research students during the past nine years.

Most MS graduates and a good number of BS graduates are finding jobs in the field of environmental science, and many current undergraduates are qualifying for internships, research experiences and summer jobs across the nation. As has been the case since 2008, it is still a very difficult economy in which to gain an entry level position but the sciences in general and environmental science in particular seem to be holding up reasonably well given the nation's weak economy. If you have a good job, congratulations and let us know about it so we can feature you in a future newsletter (send your info to ddilker@brockport.edu). If you haven't found a good job yet, make sure you are subscribed to our alumni list serve and check out the job sites listed on our website (www.brockport.edu/envsci).

It has been a privilege to serve you these past nine years.

Best regards, Dr. H

Dr. Joseph Makarewicz, Distinguished Service Professor

Dr. Makarewicz is a limnologist who received his Ph.D. from Cornell University. Limnology, sometimes known as Freshwater Oceanography, is the study of lakes or inland seas such as the Great Lakes. Undergraduate and graduate students, many funded by grants from the EPA, USGS, and Sea Grant, have worked with Dr. Makarewicz on nutrient cycling in lakes, phytoplankton-zooplankton relationships in the Great Lakes, the occurrence and fate of pesticides such as mirex in the food web, long-term pesticide trends in salmon, invasive species in the Great Lakes, near shore chemistry of Lake Ontario, and watershed management in the Finger Lakes. Currently, his students have focused their activities on watersheds around the Genesee River funded by the U.S. Department of Agriculture. Three undergraduate student interns and four graduate students have presented their work at various scientific forums. The USDA study will likely lead to regulatory standards for the management of upstate watersheds by the NY Department of Environmental Conservation. With a background in limnology, students have gone on to positions with the NY Department of Environmental Conservation, the Great Lakes Program of the Environmental Protection Agency, Battelle National Lab in Ohio, and the US Department of Agriculture, as well as with consultant firms and private labs such as Columbia Analytical in Rochester, NY. Locally, a number of students have worked with NYS County Soil and Conservation Districts, Monroe County Pure Waters & Health Departments and the Nature Conservancy.

Dr. Makarewicz teaches the following courses at the College at Brockport:

Limnology 419/519

Limnology Lab 421/521

Water Quality Analysis 436

Water Chemistry 621

For more info about Dr. Makarewicz's research activities and students, please visit our website at: www.brockport/edu/envsci

Environmental Science & Biology Alumni News

Alexander Novarro (BS '12 Aquatic/Terrestrial Ecology/Biology) is working as an aquatic research intern at the Seas Pavilion in Epcot at Walt Disney World with Drs. Andy Stamper and Heidi Harley. Alex's duties involve fish husbandry, water chemistry analyses, research sessions with bottlenose dolphins, and scuba diving to clean tanks. The dolphin research focuses on cognitive behavior and is the only facility in the world to conduct experiments on a full-time basis. Research experiments will be conducted on French grunts giving Alex the ability to perform his own independent project. Alex will present his research results to the animal and science team at Disney's Animal Kingdom in June 2013, and will start an MS program at the University of Maryland in the fall.

Matthew Kaproth (MS '04 Terrestrial Ecology/Biology) completed his Thesis defense for his PhD in Plant Biology at the University of Vermont.

Aubrey Galusha (BS '11 Environmental Chemistry) is employed by the NYS Department of Health as a graduate research assistant. Aubrey is in her second year as a PhD student in the Department of Environmental Health Sciences, University of Albany. Aubrey's research focuses on accumulation and distribution of strontium in bones. Aubrey is developing, optimizing, and validating a method to compare the two and quantify strontium-88 in digested bones. This method will be used to analyze human bones collected from parenteral nutrition patients and controls to see if there is a significant difference between the two and determine the health implications.

Zack Eannuzzi (BS in progress) performed a behavioral science internship through Macquarie University ***American Universities International Program*** in Australia.

Marc Chalupnicki (BS '03, MS '06) s employed by Tunison Lab of Aquatic Science as a Fisheries Technician. Marc's area of expertise is working with lake sturgeon in Oneida River, Indian River, Three Rivers, Oswego River, St. Lawrence River, Lake Ontario, and Lake Michigan. He is involved in stocking and placing lake sturgeon eggs from various locations. Marc has also been involved in stocking 73,000 Atlantic salmon fingerlings into the Salmon River and stocking lake herring into Irondequoit Bay. Marc will be evaluating lake sturgeon and walleye spawning habitat in the Black River in 2013.

Environmental Science and Biology Graduate Students Updates

Conducting research that helps understand and improve the environment

Katelyn Almeter (Franklin & Marshall College Lancaster, PA, BS '12, Environmental Science, MS in progress) Katelyn is interested in how natural and anthropogenic aspects of the environment , particularly lead, impact nature and human health.

Becca Bernacki (SUNY Brockport , BS '11 Terrestrial Ecology/Biology, MS in progress) Becca's research focuses on plant ecology, specifically invasion ecology, and carbon cycling.

John Bateman (SUNY Brockport, BS '10 Terrestrial Ecology/Biology, MS in progress) John's research focuses on the local and landscape - scale factors that affect calling amphibian use of storm water retention ponds and artificial wetlands near developments in the Rochester, New York area.

Josh Cronlund (University of Vermont, BS '04 Wildlife Biology, MS in progress) Josh's research focus is on bat ecology, human/wildlife interactions, and wildlife corridor implementation and management.

Andie Graham (Penn State University, BS '09 Wildlife & Fisheries Science, BS '11 Earth & Mineral Sciences, MS in progress) Andie's research and interests are in wetland ecology, particularly how natural resources extraction impacts wetlands.

David Greer (Roberts Wesleyan College, BS '10 Biology, MS in progress) David is interested in the study and research of wildlife ecology, boreal forests, Northern hardwoods, fens, and bogs.

Aaron Heminway (SUNY Brockport , BS '11 Aquatic/Terrestrial Ecology/Biology, MS in progress) Aaron's research focuses on the spread of the invasive cattail, *Typha* x *glauca*, in Lake Ontario coastal wetlands in response to hydrology and phosphorus in relation to riparian buffers. Aaron has spent the last two summers in the field participating in the Great Lakes Restoration Initiative project.

Christina Hoh (Rochester Institute of Technology, BS '11 Biology, MS in progress) Christina 's research focus is the study of migration ecology of white-throated sparrows, especially physiology and behavior at lakeshore and inland stopover sites. Christina is also part of SUNY Brockport's research team for the Great Lakes Coastal Wetland Monitoring Plan, spending summers doing bird and amphibian surveys across Lake Ontario and Lake Erie.

Jennalee Holzschuh (SUNY Brockport, BS '10 Terrestrial Ecology/Biology, MS in progress) Jennalee's research focuses on Avian migration biology, the energetic condition and orientation of *Zonotrichia albicollis* near an ecological barrier.

David Sanderson-Kilchenstein (University of Maryland, BS '05 Environmental Science & Policy, MS in progress) David's thesis research explores culture, nutrition and reproduction of the bowfin, *Amia calva*.

Molly Stetz (SUNY Brockport, BS '12 Water Resources, MS in progress) Molly's area of research is wetland ecology, specifically, hydrology and influences of climate change. Molly is also interested in watershed resource planning and management using best management practices and restoration practices.

Julia York (Warren Wilson College, Ashville, NC, BS '06 Biology and Chemistry, MS in progress) Julia's research focus is on climate change, wetlands, biological invasions, and habitat loss.