

WATER NEWS



Winter 2007 – Spring 2008
Volume 8 Issue 2

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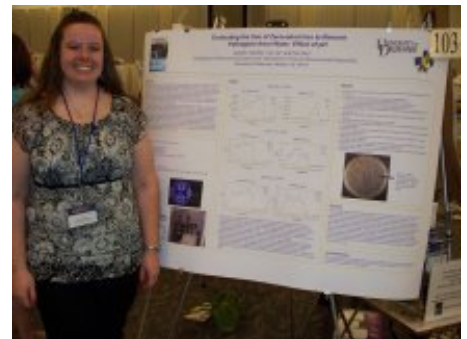
DWRC Annual Luncheon and Poster Session – May 2, 2008

2007-08 **DWRC** interns, graduate fellows, advisors, and **DWRC** Advisory Panel members enjoy lunch together and learn about research projects and interests. After lunch, the Advisory Panel held its annual meeting.



The interns discussed posters summarizing their projects as part of the larger UD 2008 Undergraduate Research Scholars poster session.

2007-08 **DWRC** interns (from left to right below): Adrienne George, Nathan Kiracofe, and Jennifer Handlin



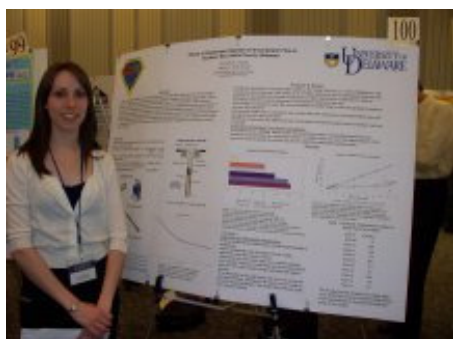
"This experience has taught me how important it is that we continue researching new technologies in order to have safe drinking water for future generations." – Jennifer Handlin

DWRC Annual Poster Session – May 2, 2008



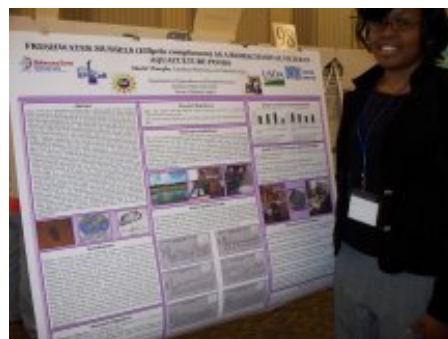
“My **DWRC** internship was great exposure to the research process as well as to the survey method, which is very important in environmental economics. I now better understand how people value the environment and am able to think differently about potential solutions to environmental problems. Also, the research experience has made me feel much more comfortable and prepared in beginning my Senior Thesis.” – *Sarah Chatterson*

“My internship was a lot of work and at the same time very fun. I used to take the quality of water for granted when it came to aquarium [recirculating aquaculture system] fish. Now I know so much more needs to be done to maintain a good living environment for the animals in the system... An important aspect that I will appreciate for grad school is how scientific research is done and how scientific papers need to be written.” – *Samantha-Jo Ebert*



“My internship at the DGS [Delaware Geological Survey] was a wonderful introduction into real-world field work. I learned how to conduct slug tests on monitoring wells and was also introduced to drill rigs and was able to see one in operation. It was especially beneficial for me to get to participate in the whole process of data acquisition, analysis and interpretation.” – *Janine Howard*

2007-08 **DWRC** interns (from left to right below): Marie Rivers, Laura Yayac, and Oluchi Ukaegbu



INTRODUCING OUR 2008-09 SPRING INTERNS

Intern: Alexandra Barnard

Advisor: Dr. William Saylor

UD Department of Animal and Food Sciences

Assessing the Presence of Natural Hormones in Litter and Excreta from Broiler Chickens

Intern: Christen Dillard

Advisor: Dr. Gulnihal Ozbay

Delaware State University Department of Agriculture and Natural Resources

Water Quality and Bacterial Monitoring at Delaware's Inland Bays Oyster Gardening Sites, Delaware

Intern: Erin Dilworth

Advisor: Dr. Chris Williams

UD Department of Entomology and Wildlife Ecology

The Effect of Riparian Forested Corridors on Fish Biodiversity in Suburban and Agricultural Landscapes

Intern: Cristina Fernandez

Advisor: Dr. Kyungsoo Yoo

UD Department of Plant and Soil Sciences

Spatial and Temporal Integration of Pollution History in the Christina River Basin Using Sediment Cores from Bread and Cheese Island

Intern: Aaron Gibson

Advisor: Dr. Gulnihal Ozbay

Delaware State University Department of Agriculture and Natural Resources

Effects of Water Quality on Oyster Growth (*Crassostrea virginica*) in the Floating Oyster Aquaculture Gear in Delaware's Inland Bays

Intern: Erin McVey

Advisor: Dr. Steven Hastings

UD Department of Food and Resource Economics

Delaware Coastal Zone Act's Impact on Water Quality

Intern: Rachael Vaicunas

Advisor: Dr. Pei Chiu

UD Department of Civil and Environmental Engineering

Zero-valent Iron and Other Additives to Enhance Biofiltration of Water

Intern: Caitlin Wilson

Advisor: Dr. Steven Dentel

UD Department of Civil and Environmental Engineering

Exploring Direct Contact Membrane Distillation (DCMD) as for Water Purification

Intern: Edwin Wong

Advisor: Dr. Steven Dentel

UD Department of Civil and Environmental Engineering

Direct Contact Membrane Distillation of Brackish and Contaminated Water Sources for Sourcing Potable Water

Intern: Adam Yoskowitz

Advisor: Dr. Kalmia Kniel

UD Department of Animal and Food Sciences

Removal and Inactivation of Pathogenic Enteric Viruses and Parasites from Water Using Zero-valent Iron

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DWRC Partner Passages ~~

Delaware Student Chapter of the American Water Resources Association

by Maureen Seymour, Research Assistant, UD IPA/CHPEP

Spring 2008 marks a significant event for the graduate students at the University of Delaware (UD) – the founding of the Delaware Student Chapter of the American Water Resources Association (AWRA). Our final recognition by UD as an official student group took place mid-March. We have yet to triumph our greatest obstacle of becoming a joint organization of both graduate and undergraduate students recognized by UD, as well as AWRA. Consensus ruled to first establish the Delaware Student Chapter of AWRA as a graduate student organization. Once fully established as a graduate student chapter, our aspirations include reaching out to recruit undergraduates and other students within the state.

Long term goals aside, the fundamental objective of the student chapter is to promote awareness of water related issues in our communities. Our founding members are students in the School of Urban Affairs and Public Policy, but recruitment across campus, in the fields of engineering, marine studies, geography, and various other disciplines, is a priority of the group. The purpose of the multidisciplinary approach is to expand our knowledge base and connections in the water resources field.

The interaction between the student and state chapters will assist with this objective by bridging the gap between the two sections and the fields represented among them. The formation of a mentoring program will provide guidance and exposure to the professional community, hopefully resulting in opportunities for internships and careers. This relationship is reciprocal in nature. The state chapter benefits from investing in the future of the water resources field, while students gain from exposure, promoting our growth and knowledge of the water resources field.

The student chapter plans to attend the state chapter meetings which will provide an opportunity for networking. We anticipate attending the upcoming Mid-Atlantic AWRA Conference and the 2008 National AWRA Conference in New Orleans this fall. In addition, the coordination of the two sections presents greater opportunities for involvement in the community. The student chapter will no doubt partake in many events with the state chapter, such as Coast Day, Community Day, and Ag Day at UD. In addition to our participation with the state chapter, we also have our own agenda. Our first event for the student group was the Christina River clean-up on April 19.

Not only do we aim to give back to the community through various events, we expect to have a little fun, too. The student chapter will have several social events throughout the school year to keep members active and interested, as well as to attract new members. The potential activities include camping, canoeing, barbecues, intramural dodge ball, and touring a local brewery. (Water is necessary in the brewing of beer, of course!) In essence, our ambition is to promote water resource management within the community and among ourselves in an enjoyable and enlightening atmosphere, which will encourage individuals to participate with us on our endeavors. Sound interesting? Contact de.awra@gmail.com.

Delaware Nutrient Management Commission News

On April 30, 2008, the Delaware Nutrient Management Commission (DNMC), State agencies, UD, Delmarva poultry companies, and the Natural Resources Conservation Service announced significant progress made in their cooperative efforts to improve Delaware's water quality and other environmental initiatives. According to Bill Vanderwende, DNMC chairman, progress has been made in reductions in phosphorus in poultry litter, nutrient management certification and continuing education, and the overall nutrient mass balance in Delaware. Presentations and other nutrient management information can be found under *Hot Topics* on the Delaware Department of Agriculture website, <http://www.dda.delaware.gov>.

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Cooperative Extension

Save the Date for the Annual
Aquaculture Research & Demonstration Facility
Open House
June 25, 2008

Faculty and staff of the DSU Aquaculture Research and Demonstration Facility invite you to attend an open house. This FREE event is scheduled for June 25 from 5 to 8 PM and will be held rain or shine. **Pre-registration is required.** The primary objective is to highlight the many research and demonstration projects that are currently underway at the facility. Details will be provided on each project's objectives and status. Light refreshments will be served. For more information or to register, call or e-mail Dennis McIntosh at 302-857-6456 or dmcintosh@desu.edu.



Delaware Nature Society Events

The Nanticoke River: Delaware's Hidden Jewel – part of the ongoing Delaware's Watershed Lecture Series

June 4, 2008 - 7 PM

UD's Elbert N. and Ann V. Carvel Research and Education Center, Georgetown, DE

Overlooked and underappreciated, the Nanticoke is one of Delaware's healthiest rivers. Its 370,000-acre watershed provides excellent habitat of national significance for many threatened plants and animals. Learn about what threatens the health of this spectacular waterway and how you can help preserve this jewel. RSVP to 302-239-2334, ext. 100 or ginger@delawarenaturesociety.org. FREE rain barrel to the first 75 attendees.

Delaware Nature Society Habitat Steward Training

July 19 AND August 16, 2008

Middletown, DE

Members: \$55; Non-members: \$75

Led by John Harrod with guest instructors

Are you interested in learning more about natural landscaping and local wildlife, protecting our environment, and helping others do the same?

Join the Delaware Nature Society Habitat Steward Team! Through the trainings' field trips and lectures, stewards:

- Learn a wealth of information on natural landscaping, habitat creation, and local plants and wildlife;
- Visit local habitats and natural areas;
- Develop all the tools needed to help interested individuals create and certify wildlife habitats on their own properties.

No experience or expertise required. This introductory training provides 16 of the 24 hours required for habitat stewards. The additional eight hours are supplied through supplemental programs held throughout the year. Registration fee covers the cost of a resource notebook and transportation to and from destinations, plus four supplemental training programs. For registration information call 302-239-2334.

Millponds in Milford: Our History Preserved for All to Enjoy

August 20, 2008 - 6 PM

Abbott's Mill Nature Center, Milford, DE

Millponds not only offer an enduring reminder of our agricultural history, but also play a critical role in local watersheds by providing exceptional habitat for migratory birds and rare plants, and serve as vital recharge areas for groundwater aquifers.

Join us on a walk along a part of the Mill Loop Trail to enjoy these special and increasingly rare areas of our natural and cultural landscapes. Learn more about efforts to preserve and protect Milford's millponds for future generations. RSVP to 302-239-2334, ext. 100 or ginger@delawarenaturesociety.org. FREE native plant to the first 50 attendees.

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DWRC Spotlight on Graduate Research

The DWRC is pleased to announce the award of the following graduate student fellowship:

“Modeling Hydrologic and Geochemical Effects of Land-based Wastewater Disposal”

Faculty Advisors: Mr. Scott Andres, Delaware Geological Survey and Dr. Paul Imhoff, UD Civil and Environmental Engineering

Ph.D. Candidate: Ms. Maryam Akhavan, UD Civil and Environmental Engineering, started in March 2008



DWRC Notices and Calendar

UPCOMING MEETINGS

Jun. 30-Jul. 2, 2008 – AWRA Summer Specialty Conference on Riparian Ecosystems and Buffers, Virginia Beach, VA. Visit http://www.awra.org/meetings/Virginia_Beach2008/.

Jul. 26-30, 2008 – Soil and Water Conservation Society Annual Conference, Tuscon, AZ. Visit <http://www.swcs.org>.

Sep. 8-11, 2008 – Third Interagency Conference on Research in the Watersheds, Estes Park, CO. Visit <http://www.hydrologicscience.org/icrw/>. Deadline for abstracts is Jul. 11, 2008.

Oct. 21, 2008 – UD and Delaware Department of Agriculture conference on carbon sequestration science policies for the Chesapeake Bay watershed, Newark, DE. Look for details at <http://ag.udel.edu>.

Nov. 17-19, 2008 – Mid-Atlantic Regional Water Resources Research Conference, Shepherdstown, WV. Visit <http://wvri.nrcce.wvu.edu/2008waterconference/>. Deadline for abstracts is Jun. 30, 2008.

Jan. 9-11, 2009 – International Conference on Climate Change: Impacts and Responses, Pune, India. Visit <http://www.climate-conference.com>. Deadline for call for papers is Jun. 12, 2008.



Visit the WaterSense website, <http://www.epa.gov/watersense>, for the latest in water conservation news and partnering opportunities. This USEPA program makes it easy for Americans to save water and protect the environment. Look for the WaterSense label to choose quality, water-efficient products from toilets, faucets, and showerheads to landscape irrigation services and technologies.



The DWRC plans a Fall offering of undergraduate internships, where students would work from Oct. 2008 through Feb. 2009. Look for details later this summer at <http://ag.udel.edu/dwrc/>.

Delaware Water Resources Center Advisory Panel

The Delaware Water Resources Center

The Delaware Water Resources Center (*DWRC*), established in 1965, is part of a network of 54 Water Resources Research Institutes throughout the nation. The *DWRC* receives funding through Section 104 of the Water Resources Research Act of 1984. The US Geological Survey administers the provisions of the Act and provides oversight of the nation's Water Resources Centers. The primary goals of the *DWRC* are: to support research that will provide solutions to Delaware's priority water problems, to promote the training and education of future water scientists, engineers, and policymakers, and to disseminate research results to water managers and the public. For more information, visit our website:

<http://ag.udel.edu/dwrc/>

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