International Collaborations

The first two students in the MS/MSc double degree program jointly administered by UNL and UNESCO-IHE in the Netherlands graduated from UNL on May 8. Dean Eisenhauer, who coordinates the program on the DWFI side, recently visited IHE in Delft to discuss matters related to the program, including the 14-day field course, which will be held in the Netherlands and in which two UNL graduate students will participate.

Several members of the DWFI leadership team, as well as UNL Chancellor Harvey Perlman, Tom Farrell and consultants Dale Jacobson and Debra Leigh, traveled to South Korea to participate in 7th World Water Forum April 12-17. DWFI played an active role in the water for food session of the Americas Regional Process and the “Best Available Technology” session organized by Tom Farrell. DWFI had a booth at the Exhibition Hall at the forum and was also a part of the USA Pavilion organized by the U.S. Water Partnership.

Since the last progress report, DWFI directors have led other international presentations (aside from those at World Water Forum):

Nick Brozovic:
• “Coping with Drought – Institutional Innovation in Water Management” at the Swedish Royal Academy of Agriculture and Forestry in Stockholm in March.

Christopher Neale:
• “Operational Meeting on Remote Sensing Monitoring of Key Agricultural Water Parameters” in Cairo in March.

Marketing and Communications Updates

DWFI and IANR have jointly sponsored the documentary film, “A Thirsty Land,” which will focus on the impact of drought on U.S. agricultural production, climate change and the research being done to address the problem. The film is expected to premier at the Water for Food Global Conference in April 2016. The film’s producers, Christopher Neale and Roberto Lenton at the Water for Food session of the Americas Regional Process and the “Best Available Technology” session organized by Tom Farrell. DWFI had a booth at the Exhibition Hall at the forum and was a part of the USA Pavilion organized by the U.S. Water Partnership.

In partnership with the Rural Futures Institute, DWFI hosted three “Transdisciplinary Conversations” events:
• Feb. 18 – Nebraska Innovation Campus, with featured speaker Nick Brozovic
• March 16 – UNO’s Community Engagement Center, with featured speaker Faculty Fellow Alan Kolok
• April 22 – UNL’s Morrill Hall, with featured speaker Jessica Shoemaker from the NU College of Law.

On the occasion of World Water Day on March 22, Roberto Lenton joined with Margaret Zeigler, executive director of the Global Harvest Initiative, to co-author a blog, “Managing our Water Future: Innovation for Water and Sustainable Development.” Additionally, the communications team posted World Water Day information throughout the week and added a resources page to the DWFI website.

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National Collaborations

The USDA’s National Institute of Food and Agriculture awarded a $5 million grant to Michigan State University and DWFI/UNL to develop a variety of new analytical and physical tools for precision agriculture that can help agricultural producers adapt to climate change and new regulatory constraints. The DWFI lead is Nick Brozovic, and the DWFI/UNL share is $240,000.

USDA has approved funding for a proposal submitted by DWFI, UNL and USGS to USDA’s Economic Research Service for collaborative research to combine economic analysis, hydrologic data and models, and USDA’s conservation program participation. The goal of the research is to analyze the adoption and hydrologic impacts of past conservation programs across three major aquifer systems: the High Plains Aquifer in the Central United States, the Central Valley Aquifer in California and the Mississippi Alluvial Aquifer in the Southeastern United States. The project has been funded at a level of $125,000 for DWFI and UNL, which is a little less than half of the original project budget ($468,000 overall and $268,683 for DWFI/UNL).

The University of California Santa Barbara Bren School is supporting the development and testing of drought-year lease markets for instream flows by providing five students who will work on the project during the summer. The institute will arrange office space for some of the students and mentoring to all of them; the DWFI lead is Nick Brozovic.

The Nebraska Environmental Trust awarded $180,666 to the Nebraska Water Center to develop a spatial index tool for Nebraska that will prioritize chemicals for their potential to leach from the land surface to groundwater.

International Collaborations

The CIRCLES project partnership with Valmont and World Vision to develop smallholder pivot irrigation in Sub-Saharan Africa has secured a $500,000 commitment from a donor, with a matching requirement that appears close to being met. Challenges with land tenure and irrigation well development have delayed the center pivot installation, but prospects for resolving both issues look promising. DWFI is responsible for the baseline, and has approved funds for this purpose.
The institute’s efforts to secure funding from Jain Irrigation to support a collaboration appear close to coming to fruition. Mr. Bhau Jain has approved a formal agreement between Jain Irrigation and the NUF Foundation for a five-year $500,000 grant to support the collaboration and a revised scope of work prepared by Christopher Neale. The expanded scope of work still includes the accelerated plant breeding and training program in biotechnology, but now also includes managing irrigation water using geo-spatial technologies, such as GIS and satellite image inputs.

The Department of Science and Technology has approved a “Capacity Building Program on Water” – a joint initiative of India’s Department of Science and Technology, the Indo-U.S. Science & Technology Forum, UNL and DWFI. Carried out under the auspices of the forum, the program would aim to nurture contacts between students and scientists in the water area from India and the U.S. and build long-term Indo-U.S. science and technology relationships. The program’s approval represents the culmination of several years of discussions with the Indo-U.S. Science & Technology Forum.

April 7 and 9 at NIC. The workshops aimed to help the NRD with its strategic and financial planning processes.

Planning is underway for several social innovation collaborations to be organized within a DWFI “entrepreneurship accelerator.” Current planning is focused on three interconnected programs to build private-public partnerships around water for food: (i) a student-managed venture capital fund; (ii) a social entrepreneurship program for students; and (iii) a start-up accelerator with a focus on NU faculty, students and staff.

WSRF and WSCW have been issued a Certificate of Joint Authority to conduct the Nebraska Water Quality Trading Workshop to be held September 15-17 at NIC. The workshop will educate key agricultural and environmental stakeholders about the rules, protocols and infrastructure of water quality markets, and gain their input on water quality trading program design. The DWFI lead is Nick Brozovic.

Planning has begun for the 2016 Water for Food Global Conference on public-private partnerships for water and food security. The conference will be held in Lincoln April 24-27 with a majority of the sessions held at NIC.

Since the last progress report, DWFI directors have led several U.S. presentations:

Nick Brozovic:
• “Innovations in integrated surface water-groundwater management” at the NSF Water Sustainability and Climate Principal Investigators’ meeting in Washington, D.C. on February 9.
• “Emerging Water Technologies and Risks – Panel Discussion,” at the Cultivian Sandbox Investors’ Advisory Committee meeting in Chicago in March.
• “Innovations in High Plains Water Management Institutions,” at the Nebraska Water Center symposium in March.

Roberto Lenton:
• “Storage Systems for Drought Management and Food and Water Security” as part of the Olson Lecture Series at the UNL Center for Great Plains Studies in March.