

## **NIEHS trainee honored with Wetterhahn Award**

*By Sara Mishamandani*

The NIEHS Superfund Research Program (SRP) has selected Corin Hammond, a doctoral student at the University of Arizona (UA), as the 16th recipient of the annual [Karen Wetterhahn Memorial Award](#). The award, which recognizes outstanding SRP graduates and postdoctoral researchers, was presented at the 2013 SRP Annual Meeting in Baton Rouge, La. The SRP acknowledged Hammond for her research contributions to stabilize metals in mining waste sites, and to reverse the damage in nearby soils.

Hammond is a graduate student under the guidance of Jon Chorover, Ph.D., in the Department of Soil, Water, and Environmental Science at the UA College of Agriculture and Life Sciences. She earned a B.S. in chemistry from Louisiana State University (LSU) and an M.A. in inorganic chemistry at UA.

"The science she is doing is not only cutting edge, but also addresses key SRP priorities, and is already impacting the field of environmental remediation science and how we evaluate remediation endpoints," said Chorover. "Corin has emerged as a leader in our SRP graduate student research group and the UA environmental science graduate program as a whole."

"Corin embodies the qualities that are the legacy of Dr. Wetterhahn," added UA SRP Center Director Raina Maier, Ph.D. "In addition to aspiring to be an excellent student and scientist, she is called to help others become interested and successful in science."

### **Using plants to remediate mine waste**

Hammond's doctoral work combines field-scale experimentation in semiarid environments with bench-scale wet chemistry methods and molecular-scale spectroscopy techniques, to better understand how stabilizing contaminants, using plants, and phytostabilization affects the form and mobility of arsenic in mine waste. Also known as mine tailings, mine waste often contains toxic metals, which people can inhale through dust. At UA SRP, researchers have identified suitable native plants and conditions that allow them to grow where mine contamination is found. The plants stabilize the tailings, keeping them from spreading long distances through wind erosion.

Since 2010, Hammond has been collecting a series of samples from the UA SRP phytostabilization field trial at the Iron King Mine and Humboldt Smelter Superfund Site, to better understand the interactions between mine tailings, plant roots, and surrounding microbes. The site has high concentrations of arsenic and other metals, with the potential for off-site transport and exposure in the adjacent community of Dewey-Humboldt. Hammond's work is suggesting that, contrary to expectation, plants keep arsenic from moving through the soil, by incorporating it into its stable growth phases.

Hammond is also passionate about giving back to the community. She has served as an Arizona Assurance Scholars Program graduate mentor since 2010, a program focused on providing encouragement and mentoring to low-income students. She has also volunteered for UA SRP research translation activities, particularly in the development of informational pamphlets on phytoremediation and household hazardous waste.

(Sara Mishamandani is a research and communication specialist for MDB Inc., a contractor for the NIEHS Superfund Research Program and Division of Extramural Research and Training.)



*Hammond travelled to LSU, her alma mater and host of the SRP annual meeting, to accept the Wetterhahn Award and present her research. (Photo courtesy of Corin Hammond)*



*LSU SRP Training Core leader Robin McCarley, Ph.D., left, presented Hammond with her award at the meeting. (Photo courtesy of Kelli Palmer, LSU SRP)*

## Remembering Karen Wetterhahn

An expert in the mechanisms of metal toxicity, Wetterhahn was best known for her research on chromium. As a professor of chemistry at Dartmouth College, she founded Dartmouth's Toxic Metals Research Program in 1995.

In addition to research, Wetterhahn was passionate about teaching. Concerned about the higher dropout rate of women from the sciences as compared to men, she worked with a colleague to develop the Women in Science Project at Dartmouth. This successful program provides a learning environment where first-year women engage in experiences designed to further their interest in science, math, or engineering.

Tragically, Wetterhahn died in 1997, as a result of dimethylmercury poisoning, caused by the accidental spill of a few drops of the chemical on her latex glove-covered hand. Wetterhahn's death shocked the scientific community, including regulatory agencies, because she had taken all required safety measures known at the time. Safety guidelines by the Occupational Safety and Health Administration were soon changed to reflect the high risk associated with the use of dimethylmercury.

As a tribute to her legacy, NIEHS created the annual Karen Wetterhahn Memorial Award, shortly after her death. The award recognizes outstanding young scientists who are conducting research relevant to Superfund or the cleanup of hazardous waste sites. The awardee receives support to attend one major scientific conference, in addition to travel funds to attend the NIEHS SRP annual meeting, where they present their research.

The Environmental Factor is produced monthly by the [National Institute of Environmental Health Sciences \(NIEHS\)](http://www.niehs.nih.gov/)

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