

## Natural Products Center Partners with Center for Water and Wetland Resources for Research

Contributed by Michelle Edwards  
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OXFORD, Miss. -- Two University of Mississippi research centers with very different missions are collaborating on a slate of projects with the goal of discovering and developing natural products for new applications in health, agriculture and ecological preservation.

The National Center for Natural Products Research and the Center for Water and Wetland Resources are teaming up to work on the conservation and utilization of plants for health and environmental protection, cultivation of medicinal plants and other commercially important botanicals as potential new crops for Mississippi farmers, discovery of natural products that may be used as pesticides and environmental toxicological studies.

Larry Walker, director of the National Center for Natural Products Research, Ikhlas Khan, associate director of NCNPR, and Ray Highsmith, director of the Center for Water and Wetlands Resources.

"This partnership is a significant step forward in developing our long-term goals of establishing major research programs at the Field Station," said Ray Highsmith, director of the UM Field Station and CWWR. "We are particularly interested in programs in which we can interact on a scientific basis, such as the control of invasive species or discovery of new products from plants, animals and microbes, and not just provide space. That is what is so exciting about this partnership."

The CWWR is a relatively new research center at the UM Field Station, established to investigate water as a national resource and its role in ecosystem functions, such as transport of sediments and creation of valuable habitats. The Field Station offers opportunities for research in aquatic and terrestrial ecology. Located 11 miles northeast of the Oxford campus, the 740-acre station lies in a scenic, three-mile-long, V-shaped valley surrounded by wooded hills and teeming with natural springs and seeps.

"We recognize the great value of the resource afforded to us in integrating our work with the expertise and programs of the CWWR, as well as both the laboratory and field facilities," said Larry Walker, NCNPR director. "This partnership gives us avenues to expand our own research and explore new directions with the CWWR."

A division of the university's Research Institute of Pharmaceutical Sciences, NCNPR is the nation's only university research center devoted to improving human health and agricultural productivity through the discovery, development, and commercialization of pharmaceuticals and agrochemicals derived from plants, marine organisms and other natural products.

As part of the research partnership, NCNPR scientists Ikhlas Khan and Rita Moraes have been granted joint appointments with the CWWR. Khan, assistant director of NCNPR, is serving as research professor and coordinator of natural products research at CWWR. Khan also is director of the U.S. Food and Drug Administration partnership at NCNPR that is developing standards for the safety and quality of botanical dietary supplements.

Moraes began cultivating plants of interest to NCNPR scientists at the Field Station about three years ago, and that initial relationship was the seed that led to this much broader relationship. Her research focuses on the potential health benefits and farming opportunities of yacon, a South American tuberous plant, and echinacea (purple coneflower) and its chemical variants.

Immediate plans call for additional technical and scientific staffing at the Field Station as the program builds. In particular, new funding from the USDA Agricultural Research Service for research focused on natural products pesticides/interventions (such as preventing mate recognition) will require a new team composed of an insect toxicologist joined by postdoctoral assistants and chemistry lab technicians.

Long-range plans call for the establishment of a botanical garden at the Field Station.

"It is exciting to have these two centers partnering," said Alice Clark, vice chancellor for research and sponsored programs. "Their complementary expertise will lead to new insights that will improve the health of people and their environments."

For more information on NCNPR, go to <http://www.pharmacy.olemiss.edu/ncnpr/index.html>. For more information on CWWR or the Field Station, go to <http://www.baysprings.olemiss.edu/>.