

# health & the environment

## *Tim Ford Creates Research Excellence*

By Danielle Vayenas



**When speaking with Tim Ford, Ph.D.,** one realizes immediately from his cultured British tones that he is “from away.” As a matter of fact, he hails from a small village southeast of London — Woldingham in Surrey, population 2,326. That was just one of the factors that drew this eminent, Harvard-educated research scientist to make his home here in Maine. Another was the opportunity to be a driving force in establishing UNE as a world-class research institution.

**I**n June, Tim Ford joined UNE as its first vice president for research and dean of graduate studies. He is working with graduate programs across all of the colleges and he has offices on both campuses, with his Biddeford office located in the newly-built Pickus Center for Biomedical Research. “As this is a brand-new position, it affords me the exciting opportunity to help nurture and grow UNE’s research and graduate programs,” Ford said.

As part of the University’s strategic plan, Ford will work to create centers of research excellence, building on UNE’s strengths in four areas, starting with marine and environmental science, a natural fit for UNE. Other areas include neuroscience with a focus on pain management, clinical research, and the humanities. With the new College of Pharmacy, pharmaceutical research will soon be an active area of study at UNE, as well. Creating centers for research excellence is a strategy that will help attract major program project and center funding, as the National Science Foundation (NSF) and National Institutes of Health (NIH) are encouraging such collaborative efforts. The four focus areas are being finalized now and Ford anticipates they will be formally established in the next several months. They will create undergraduate research opportunities and potential graduate programs.

One of Ford’s research ideas involves applying to the NIH’s Center of Biomedical Research Excellence (COBRE) program to address health disparities among poor, rural communities, with a focus on translational, community-based participatory research. He said, “Much like my research work in Montana, I would like to work with Maine’s American Indian tribes on projects that contribute to reduction in health disparities. As health science programs are an area of strength at UNE, it makes perfect sense.” Ford looks forward to exploring other areas of research and scholarship excellence as he becomes increasingly familiar with the UNE community.

Ford earned his doctoral degree from the University of Wales in Aquatic Microbiology, working on pristine river systems in Wales, the Alaskan Arctic and the boreal forests of Quebec. In 1985, he came to the United States as a post-doctoral researcher in environmental microbiology at Harvard University. He joined the faculty of the Harvard School of Public Health (HSPH) in the late 1980s, and both founded and directed its Program in Water and Health. Ford remains an adjunct associate professor at HSPH. Tiring of the four-hour commute each



Tim Ford's research has taken him to areas as diverse as India, to study the Ganges River, and Montana, to study the water systems of Native American communities such as the Crow.

day from Rockport, Mass. to Boston, and looking to explore other opportunities, Ford subsequently took a position as professor and head of the Department of Microbiology at Montana State University. Beginning in 2004, he directed the Montana INBRE Program (IDEA Network of Biomedical Research Excellence), which focuses on increasing the biomedical research capacity of Montana by building research infrastructure, supporting faculty and student research, and fostering a state-wide collaborative network.

Ford's decision to join UNE aligned with his strong interest in environmental health research and his experience working with graduate students. Ford has advised some 60 masters, doctoral and postdoctoral students in his career thus far, and still works with three in Montana.

His background in environmental microbiology led to Ford's first research project in environmental health studying the fate and transport of toxic metals in a major Mexican lake in the late 1980s. This early work led to a major project on the interaction between microbes and pollutants in New Bedford Harbor, Mass., an EPA-designated Superfund toxic waste site, and to international work on water and health, primarily in Russia and India.

In Montana, Ford continues to be involved in active NIH- and EPA-funded research on American Indian reservations, studying the communities' exposure to contaminants, primarily in rivers and streams. He is proud that some of that work has been used to help obtain substantial federal funding to upgrade one of the reservation's wastewater treatment plants. Working with the Native American groups over the past several years, Ford has seen the effects of poor water treatment, unemployment and the health disparities of a poor, rural environment, and yet, he said, "The people in these communities are inspirational — talking to the elders, with their history and their hopes for the future of their tribes, there is the incredible desire to improve conditions and bring back a sense of purpose."

Ford has also continued his international work, and has been conducting epidemiological studies researching pollution in the Ganges River with Montana research scientist Steve Hamner (some of whose photographs are shown in this article) for the past several years. They worked with scientists from the Sankat Mochan Foundation, led by Veer Bhadra Mishra, who has been recognized by the United Nations and *Time* magazine as a hero of the planet. Containing everything from untreated sewage and cremated remains to toxic chemicals, Ford said

in an article in *Science Daily*, "The Ganges is considered a goddess, but it has become a soup of pollution." He stated that people wash their laundry in the Ganges and bathe in the water. Ford and Hamner's more recent work has focused on isolating previously uncharacterized pathogens from the Ganges River, pathogens that could contribute to emerging disease risks. The research has been corroborated by Indian scientists, and reviewed by the Supreme Court of India this past spring, causing some optimism. Ford said, "Hopefully this research will demonstrate the high level of disease-causing pathogens in the Ganges and provide the necessary information for legislators to direct resources to improve wastewater treatment."

While at UNE, Ford plans to continue his research on health and the environment both in the U.S. and internationally, and he will encourage faculty and student exchange with institutions such as Nanjing University in China. He said India and China, in particular, are enthusiastic about sending students to the U.S. For the past several years, Ford has worked with colleagues at Nanjing University and he returned in October, representing the international community as the Academic Chair for their second international conference on environmental health. In the near future, Ford hopes to research the severely polluted Yangtze River, or the issue of air pollution in China. He said, "If we don't look at environmental problems in China, there's no point in addressing them here, because what happens over there ends up here." Ford sees a parallel with all of his work, whether in India or Montana, in that rural areas and slums are the last places to get sanitation or clean, running water and that lack of sanitation leads to disease.

Ford is excited to be at UNE; he loves the campus and the enthusiasm, and he hopes to build on existing strengths to help "bring UNE national and international recognition as an attractive place to conduct research."

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