

# WHY SUPPORT RESEARCH AT THE NATIONAL INSTITUTES OF HEALTH?

## FOR STARTERS, SO WE CAN PREVENT BIRTH DEFECTS CAUSED BY POLLUTION.

The National Institutes of Health (NIH) funds research that holds the promise of improving human health and saving lives. Boston University receives more than \$203.7 million annually in competitively awarded research grants from the NIH.

**■ SUPERFUND TO THE RESCUE—CLEANING UP CONTAMINANTS.** The Superfund Research Program, one of Boston University's longest-running federally funded programs, focuses on the results of exposure to environmentally common hazardous substances. The interdisciplinary program is based at the BU School of Public Health and includes research into the risks of birth defects, cancer, brain development, and premature bone aging tied to drinking water and other sources of environmental pollutants. Researchers work hand in hand with residents throughout Massachusetts to identify and solve environmental health problems. It's a healthy relationship generously supported by the National Institute of Environmental Health Sciences.

**■ MAKING TB THE NEXT POLIO.** One-third of the world's population has tested positive for tuberculosis, but only 5 percent of those move from a latent to an active infection. Still, that amounts to more than nine million new cases and three million deaths annually, making it one of the greatest public health threats worldwide. Supported by a major grant from the NIH, a team of researchers led by professor Jerrold Ellner in the School of Medicine is searching for biological clues as to what triggers the active infections. If they find them, TB could be like polio or smallpox: preventable, easily treated, and, perhaps, eliminated altogether. And that's nothing to cough at.

**■ THINKING INSIDE THE BOX TO BATTLE BRAIN DISORDERS.** The work of Xue Han, recipient of an NIH Director's New Innovator Award, is truly extraordinary. The professor of biomedical engineering has developed a new method that may someday allow doctors to deliver medicine precisely to the brain of a Parkinson's patient without having to stick a needle in it. Drug molecules are wrapped in a DNA cage so that healthy cells that might otherwise latch onto the drugs ignore them, seeing only a box. The cages are designed so that a small jolt of energy from a beam of light will break them, allowing doctors to release the medicine precisely where it is needed and eliminating toxic side effects. Han's work is lighting the way to a new era of treatments for us all.

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**We hope you'll give strong consideration to supporting research funding for the NIH. If you have any questions or would like to discuss further the role that NIH research plays in our daily lives, please visit [bu.edu/federal](http://bu.edu/federal).**



WHICH ENVIRONMENTAL CONTAMINANTS ARE HAZARDOUS TO THE COMMONWEALTH'S PUBLIC HEALTH? **BOSTON UNIVERSITY** IS INVESTIGATING.