

Hope Center equips scientists tackling neurological diseases

"If you build it, they will come," says Director Mark P. Goldberg of the Hope Center for Neurological Disorders, taking a line from the film *Field of Dreams*. And come they have, perhaps even beyond Goldberg's dreams.

Some 400 scientists from 16 University departments now collaborate and share research results and facilities to speed potential treatments and cures for widespread neurological disorders—ALS (amyotrophic lateral sclerosis or Lou Gehrig's disease), Alzheimer's and Parkinson's diseases, cerebral palsy, spinal cord injuries, stroke, and more—thanks to the newfound lab cluster established just three years ago.

The Hope Center—which brings together scientists from the schools of Medicine, Engineering, and Arts & Sciences—strives to fast-track neurological research projects too timely to idle while waiting for federal funding, which often takes two or more years, says Goldberg, professor of neurology and of anatomy and neurobiology.

"Most scientists who have discovered a new gene or protein don't have the expertise or the funding to investigate using animal models," Goldberg says. "So a big part of what we are doing is to provide the animal disease models and the tools that they need to find new therapies."

The collaborative research model comes from the conviction that many neurological disorders share common molecular mechanisms of nerve-cell degeneration, according to Goldberg. Thus, fundamental discoveries related to one disease can quickly lead to treatment in others.

The National Institutes of Health (NIH) agrees. In fall 2006, the NIH awarded the Washington University neuroscience community and the Hope Center a five-year \$8.3 million grant for the development of core facilities to support translational neuroscience research. Investigators in the Hope Center also were awarded a \$6 million grant to fund an innovative, multidisciplinary stroke research program. They supplement significant NIH grants to the center's individual investigators.

"Washington University has long been an international leader in nervous system science," Goldberg says, "so this is the ideal setting for a new approach to brain diseases."

The Hope Center grew out of a collaboration between the School of Medicine and Hope Happens, founded by the late Christopher Wells Hobler, who, in 2001 at age 35, was diagnosed with ALS, an incurable neurodegenerative disorder that also had attacked his grandfather. Before he died, Hobler, the father of three, started a foundation to find a cure.

A member of the Hope Happens board of directors, David M. Holtzman, head of the Department of Neurology and the Andrew B. and Gretchen P. Jones Professor of Neurology, recently won the 2007 MetLife Foundation Award for Medical Research in Alzheimer's disease. His study of the buildup of amyloid plaques in the brain, a hallmark of Alzheimer's, could lead to earlier treatment, and exemplifies the sort of breakthrough research that is carried out at the Hope Center, as well as through many interactions at the Alzheimer's Disease Research Center.

One of Holtzman's projects seeks new methods of identifying Alzheimer's patients before dementia occurs.

Says Goldberg: "We are working together to look at diseases that affect millions of Americans" —some 50 million with permanent neurological disabilities that limit them, and with no effective treatments available.

Discoveries by Hope Center faculty already are leading to clinical trials of new therapies for patients with ALS, and Parkinson's and Alzheimer's diseases.



Mark P. Goldberg



David M. Holtzman

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