

“Unlocking the Secrets of the Brain:
Breaking Ground for the Neurosciences Research Building”

Remarks of Michael A. McRobbie

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Campus Center Theatre

IUPUI

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1. UNLOCKING THE SECRETS OF THE BRAIN

In *A Life Shaken*, his book about his struggle with Parkinson’s Disease, journalist Joel Havemann writes of the human brain that: “what seems astonishing is that a mere three-pound object, made of the same atoms that constitute everything else under the sun, is capable of directing virtually everything that humans have done: flying to the moon and hitting seventy home runs, writing Hamlet and building the Taj Mahal — even unlocking the secrets of the brain itself.”¹

In the building for which we break ground today, investigators will continue the work of “unlocking the secrets of the brain.”

Here, researchers will seek the causes and cures for pain, Alzheimer’s disease, epilepsy, stroke, spinal cord injury, addiction, and other neurological diseases and disorders.

¹ Joel Havemann, *A life shaken: my encounter with Parkinson's disease*, (Johns Hopkins University Press, 2002).

As they unlock the brain's secrets, practical applications will result that will improve—and save—human lives.

2. A RELATIVELY YOUNG DISCIPLINE

While the study of the human brain is as old as science itself, neuroscience as a discipline is relatively young. By way of example, the Society for Neuroscience, which today is the world's leading association of scientists and physicians who study the brain and nervous system, was organized only 43 years ago, in 1969. Neuroscience barely existed as a separate discipline at the time. The field has, of course, undergone tremendous growth in recent decades.

Historically, the scientists who devoted themselves to developing a better understanding of the nervous system came from a variety of scientific disciplines, including medicine, biology, psychology, physics, chemistry, mathematics, and many others.

3. INTERDISCIPLINARY SPIRIT

That same interdisciplinary spirit persists today, and it will be fully evidenced in the Neuroscience Research Building. This facility will house psychiatrists, neurologists, neurosurgeons, rehabilitation specialists, radiologists, and pathologists.

Here, scientists will apply their broad expertise, working not along traditional departmental lines, but in teams whose focus is on a particular disease or disorder. Research teams will investigate addictive disorders, neurotrauma, epilepsy, neurodevelopmental disorders such as autism, Alzheimer's and other dementias, anxiety and mood disorders, and pain.

The Indiana University School of Medicine has a history of excellence in neurosciences research, and this approach will solidify and enhance Indiana University's position as a leader in research in the neurosciences, and we believe it will serve as a national model.

4. THE IMPACT OF EXCELLENT AND INNOVATIVE FACILITIES

Of course, Indiana University's leadership in neurosciences research must be built on a foundation of outstanding facilities that allow our faculty and students to conduct groundbreaking research.

The Neurosciences Research Building will be just such a facility. It will also be part of an extraordinary neurosciences campus that is being developed along 16th Street.

In just over two weeks, we will celebrate the opening of the IU Health Neuroscience Center, which will house the offices and outpatient care and research activities of clinical faculty in the psychiatry, neurology, and neurosurgery departments of the IU School of Medicine.

Together, the Neuroscience Research Building and the IU Health Neuroscience Center Building will collectively represent one of the largest collections of neuroscience researchers and clinicians in the country.

You'll hear more in a moment from Craig Brater, Dean of the School of Medicine, from Dan Evans, the President and CEO of IU Health, and from Nicholas M. Barbaro, the first medical director of the new IU Health Neuroscience Center, about the vital collaboration between IU and IU Health, about the synergies that will be created by the new research building, and about the myriad possibilities it will create.

But let me say a few words about the enormous impact of the organizations they represent: the IU School of Medicine and IU Health.

The IU School of Medicine is, of course, the nation's second-largest medical school and a global leader in medical education and research. More than half of Indiana's physicians are trained in the school. The School of Medicine has more than \$220 million in external funding, the majority of which comes from the National Institutes of Health. This represents approximately 70% of total extramural funding for Indiana University.

The School of Medicine has also forged a dynamic partnership with IU Health, one of the largest healthcare systems in the United States. IU Health includes Indiana's most comprehensive academic health center, a center that was recently named to the *U.S. News & World Report* 2012-2013 Best Hospitals Honor Roll. This is the magazine's highest national distinction, reserved for the top medical centers in the nation.

A recent study estimated that the economic impact of all IU-related health enterprises, which includes the entire IU Health system, its network of hospitals and providers and the Academic Health Center, and the IU School of Medicine and its hospital affiliations, is more than 9 billion dollars annually. These health-related enterprises also constitute a major source of employment in the state, as they are responsible for 75,455 jobs.

The building for which we break ground today will help attract the nation's leading neuroscience physicians. It will also provide critical, modern laboratory and research space for a number of units, including two of IU's key neuroscience institutes.

The Neuroscience Research Building will house the Institute of Psychiatric Research, an integral part of the School of Medicine's Department of Psychiatry—and one of only a few free-standing Institutes in the United States devoted to the study of mental disorders. For 50 years, the institute's research faculty, staff, post-doctoral fellow, and graduate and professional students have worked to understand the neurobiological origins of and develop treatment for psychiatric disorders such as addictions,

schizophrenia, anxiety, mood disorders, autism, Alzheimer's disease, and sleep disturbances resulting from these disorders.

The Neurosciences Research Building will also house a portion of the Stark Neuroscience Research Institute. Also an integral part of the School of Medicine, the Stark Institute is home to several highly productive neuroscience-research groups, including two internationally recognized research centers funded by the National Institutes of Health.

Like the discipline of neuroscience, laboratories themselves are also relatively recent innovations.

Architect Michael J. Crosbie notes that “architecture specifically designed for scientific investigation has been around just over a century—the life of a mayfly when one considers such building types as libraries, churches, and schools. Laboratories are an invention of our culture—a modern, scientific society—that creates special equipment, space, and accommodation for activities that have grown increasingly specialized... over the past decades.”²

While the neuroscientists who work in this building certainly do require a specialized facility, the Neuroscience Research Building has also been designed to accommodate the tremendous breadth of expertise of the scientists who will work here. It has been designed with flexibility in mind and will easily be able to accommodate new technologies and the changing needs of researchers.

² Michael J. Crosbie, *Architecture For Science*, (Images Publishing, 2004), 6.

5. CONCLUSION

Most importantly, the work that occurs in this building will enhance the quality of life for those suffering from neurological diseases and disorders, allowing them to lead more functional, more autonomous, and more satisfying lives.

The Neuroscience Research Building represents limitless potential for our research faculty as they work to unlock the secrets of the most complex structure in the known universe—the human central nervous system. We very much look forward to witnessing the great progress in research and the treatments for neurological diseases and disorders that it will surely help to generate.