

[The Department of Neurosciences](#) at MUSC was created in November 2004, by fusing the existing Departments of Neurology, Neurosurgery, and Physiology / Neuroscience. With the merger of two clinical departments with one basic research department, this became the only neuroscience department that places researchers and clinicians at each others side in an effort to transform the promise of cutting edge research into the reality of improved human health. The department is co-chaired by [Dr. Sunil Patel](#) and [Dr. Peter Kalivas](#) and includes 48 full-time clinical and basic science faculty members with primary appointments plus 7 individuals who are jointly appointed with the Departments of Psychiatry and Surgery. The department ranks 9th in the U.S. and 1st in the southeastern region in terms of NIH funding (fiscal year 2005, most recent data published). In fiscal year 2006 the departmental faculty won more than 120 extramural grants and contracts totaling almost \$14 million in total costs from the NIH, the National Science Foundation, the Department of Veterans Affairs, as well as other federal sponsors, private foundations, and industry. The Department of Neuroscience provides leadership for a number of multidisciplinary programs and centers at MUSC, including [the Center on Aging](#), [the Murray Center for Research on Parkinson's Disease and Related Disorders](#), [the Neuroscience Institute](#), [the Neurobiology of Addictions Research Center](#), and [the Multiple Sclerosis Center](#).

Neuroscience Institute

The Neuroscience Institute is the center of cutting edge neuroscience research, education and treatment in South Carolina. The Institute concentrates on stroke, spinal cord injury, and neurodevelopmental processes. In addition, the Institute supports innovative research in Alzheimer's and Parkinson's disease.

Center on Aging

MUSC's annual extramural funding related to aging and neurodegeneration has increased from \$9 million in fiscal year 2001 to almost \$27 million in Fiscal Year 2006, supporting a spectrum of basic, translational, clinical, health services, and community-based programs. The research programs are focused on movement disorders, stroke, and Alzheimer's disease. Other programs are in the Biology of Aging, the Outreach and Education Program, and the Clinical Geriatrics Program.

Neurobiology of Addiction Research Center

NARC is organized to efficiently determine the neurobiological basis of cocaine and heroin relapse and identify novel pharmacological treatments for drug addicts. From NARC research, treatments and compounds have emerged that appear to reverse relapse in an animal model, and one such compound, N-acetylcysteine, has moved into a NARC-sponsored clinical trial in cocaine addicts.

Featured Researchers

[Dr. Mark S. Kindy](#) is the Director of the Neuroscience Institute at MUSC and holds the Admiral Pihl Endowed Chair for the Neuroscience Institute. Dr. Kindy's research focuses on ischemic injury and the role of the RAGE receptor in amyloid diseases.

[Dr. Gary Aston-Jones](#) holds the Murray Chair of Excellence in Neuroscience. Dr. Aston-Jones' research interests are in drug abuse, sleep and waking, and affective disorders.

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