Pitt creates behavioral neuroscience dept.

The basic study of human behavior has led to an offshoot of the psychology discipline which looks not at behavior per se, but at how the cell structure of the brain reacts to changes in behavior.

This latest focus of study at Pitt falls under the purview of the new behavioral neuroscience department established in the Faculty of Arts and Sciences on Oct. 20. Chairperson Edward Stricker said the department is one of the few of its kind in the country, and that because of the quality of its faculty, it should gain national prominence in the field.

Stricker said behavioral neuroscience has evolved from the biological or physiological psychology of the 1960s. Psychologists of that time, he said, "were thinking in biological terms as to why the animal was doing what it was doing." But in behavioral neuroscience, a field which Stricker said has been evolving rapidly over the last 15 years, "We're now going inside the animal so that its brain — how it reacts, how it changes in response to behavioral demands — has become the major focus of attention."

Behavioral neuroscientists, therefore, attempt to determine "exactly what is changing in the brain to make a certain behavior occur." Individual brain cells and networks of cells are studied.

Stricker said that behavioral neuroscience's break from psychology at Pitt (it formerly was a degree-granting program within the psychology department) was necessary from an ideological standpoint. The new field places emphasis on biology and not the traditional studies of psychology, he said. Instead of observing behavior as psychologists, behavioral neuroscientists observe the brain. "To do this well requires extensive training in the techniques and facts of contemporary biology and for that to be added to the training experience, something else had to be eliminated. Usually, that something was training in traditional psychology," Stricker said.

"This change in the substance, the style, and even the language of science has estranged modern behavioral neuroscientists from their cousins in psychology, and the gap grows wider with each new advance in technology."

Those advances carry over into the classroom as well, he said. "In fact, every time a course in behavioral neuroscience is taught, it's 25 percent updated material from last year. That's the sign of a healthy, mature field — an incredibly high introduction of new information." Stricker said the psychology department has been "very supportive" of the behavioral neuroscience program, never stifling it along its way to becoming a separate department. "In fact, we could not have gotten here today if it wasn't for the broad-mindedness of those in the psychology department," he said.

Former psychology faculty members who have changed their primary appointments to the new department include Stricker, Anthony Grace, David Wood, Theodore Berger, Michael Zigmond, Michael Ariel, Michael Vollmer and German Barrionuevo. Faculty with secondary appointments in the department include Anthony Caggiula, psychology; John Fernstrom, psychiatry; William DeGroat, pharmacology; Oscar Reinmuth, neurology, and Judy Cameron, psychiatry.

Between them, department faculty members secure approximately $1.3 million in annual research grants for a variety of projects, some dating back as far as 1971. "Our faculty is very competitive in getting grants and awards and the amount of money they get is an indication of how well accepted our work has been by others," Stricker said.

One of those research grants involves five faculty members studying "neural plasticity" that could help lead to a better understanding of Parkinson's disease — the slow and progressive degeneration of neurons. "Neural plasticity" refers to how the brain changes in response to damage and environmental demands. In their ongoing study, Pitt behavioral neuroscientists have discovered that in laboratory rats — their brains partially destroyed — surviving neurons in the brain can pick up the functions of those that were destroyed. The researchers are attempting to identify exactly how and why this occurs.

Behavioral neuroscience makes use of specialists from many different fields including pharmacology, psychiatry, biology, physiology and medicine.

Stricker said plans call for six more faculty members within the next three years in joint appointments with the department of psychiatry.

The new department offers B.S., M.S. and Ph.D. degrees. In a Planning and Resource Management System (PRMS) document, Stricker noted that creation of the department means expanded undergraduate course offerings and enlarged training facilities in the Faculty of Arts and Sciences for graduate students and postdoctoral fellows in neuroscience, allowing for collaborative research among a variety of laboratories within Pitt's Center for Neuroscience, established in 1984. *—Patric Dolan*