Morehouse College senior biology major Obaidullah Aseem first learned about the Atlanta Center for Behavioral Neuroscience (CBN) as a freshman in an introductory biology class. His professor, Larry Blumer, associate professor of biology, suggested that Aseem work with him on a research project to examine the hormonal changes associated with social stress in a convict cichlid, a species of tropical fish. The following summer, Aseem collected behavioral data on interactions between the fish, working in Blumer’s laboratory at Morehouse and another CBN laboratory at Georgia State University (GSU). After three years of research, Aseem presented a poster at a professional conference and co-wrote a scholarly paper.

Last summer, Aseem completed an internship at the Fred Hutchinson Cancer Research Center in Seattle, Wash., where he looked at the behavioral changes in chemotherapy patients who took the painkiller oxycodone with the herbal supplement St. John’s Wort. He continues to work with Blumer and hopes to attend medical school, possibly focusing on neuroscience.

Aseem could be a poster child for CBN, whose goal is to increase minority participation in the field of neuroscience. Neuroscience, the study of the brain, is one of the fastest growing scientific disciplines, involving scientists from many fields, including biology, psychology, medicine, anthropology and mathematics. But like many science fields, neuroscience has historically suffered from a lack of diversity, with less than 1 percent of doctorates awarded annually in neuroscience going to African Americans. The problem has stymied discovery for an interdisciplinary field whose complex problems require a range of analytical perspectives.

J.K. Haynes ’64, dean of the Division of Science and Mathematics at Morehouse who also serves on CBN’s executive committee, believes few African Americans have traditionally pursued neuroscience because of the lack of role models in the field. At Morehouse, however, the situation is changing...thanks to CBN.

Over the last several years, CBN has worked with Morehouse to develop an interdisciplinary program in neuroscience. The effort recently reached a watershed with the appointment of Kathy Stansbury, a behavioral neuroscientist, to the psychology department who completes the “critical mass” of faculty to move the neuroscience program forward.

“CBN has boosted our research programs and opened new opportunities for our students to conduct research at other institutions,” said Haynes.

It gave Aseem the opportunity to discover his love for research. “The best part of this experience has been the opportunity to work collaboratively with scientists at other institutions,” said the Kabul, Afghanistan, native. “The research really got me going and focused on studying neuroscience.”

CBN’s emphasis on collaboration has brought Morehouse faculty together with investigators at other institutions, which has enriched both parties’ research programs and teaching.
“Research has functions other than advancing the field,” explained Blumer. “It provides an opportunity for us to train students and show them what science does. CBN has helped get more students involved in research at Morehouse.”

Through programs such as Behavioral Research Advancements in Neuroscience (BRAIN), which includes a 13-week research immersion in a CBN laboratory, Blumer and his colleagues have actively involved dozens of students in their research, several of whom, like Aseem, have co-authored research papers, helped to develop laboratory protocols and gone on to graduate science programs. Student participation in research serves not only a valuable educational purpose, but helps faculty develop their own research programs.

“Before CBN, I was working in isolation for the most part in a lab one-third the size of my current one,” said Morehouse psychologist Duane Jackson, who studies the neurobiology of organized warfare in termites. “My research would not be accelerating the way it is today without the CBN. Ironically, with the research I’m doing now, I need even more students.”

In addition to supporting faculty with the purchase of laboratory equipment, CBN works with Morehouse to develop neuroscience courses. A unique upper-level neuroscience course at Morehouse is led by CBN faculty member Peter MacLeish, director of the Morehouse School of Medicine Neuroscience Institute, and two retired Harvard Medical School professors, David Potter and Edwin Furshpan, who pioneered the neuroscience discipline in the 1950s. Each spring, the Harvard scientists fly down weekly from Boston to teach the three-credit course, which is open to all AUC undergraduates. CBN also recently launched a seminar series at the AUC featuring CBN scientists who discuss their research and opportunities for graduate study in neuroscience.

CBN, a National Science Foundation (NSF) Science and Technology Center, works with seven other institutional partners besides Morehouse. They are Spelman College, Morris Brown College, Clark Atlanta University, Morehouse School of Medicine, GSU, Emory University and the Georgia Institute of Technology. Begun in 1999, CBN has attracted more than $50 million in support from NSF and the Georgia Research Alliance, a public-private partnership among government, academia and industry. Today, CBN is a community of more than 90 neuroscientists—including five Morehouse faculty members—and is the largest academic research center in the world for the study of behavioral neuroscience.

CBN recently entered the sixth year of its 10-year grant from NSF. Because the Center must become self-sufficient after November 2009, it is currently working to develop new funding sources, including industry partnerships and private support. CBN director Elliott Albers of Georgia State University is hopeful that the strength of both the Center’s research and education programs will attract new support.

“Our goal is to become a national model for collaborative research and innovative education programs that recruit and retain underrepresented minorities into neuroscience,” said Albers. “Working closely with our institutional partners, we believe that we can change the face of neuroscience.”

For neuroscience research at Morehouse to be successful, Haynes said more undergraduates must have research experiences. He believes a clear indicator of the program’s success will be growth in the number of students who pursue graduate programs in neuroscience or related disciplines.

“Students don’t have compelling research experiences early in their educational careers to inspire interest in science,” he explained. “We’re trying to make Morehouse much more research-oriented, and neuroscience is one of the programs leading the way.”

Poul Olson is the Education and Knowledge Transfer Partnership Coordinator at the Center for Behavioral Neuroscience at Georgia State University.