The brain is still in some ways like deep space: it’s easy to look at it, but very hard to look into and see what is really going on. We need tools, like pulses of light that silence brain cell activity for milliseconds, long enough to get a bead on the action of superfast neural pathways, a technology that Xue Han, a College of Engineering assistant professor, helped pioneer. Now, thanks to the Peter Paul Career Development Professor Program, Han will have the resources to develop more and better tools.

Along with Colin Fisher, a School of Management assistant professor of organizational behavior, and Johannes Schmieder, a College of Arts & Sciences assistant professor of economics, Han has been named one of this year’s Peter Paul Professors. The award gives junior faculty members $40,000 for three years to support their research.

The awards are named for Peter Paul (GSM’71), a Boston University trustee and president of the mortgage banking company Paul Financial, LLC, who gave the University $1.5 million in 2006 to fund 10 professorships over five years, and has since increased his overall commitment to the program to $2.5 million. Deans and department heads nominate candidates, and President Robert A. Brown and Provost Jean Morrison select the awardees.

The awards, which go to professors with no more than two years of teaching experience and no prior professorship, are meant to boost junior faculty at a time in their academic careers when they may struggle to find funding for their research.

The award is especially timely for Fisher, who is launching a lab study on how groups make decisions. The award will enable him to hire an assistant to help with the study’s time-consuming administration.

Schmieder will also be able to hire a research assistant for his study of the costs and benefits of longer and more generous unemployment benefits during a recession. When Schmieder was nominated for the award, he was told not to get his hopes up, because no one in the economics department had ever won the award.

Now someone has. “I was very surprised,” he says. “It’s a tremendous help.”

Han, who leads the Neuroengineering Lab, works on the light pulse technologies that make it possible to study how the brain’s ultrafast neural pathways work. Still, she says, more and better tools are needed.

“We haven’t really thought of the brain at the neural circuitry level, but on the molecular level,” says Han, who also won a 2011 Sloan Research Fellowship. “How can we approach the brain at a new level? That question may lead to some new ideas on how to treat the brain. That’s why we need new technologies.”

Peter Paul Fellowships Support Junior Faculty Research

Three professors awarded $40,000 annually for three years

Johannes Schmieder studies the pros and cons of unemployment benefits.

Colin Fisher looks at how groups work together to make decisions.

Xue Han silences brain cells for milliseconds with pulses of light.