

I Am Not Crazy...I Am Simply Neuro-Obsessed! Insight into the Neuroscience Major

Natalie Kukulka and Ashley Reich

Department of Biology
Lake Forest College
Lake Forest, Illinois 60045



Menzi Mhlanga '11, Madhavi Senagolage '12 and Pete Sullivan '12 (left to right) studying the human brain in a core class called Molecular Neuroscience.

About three pounds in weight. One hundred billion nerve cells. Trillions of supporting cells. More connections than there are stars in the universe. The most complex organ on Earth. This is the phenomenon commonly known as the human brain. To some, "the mind is both a beautiful and fearful entity which defines us as humans" (Megan Granger '14). To others, understanding the brain may signify "a gateway into a world of unprecedented possibilities and a pathway into a state of incomprehensible advancement" (Sohail Khan '14). One thing is certain: the brain is still a mystery to us all, but it is also a doorway to unimaginable opportunities. The curiosity to discover the unknown and learn about ourselves is what drives the study of the nervous system: neuroscience.

Thanks to advancements in technology and rapid progression in neuroscience, more information about neurological diseases is constantly being uncovered. This only increases the need for programs and specialists both passionate and highly educated about the topic. In the spring of 2010, Lake Forest College added a new addition to their repertoire of studies. Students interested in combining the fields of biology, chemistry, psychology, philosophy, and computer science now have the opportunity to major or minor in one of the fastest growing areas in the sciences.

An interest in studying neuroscience is nothing new to the students and faculty of Lake Forest College, and adding the major was a demand that needed to be met. In the past, the only way students could come close to studying neuroscience was by double majoring in biology and psychology. Now, they can combine such interests into the newly created neuroscience major. Surprisingly, before the spring semester was finished, twenty students eagerly declared neuroscience as a major or minor.

"I am narcissistic, I am interested in myself. I walked out into the world one day and said 'Oh! I exist!'" shares Dr. Robert Glassman, professor of psychology. Revelations like these are what inspired Dr. Glassman to

start studying neuroscience in the first place, and begin the twenty-year process of establishing the neuroscience major at Lake Forest College.

Excitement about this major is spreading rapidly among students both locally and nationwide. There is a plethora of ways that aspiring neuroscientists can become involved in the neuroscience community. For instance, students can take the biology inquiry class, Deadly Shapes, Hostage Brain with Dr. Shubhik DebBurman, the chair of the neuroscience program at Lake Forest College, and gain hands-on experience in examining real human brains! In the anatomy laboratory, students can look at the specific structures of brain that are affected by neurodegenerative diseases like Parkinson's disease, Huntington's disease and Alzheimer's disease. Aside from taking fascinating classes, the eager students decided to take it one step further. With Dr. DebBurman's guidance, students developed a new organization, Synapse. "The neuroscience program teaches you courses that help you understand and make academic connections, and increases intellectual capacity to use this knowledge," says Dr. DebBurman. "The outreach the students do through the organization Synapse, takes it to another level." In other words, Synapse not only unifies students with similar passions and interests, but it also inspires them to take action. The official mission that Synapse strives for, is to: "Provide students with access to experts in the field and organize outreach programs and other educational opportunities for both its members and the Lake Forest College community, with an emphasis on connecting with resources of Chicago."

However, Synapse offers students much more. The development of Synapse has brought together students from different majors who share a love of neuroscience, and who may not have had the chance to work together otherwise. Synapse currently sponsors Brain Awareness Week, seven days dedicated to reaching out to the Lake Forest community and spreading awareness of the most magnificent organ in the human body. Nevertheless, the next step is to take this knowledge outside the premises of the college and into the real world.

Eventually, young neuroscientists question how they will utilize their education and their freshly gained degree to its full potential, consequently securing them a productive future. Menzi Mhlanga '11, who plans on pursuing a career in medical psychology, believes that thanks to his neuroscience major his "outlook will be much more wholesome going into this field" and will allow him to excel beyond his peers. Others, like alumni Derek Atchley '10, can now speak from their own experience, as opposed to future predictions and hopeful outcomes. As the first, and thus far the only senior who has graduated from Lake Forest College with a neuroscience minor, Atchley '10 believes that "the neuroscience program was very helpful in giving [him] the confidence and knowledge of the subject to pursue further studies in neuroscience at the graduate level." Due to the fact that Lake Forest College's neuroscience program is a combination of multiple subjects, it forces students to step outside of their comfort zones and learn the material from different angles and perspectives. It is a unique experience, which opens doors of indefinable possibilities after graduation, predominantly in research and medicine oriented careers that can be only limited by the student's own ambitions.

Neuroscience is one of the most modern and highly interdisciplinary scientific careers, which truly encompasses something for every budding neuroscientist. Neuroscience majors can also consider a career in medicine (MD/DVM), academia, pharmaceuticals, biotechnology, law, science writing, education, physical therapy, optometry, dentistry, prosthetics, marketing and sales, and many more. Yet, you might still ask, why is there so much interest in this field? What drives people to study the nervous system? One analogy would be that neuroscience is an enormous puzzle comprised of millions of pieces of individual issues and mysteries to solve. Dr. DebBurman believes the answer may lie in "the fact that our brain controls our behavior in every possible way you could imagine, making it an amazingly curious problem to understand. One of them is to understand human culture and what makes us uniquely human, for instance our consciousness...there must be a brain explanation for that!"

Overall, there is still very little known about the brain, but by studying it we get one step closer to connecting some of those individual puzzle pieces. Modern research, scientific conferences, publications, college symposia, and community educational outreaches are all critical to sharing knowledge about neuroscience. Nevertheless, if there is no one passionate, or simply curious enough to share it with, then the effort is useless. Whether or not you do become a neuroscience major or minor, we simply ask, how famished is your curiosity, and what are you going to do about it?

Note: Eukaryon is published by students at Lake Forest College, who are solely responsible for its content. The views expressed in Eukaryon do not necessarily reflect those of the College. Articles published within Eukaryon should not be cited in bibliographies. Material contained herein should be treated as personal communication and should be cited as such only with the consent of the author.