



## Congratulations to the Neuroscience Class of 2008

Carmen Avendano	Ashford Kroll
Karen Baker	Windy Lynch
Daniel Bernal	Jennifer Plum
John Bezdek	Jonathan Popko
Mark Bluemke	Caleb Schmidt
Stephanie Buchanan	Jocelyn Schneider
Miriam Chun	Laura Sorcic
Amanda Dickson	Erin Souhan
Wayne Dodd	William Tanberg
Mary-Ann Em	Eric Thorsen
Rebecca Frino	Joseph Tossey
Jonathan Hall	Nils Wubbels
Patrick Johnson	Natalie Zlebnik
Shane Johnson	

## Alumni News

**Matthew Dufek '02** is a 3rd year Graduate Student at the University of North Carolina – Chapel Hill, School of Pharmacy in the Department of Pharmaceutics. **He writes:** “I returned to graduate school in the Fall of 2006 at the University of North Carolina at Chapel Hill, NC in order to complete my Ph. D in Pharmaceutics. Additionally my wife (Bobbi Dufek, U of M Alumni 2003) gave birth to our daughter Sophia Grace Dufek who was born

February 28, 2008 in Chapel Hill, North Carolina.”

**Megahn Beck '04** has joined the ranks of the gainfully employed. **She writes:** After graduating from CBS with my BS in Neuroscience I traveled through Europe, Africa and Alaska for a year. During my year off I applied for admission into several Genetic Counseling programs, interviewed and chose to accept an offer to attend the Genetic Counseling program at the University of Pittsburgh, Graduate School of Public Health in the Department of Human Genetics. The program was 2 years and after earning my Master of Science in Genetic Counseling (April, 2007) I moved to Northern California to join the Genetics team at Kaiser Permanente, San Jose as a Genetic Counselor.

**Phil Barbosa'04** is in his 4th year of medical student at the U and will be going to Uganda for a year to do research and rotations.

**David Bearl '06** has completed his 1<sup>st</sup> year of medical school at the University of Minnesota – TC.

**Paul Johnson '06** is a PhD student at the Scripps Research Institute in Dr. Paul Kenny's lab. **He writes:** “The program did an excellent job of preparing me for the program and leaving me with the tools that are necessary to compete at the highest levels. The faculty in the department do an excellent job of fostering the students in the classroom as well as in the lab. Thanks for keeping in touch.”

(Editor's note: Thanks for the kind words – we appreciate them.)

**Sarah Rustad '06** is enrolled in the Saba University School of Medicine in the Dutch Antilles.

**Narayan Kissoon '07** is completing her first year as a medical student at the U of M.

**Joseph Page '07** is a first year medical student at Rush University Medical College in Chicago. He was awarded a \$3,000 grant for summer research on upper limb control in patients with right cerebrovascular accidents. **He writes:** “I'm glad the neuroscience program was such an intense major, it is really helping a lot this quarter in Neurobiology.”

**Kelly Sovell '07** received a Teaching English as a Foreign Language (TEFL) Certificate and is living in Austria until the summer. She is considering applying for veterinary school this fall.

**Trent Tollefson '07** is a first-year medical student here at the U. He says: "The undergraduate neuroscience curriculum provided me with a strong foundation in the sciences that has helped me immensely during my first year of medical school."

**Ken Dodd '08** received several awards, including the President's Student Leadership and Service Award as well as the University of Minnesota Alumni Association's Leadership Award. He will be attending the University of Minnesota Medical School next fall.

**Tracy Buchanan '08** received several honors: CBS Annual Giving Scholarship, CBS Student Volunteer Award; completed upper and lower division honors, graduated summa cum laude and will be attending medical school at Wright State University (in Dayton, Ohio).

**Jocelyn Schneider '08** will be working in a management position in a group home for individuals with disabilities for the next year, and plans to attend medical school in the coming years.

**Malaak Nasser Moussa '07** – last but not least – news from the creative force behind the previous edition of this newsletter:

As of January I started a research position at the Dornsife Imaging Center at the University of Southern California. This facility is headed by Hanna Damasio and is part of The Brain and Creativity Institute, which is directed by both Antonio and Hanna Damasio.

Currently I am assisting Christine Vidal, who is one of Hanna's postdoctoral fellows, with two projects. Both are structural in nature and utilize MRI technology to study anatomical differences. The first study looks into the differences in volume of both Heschle's Gyrus and Wernicke's area between monozygotic and dizygotic twins that are part of the Southern California Twin Project. The second, differences in volume of the hippocampus in three populations: normally aging, mild cognitive impairment and Alzheimer's patients. This latter study also has a

functional component that asks all three of these groups to perform the Iowa Gambling Task during an fMRI.

So those are the studies I work on, but what does that mean on a day-to-day basis?

As a research assistant in the field of structural neuro-imaging, there is one thing that is absolutely invaluable: a solid knowledge of anatomy. Being a beginner, this means my first few months were rough. Learning what the brain looks like on an MRI, in three planes and being able to follow sulci, which dip, dive and jump, was probably the most painful thing I had done in a couple years. I don't have solid and expert handle of brain anatomy, but this position has most definitely given me an outstanding opportunity to deepen my understanding of the human brain and all its parts.

To assist in the completion of these projects I extract brains scanned in the MRI, that is, I go through roughly 280 slices of brain images and decide what is brain and what is meninges. Once I have done that and created a volume of the brain without meninges, I identify major sulci on a slice-by-slice basis. To spare the painful details, this all leads up to tracing out particular parts of the brain on a slice by slice basis and then running a script that calculates gray and white matter volumes of a region of interest. To give people an idea of the time commitment, it takes roughly 1-1.5 weeks to take one brain through all the steps...that is if your eyes are still functioning.

Looking at brains all-day and deciding between boundaries of brain parts is just one facet of my job. The other involves patient contact. In order to analyze MRI scans, we need to recruit subjects. This part of my job involves scheduling and seeing subjects through the whole MRI scan experience. This means I have seen and worked with a variety of people, from normally functioning fourteen-year-old twins to early onset Alzheimer's patients.