

## Executive Committee Review

Brittany Howell, Executive Committee Student Representative

The beginning of a new academic year is upon us, and with it a new class of exceptional neuroscience students. A total of 13 new students will be joining the Emory Neuroscience community this year, once again completely filling all available program slots. The Executive Committee would like to thank the members of the Admissions Committee, student reps, all of the student volunteers and of course Sonia Hayden for continuing to raise the bar each year!!



Brittany Howell

The Executive Committee is proud to announce that Ron Calabrese (DGS for 1<sup>st</sup> and 2<sup>nd</sup> years), Yoland Smith (Program Director), and David Weinshenker (Membership Committee) were all re-elected to the EC. We would also like to welcome the newest additions to the neuroscience faculty Dubois Bowman (Biostatistics, Center for Biomedical Imaging Statistics - SPH), James Greene (Neurology), Victor Faundez (Cell Biology), and James Zheng (Cell Biology). Dr.

Zheng is accompanied by a graduate student, Yanjie Fan, another wonderful addition to the program.

The introduction of the grant writing class, "Hypothesis Design and Scientific Writing", led by Dr. Rick Kahn was a great success. Members of the current third year class were able to get a

head start on writing their NRSA proposals, which included multiple rounds of both student and faculty critiques and two mock study sections. Given the importance of these proposals and the work necessary to complete them, it was suggested that the course be offered earlier in the curriculum. The current second year class will be enrolled in the course in the Fall semester instead of the Spring. This will allow students more time to respond to critiques and hammer down a tight and logical proposal.

In response to concerns regarding a lack of brain imaging elective courses, a new

course "Functional Brain Imaging" will be directed by Leonard Howell. Topics covered include the physiological basis of functional brain imaging, different imaging modalities and experimental design. For more information please contact Leonard Howell [lhowell@emory.edu](mailto:lhowell@emory.edu).

Earlier this year the GDBBS asked students to fill out a questionnaire addressing issues of graduate student satisfaction. From your responses we have identified some areas that need to be addressed including keeping current students up to date with positions obtained by alumni, career prospects and improving dissemination of both practical teaching experience and coursework available. If you have any suggestions or thoughts on how we can best address these areas, or if you ever have any concerns involving the program, please don't hesitate to contact Brittany Howell (a.k.a. Brittany Copp- [bcopp@emory.edu](mailto:bcopp@emory.edu)) or Megan Lyle [malyle@emory.edu](mailto:malyle@emory.edu).

## Contents:

EC Review	1
Off the Beaten Path: Nonacademic Careers	2
Editorial: the Self-fulfilling Prophecy	3
The Dangers of Aspartame	4
ARCS Fellowship	5
Frontiers in Neuroscience	5
The Printables	6
Events in Atlanta	7
People in Neuroscience	7

## Emory Calendar

- August 28: First Day of Classes
- September 1: Labor Day (no classes)
- September 6-7: Neuroscience Retreat
- October 13-14: Fall Break (No Classes)
- November 27-30: Thanksgiving Recess (No Classes)
- December 9: Last day of Fall Classes

## 2008 Thesis Defenders

1/17/2008 Tommy Guillot (Andrew Miller)  
 2/25/2008 James Lee (Lian Li)  
 3/11/2008 Sara Dodson (Allan Levey)  
 3/21/2008 Adam Orr (Xiao-Jiang Li)  
 4/15/2008 Gillian Hue (David Rye)  
 6/13/2008 Jill Bordelon (Chris Muly)  
 6/26/2008 Elyse Katz (Joseph Cubells)  
 8/29/2008 Jesse Schank (David Weinshenker)

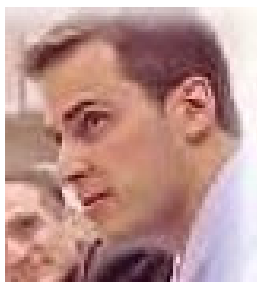
## 2008 Incoming students

Catherine Barrett (Penn State)  
 Andrew Brooks (Mercer Univ)  
 Monica Chau (UC Davis)  
 Ming-Fai Fong (MIT)  
 Lanikea King (Univ of Hawaii)  
 Laura Mariani (Brandeis Univ)  
 Abraham Mathai (Univ of Pune, India)  
 Callie McGrath (Boston College)  
 Karen Murray (Lafayette College)  
 Christina Nemeth (Hamilton College)  
 Yvonne Ogbonmwan (Georgia State)  
 Kathryn Shepard (Ithaca College)  
 Yanjie Fan (Huazhong Univ)

## Off The Beaten Path: Nonacademic Careers of Neuroscience Graduates

Amy Mahan, Editor

*In the past, graduates of the Emory Neuroscience program have been very successful at obtaining academic post-docs and then professorships at many prestigious universities. However, many of us are uncertain if we want to follow the traditional career path. Below are the profiles of three very successful alumni who have pursued other career paths. They highlight some of the many opportunities that are available to Emory graduates with a PhD in Neuroscience.*



### **Mark Borsody, M.D. PhD, 1996**

Former Advisor: Jay Weiss  
Astellas Pharma/Northern Neurosciences Inc.

After graduate school I went to medical school and then into neurology residency fellowship subspecializing in stroke neurology. Along the way I completed a basic science postdoctoral fellowship at the Ohio State University and the University of Chicago, and some clinical postdoctoral research for the American Heart Association. Currently I work as director of CNS drug development programs for Astellas Pharma US in Chicago. Our portfolio involves several candidate drugs for Alzheimer's Disease, schizophrenia, multiple sclerosis, and chronic pain. Furthermore, I volunteer as a director for Northern Neurosciences, Inc., a 501(c)(3) charity organization that supports neuroscience research programs.

I took this career choice because it seemed a natural fit for a medical science background. It is the truest form of translational science that I

have seen, and the research seems to have the greatest impact in terms of health care. I would be happy to speak with any Emory student who feels this might be of interest as a career path.



### **Lisa Stanek, PhD, 2005**

Former Advisor: Mike Davis and Kerry Ressler  
Staff Scientist, Genzyme Corporation  
Cambridge, Massachusetts

I am currently a staff scientist at Genzyme Corporation, a biotechnology company based out of Cambridge, Mass. I run the Huntington's Disease Research program. Broadly, I conduct in vitro and in vivo experiments to evaluate treatment strategies for Huntington's Disease. My job involved designing experiments, managing research associates, fostering collaborations with academic labs as well as pharmaceutical and biotechnology companies, attending meetings on relevant projects and analyzing data.

After completing a postdoctoral fellowship at Harvard I was pretty sure that academia was not for me. I thought I would give industry a chance to compare and contrast the two. I have been at my position at Genzyme for over 7 months now and I am certain that I made the right choice by coming to Industry. I love my job and really enjoy the research project that I've developed. I have more diverse day to day activities and I really enjoy the structured environment as well as the clinically oriented research goals that the industry setting provides. I absolutely love my job and find my career exceptionally rewarding.



### **Will Clower, PhD, 1996**

Former Advisor: Garrett Alexander  
CEO Mediterranean Wellness

Recently, Dr. Clower came to Emory to talk the Mediterranean Diet for as part of Step UP Emory.

Will Clower, one of the first graduates of the Neuroscience program at Emory, is CEO and founder of a company called Mediterranean Wellness. Mediterranean Wellness is an Comprehensive Wellness Program provider dedicated to bringing the latest in nutritional information, behavioral approaches, and creative strategies for health cost containment for our clients.

So how did a neuroscience graduate student go on to be a CEO of a company focused on nutrition and healthy lifestyles? After obtaining a Ph.D. from Emory in 1996 Will Clower and his wife Dottie Clower, both got postdoctoral fellowships at France's Institute of Cognitive Science. In his free time while in France, Dr. Clower took an interest in cultural comparisons between France and the United States in everything from their laws to their diets to the different ways that the French conduct science. While in France, Dr. Clower began to publish on these differences in culture. What stood out the most was the diet and lifestyle differences, which is how he began to articulate the Mediterranean Wellness plan that is company is designed around.

When Dr. Clower returned to the United States, he began getting requests

*(Continued on page 3)*

## Editorial: The Self-Fulfilling Prophecy

David Ehrlich, Editor

Our second-year students recently underwent training in teaching. This training was mandated by the division and graduate school administrations. It was aimed to help us teach and research appropriately and was led by sundry faculty from across the university. It emphasized the importance of the honor code frequently. These sessions illuminated a widespread problem with ethics at Emory: not prevalence of misconduct but of an approach to ethics that stifles the growth of a trustworthy, intellectual community.



The current ethical dilemma at Emory runs very deep. It is rooted in an attitude towards the student population that contradicts the prestige of the university. Many of the training sessions portrayed the Emory undergraduates unbecomingly, preparing us for run-ins with hordes of cheaters, plagiarists and liars. This attitude came most surprisingly from graduate students, newcomers to the Emory community who were relaying opinions picked up in only a short time. Although not universal, the message was common and clear: Emory's undergraduates will cheat and plagiarize, and it is our responsibility to preempt their assured attempts.

To approach the problem of academic dishonesty we must understand what motivates misconduct. It seems like a simple decision based on risk and

reward, the expected value of getting caught versus boosting a grade or free time. While this often plays into the decision, there are important factors at work that are easily overlooked.

The presence or absence of pride can weigh heavily on a person's decision to cheat. A proud member of an academic community values its brotherhood. If he cheats, the brotherhood is lost, independent from punishment. If a member views his peers as cheaters, there is no pride at stake and his decision to cheat becomes much simpler. With this in mind,

our academic community should retool its approach for fighting ethical misconduct and promoting academic honor.

Ethics at Emory is in a potentially dangerous spiral. The administration trains the teachers and assistants to be watchdogs, vigilant against cheating. This biasing of teachers inevitably has an effect on interactions with students. When a teacher enters a classroom without respect for her students, the students feel no accountability to her, only to the grade book. Emory is built on student-teacher relationships; if our respect for our students falters the academic community shrinks. If we are not proud of our students, they cannot be proud of each other. Under this system, cheating will rise and we will have continually less faith in our students.

When Emory was founded, the stu-

dent body consisted of "southern gentlemen" who developed an honor code rooted in accountability to their peers. Under this system, ethical conduct flourished because students felt great pride for inclusion in such an honorable community; the pride was worth much more than the reward of cheating. Today, we retain the same idealistic honor code but, from fault of the administration, teachers, and students alike, we have strayed from the proud, honorable community of old.

As teachers, we are in the best position to effect the necessary change. We sit between the administration which sets the ethical standards and the students who manifest them. By exuding an attitude of respect for the students and pride in our community, we can convince the students they are worthy of the ever-greater task of proper ethical conduct. By promoting Emory as an academic community where cheating is simply below the people we welcome as members, we can develop a place where ethical misconduct is rare because it serves nothing to our common purpose- the pursuit of knowledge and truth. For this to happen, we must share that purpose with our students and treat them with the respect members deserve. We may not catch as many cheaters, plagiarists, and liars this way, but we may not create as many either.

**Got an Opinion? Write an Op-Ed!! Email editorial to [amahan@emory.edu](mailto:amahan@emory.edu)**

## Off The Beaten Path: Continued

*(Continued from page 2)*

to give talks on this Mediterranean Wellness plan. Talks evolved into the creation of a website, which then evolved into a newsletter, which eventually evolved into Mediterranean Wellness, LCC as it exists today.

When I asked Dr. Clower, what he learned in graduate school that was most important for the development of his career, he replied that in his seven years at Emory, "learning how to learn"

was the most valuable skill that he acquired. Our understanding how the brain works will change over time, and trying to make your mark by the research you do in graduate school is like "trying to write your name in water." The discoveries that you make during graduate school may or may not become a lasting dogma in your field, but the ability to learn new things is a far more valuable skill in the long run.

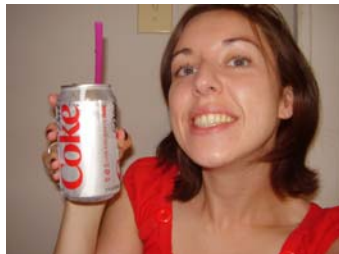
In addition learning how to "speak science" has served him well when interpreting and disseminating nutritional information to the lay public. Dr. Clower has been very successful at communicating this information through his publications and books such as *The Fat Fallacy*, *The French Don't Diet*, and his latest interview with Barbara Walters.

# Put Down that Diet Coke! The Dangers of Aspartame

Lucy Guillory, Editor

Hello my name is Lucy and I am a Diet Coke-aholic. I drink about five cans a day and go through several twelve packs a week. I've been drinking it since high school. My Plan B if graduate school doesn't work out is to become a taste tester for Coca-Cola.

Until recently, I thought drinking a lot of diet soda was not particularly healthy but not harmful either. However, some studies show that the artificial sweetener in Diet Coke, aspartame, may actually cause a variety of health problems including cancer and neurological diseases.



Lucy Guillory

Aspartame is a non-saccharide sweetener used in various diet beverages, sugar-free chewing gums, and also as a condiment for coffee. It is marketed under several commercial names including Equal and NutraSweet. Aspartame's chemical structure is a dipeptide ester of aspartic acid and phenylalanine. During metabolism it is broken down into its amino acid components as well as methanol, formaldehyde, and formic acid.

It has been established that aspartame is dangerous to people with phenylketonuria or PKU, a genetic disorder that causes deficiencies in the metabolism of phenylalanine. US products containing aspartame must carry a warning label for phenylketonurics. However, it is controversial as to whether aspartame is dangerous to people with normal metabolism. An *in vivo* binding study by Trocho et al (1998) showed radiolabeled aspartame administered to rodents was present six hours after administration as formaldehyde bound to the liver, brain, and other tissues. The researchers concluded that if aspartame is consumed in large doses, it may cause deleterious effects similar to those of acute methanol intoxication including cirrhosis of the liver. A study by Soffritti et al (2006) showed rats given high doses of aspartame had increased incidence of malignant

tumors, leukemias, and lymphomas as compared to controls. Particularly they noticed increased cell carcinomas in the renal pelvis and increased malignant schwannomas in peripheral nerves.

There have also been several case studies of people who consume large amounts of aspartame. These reports claim an increase in a wide range of health problems from nausea and headaches to more serious neurological symptoms. Mitch Solomon (not his real name), a friend of mine from

DC, actually had symptoms of Multiple Sclerosis and epilepsy possibly due to high consumption of aspartame. While studying to get his law degree, he drank one to two liters of Diet Pepsi per day (about three to six cans.) During that time, he began to get paroxysmal attacks, presumably due to demyelination of peripheral nerves. "It was pretty dramatic," he said. "I would have temporary paralysis of one side of my body and slurred speech." The attacks became more frequent, sometimes multiple times in a minute, and more severe. Solomon's doctor prescribed Dilantin, an anti-seizure medication, and advised him to avoid aspartame. He did, and within a few months the symptoms vanished despite getting off Dilantin. "The symptoms started when I started drinking a lot of Diet Pepsi, and stopped when I stopped drinking it," he said.

There are a number of anecdotal complaints like Solomon's of neurological symptoms due to aspartame

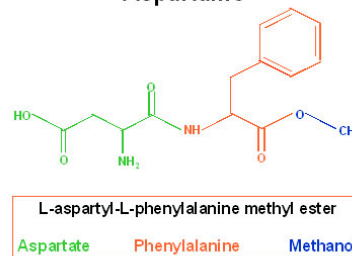
consumption registered against the FDA (Maher & Wurtman 1987), but controversially, the FDA approved the use of aspartame as a food additive during the Reagan administration. The decision was highly politicized as the FDA commissioner Arthur Hull Hayes approved of the use of aspartame against the recommendation of the FDA Public Board of Inquiry. After retiring, Hayes went to work for Searle, the pharmaceutical company that originally synthesized aspartame.

In light of this evidence (and because I was traveling and had limited access to soda) I went cold turkey off Diet Coke for a few days. Within a day I started to get bad headaches and generally felt like crap so I gave up and bought a twelve pack. Thinking I was just missing the caffeine in soda, I've tried substituting coffee and tea for Diet Coke before

too but strangely I would get cravings specifically for Diet Coke. Will I give up my Diet Coke habit? Probably not. Should I? Probably.



Aspartame



### References

Maher T, Wurtman R. "Possible neurologic effects of aspartame, a widely used food additive". *Environ Health Perspect* 75: 53-7, 1987.

Soffritti, Morando, et al., "[First Experimental Demonstration of the Multipotential Carcinogenic Effects of Aspartame Administered in the Feed to Sprague-Dawley Rats.](#)" *Environmental Health Perspectives* 114(3): 379-385, 2006.

C. Trocho, R. Pardo, I. Rafecas, J. Virgili, X. Remesar, J. A. Fernandez-Lopez and M. Alemany. "Formaldehyde derived from dietary aspartame binds to tissue components *in vivo*". *Life Sciences* 63 (5): 337-349, 1998.

## Neuroscience Student Terrence Wright earns Prestigious ARCS fellowship

Congratulations to Terrence Wright for recently earning the prestigious ARCS Fellowship. Terrence has been with us at Emory since 2004 after earning his MS in biological sciences from California State University in San Marcos. Initially under the IGERT fellowship, he currently pursuing his graduate education in the lab of Dr. Ron Calabrese. The ARCS fellowship stands for Achievement Rewards for College Scientists. The Atlanta Chapter of ARCS offers scholarships for scientists and engineers in specific programs at Emory (including GDBBS), GA Tech, Morehouse College, and Univ. of Georgia. To be eligible, students must be nominated by their program, have a 3.5 GPA, and be a U.S citizen. Terrence competed with other Emory program



Terrence Wright

nominees by submitting a research summary paragraph and giving a 15-min research presentation in lay terms. The mission of the ARCS Foundation is to provide scholarships to academically outstanding United States citizens studying to complete their degrees in science, medicine and engineering, thereby contributing to the worldwide advancement of science and technology. In the 2007-2008 academic year Atlanta awarded \$198,500 to support 34 scholars, cumulatively some \$2 million to 393 science and engineering scholars since 1992. Once selected, the scholar is supported until completion of the degree, as long as academic excellence is maintained. Only four GDBBS students were se-

lected for this award this year and it is a very impressive accomplishment. Congratulations Terrence on your success!!!

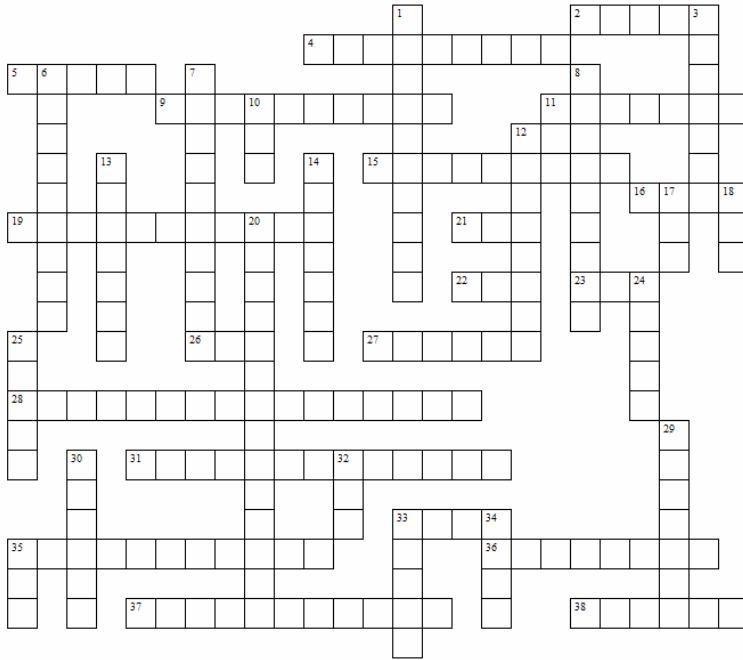


## Frontiers Seminar Schedule Fall 2008

*Don't forget to come to Frontiers in Neuroscience, every Friday. Frontiers is our program's weekly seminar series that happens every Friday at 12 noon. (Refreshments served at 11:45). Our speakers include faculty at Emory, and professors from other institutions selected and hosted by a second year graduate student.*

Sept. 12	<b>James Lah, MD, PhD</b>	Why do we do what we do: The promise of translational neuroscience
Sept. 19	<b>Shella Keilhoz, PhD</b>	Magnetic resonance imaging of functional networks in the rodent brain
Sept. 26	<b>Dieter Jaeger, PhD</b>	Insights from electrophysiological recordings and computer modeling into the enigmatic function of the deep cerebellar nuclei
Oct. 3	<b>Stephen Warren, PhD</b>	Fragile X Syndrome: Mechanistic insights & therapeutic implications
Oct. 10	<b>Vallabh Das, PhD</b>	Neural correlates for abnormal eye alignment and eye movements in monkeys with strabismus
Oct. 17	<b>Subhabrata Sanyal, PhD</b>	The curious fly: Cellular mechanisms of neuronal plasticity in Drosophila
Oct. 24	<b>Ed Rubel, PhD</b>	Experience and auditory brainstem development: Signals, cellular events and critical periods
Oct. 31	<b>Larry Young, PhD</b>	Molecular neurobiology of social bonding
Nov. 7	<b>Randy Sakai, PhD</b>	Endocrine and metabolic changes associated with chronic social stress
Nov. 14	<b>SFN Mtg/No Frontiers</b>	
Nov. 21	<b>Clint Kilts, PhD</b>	A Human Neuroscience of Relapse and its Prevention in Cocaine Addiction
Nov. 28	<b>Thanksgiving Holiday</b>	
Dec. 5	<b>Ella Bossy-Wetzel, PhD</b>	Mitochondrial fission and fusion imbalance in Neurodegeneration

## The Printables... David Ehrlich and Charity Duran

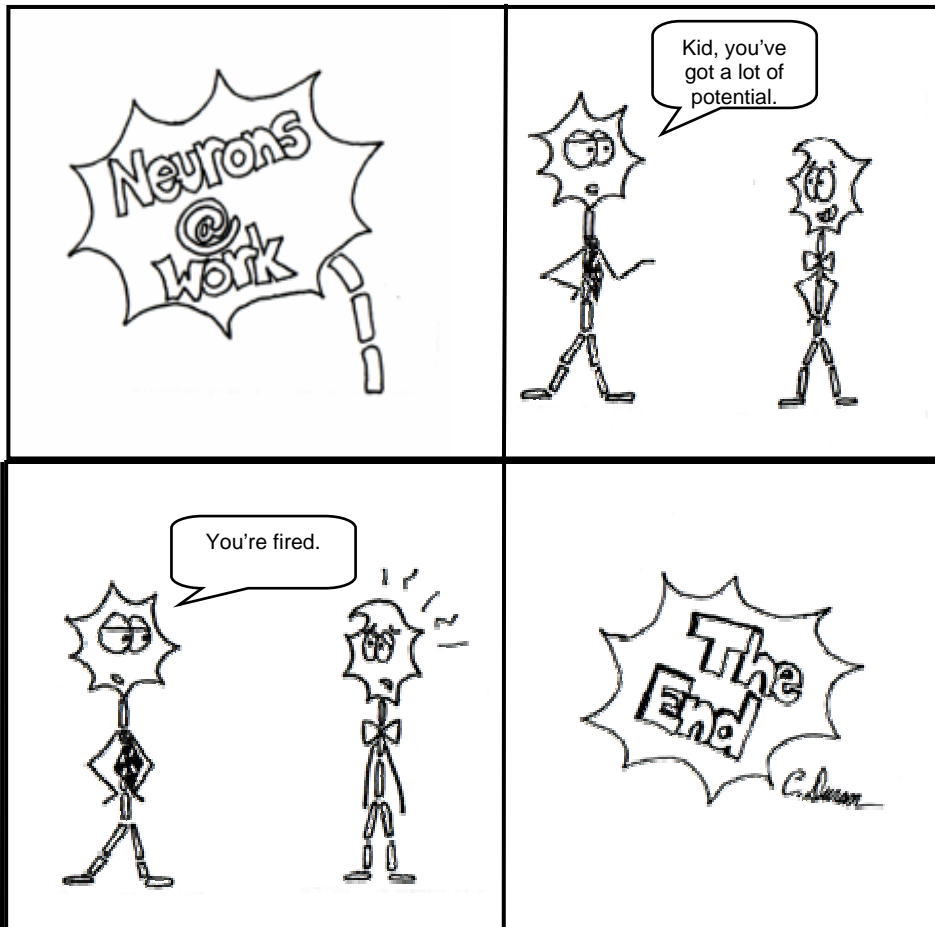


### ACROSS

- 2 Paul, invented the mutton chop
- 4 Cranial nerve XI
- 5 Processed by specialized area in human fusiform gyrus
- 9 Inflammation of protective membranes of CNS
- 11 Involuntary behavior in morning biochemistry class
- 15 Degeneration of a separated axon
- 16 A code used by motoneurons
- 19 NMDAR detects this
- 21 Hypotensive, anorexigenic peptide in CRF family
- 22 Mart with \$4 prescriptions for fluoxetine, buspirone, and haloperidol
- 23 Inactivates some neurotransmitters
- 26 \_\_\_ enzyme, requires coenzyme
- 27 In 1854, published the definitive work on barnacles
- 28 Target of immunity in MS
- 31 Most rostral part of vertebrate brain
- 33 Citalopram, e.g.
- 35 Drilling holes in skull to cure headaches
- 36 Plane named for an arrow, piercing front to back
- 37 Used to predict current flow in passive fibers
- 38 Has unmyelinated nerve endings but lacks blood vessels

### DOWN

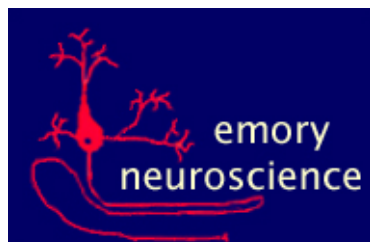
- 1 Soma
- 3 Home for eusocial carpenters
- 6 Philosopher, believed the brain served to cool the blood
- 7 Nightshade used to produce muscarinic antagonist
- 8 Proponent of neuroplasticity research, HH
- 10 Only antibody able to cross the placenta
- 12 X-ray crystallographer, less known for virus research
- 13 Staple of developmental neuroscience; can be used in crude pregnancy test
- 14 In nautical terms: from hallway, lab
- 17 Main molecule of cellular energy transfer
- 18 Measures summed cortical activity
- 20 Summarized, "neurons are basic functional unit of nervous system"
- 24 By the time you get your PhD, you'll be much \_\_\_\_
- 25 Plate for serving up swift, spiny mammal
- 29 Calcium-dependent protease in brain
- 30 After decussating, spinothalamic tracts do this
- 32 When black, animal has same genus and species name
- 33 Protein for vesicle fusion
- 34 In Latin, insula
- 35 Half of these potentially fatal incidents involve alcohol ("GIN" fits, but involves alcohol more often)



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**Co-Editors:**

Amy Mahan  
David Ehrlich  
Lucy Guillory



...never lacks brains.

**Congratulations!**

Without people, our Neuroscience program would be very lonely. Put your hands together for...

**New Families:**

**Engaged**

Megan Lyle  
Mike Kelly

**Married**

Brittany (Copp) Howell  
Alex Poplawsky  
Becky (Seaman) Roffman

**Babies**

Todd Ahern  
Christopher Funderbunk  
Adam Orr and Anna Goldschmidt

**Know Your Student Health Insurance Policy!**

*Have your questions about Emory Student Health Insurance answered*



Wednesday, September 10<sup>th</sup> at 12pm  
Harland Cinema

The Graduate Student Council (GSC) is sponsoring a student health insurance information session.  
Present will be:

**Julie Degerome- Aetna Representative**  
**Dr. Michael J. Huey- Executive Director of EUSH**

If you have Emory Student Health Insurance, you should be here. Representatives will be giving an overview of the policy followed by a question and answer session.

**Events in Atlanta**

**September**

9/11-11/2 Oktoberfest in Helen, GA  
9/11-9/20 Atlantis Music Conference & Festival  
9/24 Gogol Bordello at the Variety Playhouse  
9/26-11/2 Netherworld Haunted House

**October**

10/6 The Roots at the Tabernacle  
10/16-11/1 Center for Puppetry Arts Ghastly Dreadfuls II (adult comedy puppet show)  
10/10 Cocktails with Gorillas at Zoo Atlanta  
10/19 AIDS Walk/Run Atlanta

**November**

11/5 Coldplay at Phillips Arena  
11/29 UGA v Georgia Tech football game (Go Dawgs!)

The Emory Neuroscience Graduate Program leads to the Ph.D. degree and is designed to provide a broad background in modern neuroscience, as well as specialized training in a wide range of specific research areas and techniques. The particular areas of strength in our program are further described on our website. The broad range of research interests coupled with a collaborative atmosphere make the Emory Neuroscience Program well suited to provide a strong, dynamic and exciting environment in which to pursue graduate studies.

For more information please check out:

[www.emory.edu/NEUROSCIENCE](http://www.emory.edu/NEUROSCIENCE)

or

Contact Sonia Hayden at [shayden@emory.edu](mailto:shayden@emory.edu) or (404) 727-3707.

For comments on this newsletter please contact Amy Mahan at [amahan@emory.edu](mailto:amahan@emory.edu).