

The EC Review

Todd Ahern & Dan Manvich, Executive Committee Student Reps

Some things change and some things stay the same. Once again, the admissions committee has managed to sign some of the nation's most impressive neuroscience graduate applicants. The executive committee would like to thank Zoe Donaldson and Meagan Ward, the student representatives, for all their hard work in planning and executing two extremely efficient and rewarding recruitment weekends, as well as for all of their input in admissions decisions. The entire neuroscience program is also indebted to the hard work, long hours, and perseverance of the admissions committee, including Ping Chen, Andrew Escayg, Amy Lee, Mike Mustari, Pete Wenner, Thomas Wichmann, Larry Young, and Leonard Howell, the chair and indefatigable driving force of the whole venture for the past three years. We would also like to acknowledge Sonia Hayden for all her help with recruitment. Through their efforts, we have 13 first-rate students who will begin this fall. Some students have already begun their rotations here, so be sure to welcome them when they cross your path.

In addition to the new students, the neuroscience program

has added several new faculty to its member list. These include Jonathan Glass (Neurology & Pathology), Andrew Jenkins (Anesthesiology), Rick Kahn (Biochemistry), Cling Kilts (Functional Imaging & Mental Disorders), Stella Pappa (Neurology), Machele Pardue (Ophthalmology), and Zixu Mao (Pharmacology). Robert Lui has been updated from adjunct to full neuroscience faculty. With interests in a range of fields, these new members are sure to add an even greater depth and breadth to the neuroscience program's existing expertise. Be sure to look them up on our website—www.emory.edu/NEUROSCIENCE.



Dan Manvich

There have also been a few changes to the ranks of the executive committee. Marie Csete and Xiao-Jiang Li have ended their three-year terms and will be replaced by Mike Owens (Psychiatry) and Zixu Mao (Pharmacology), while Krish Sathian (Neurology) and Lian Li (Pharmacology) have been re-elected for second terms. Finally, Jill Bordelon (fourth-year student) has completed her two-year term and Dan Manvich (second-year student) was recently elected to replace her. We would like to

thank all the outgoing Executive Committee members for their hard work and dedication and welcome our new additions.



Todd Ahern

Other important changes of note include a shift in the administration of the Written and Oral Qualifying Exams for the incoming class of 2006. Historically, the written exam consisted of two components, which were administered on consecutive days after the second year of course work, usually around the end of May. The first component was open-book and required that 7 of 10 integrative, experimental-design based essay questions be answered in an 8 hour period. The second component required that students adeptly critique 1 of 5 *Journal of Neuroscience* articles, again within 8 hours. While these requirements will be maintained, the timing and format will be changed for the incoming 2006 class. Instead of having both components given at the end of the second year, students will take the integrative essay exam in August after their first year, while the paper-critique will be moved to serve as the "final exam" for the advanced seminar

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Calendar

- August 26: NS Retreat
- October TBA: SfN poster preview day.
- October 14-18: SfN 36th Annual Meeting in Atlanta, GA.
- The new Atlanta Chapter SfN president is Kerry Ressler (Emory) and the vice president is Paul Katz (GSU).

Politics



Jacob Shreckengost

GIN Co-Presidents: Eric Heuer & Jacob Shreckengost
 GIN Secretary: Lizabeth Martin
 GIN Treasurer: Elyse Katz
 Webmasters: Vasiliki Michopoulos & Ahmad Sylvester
 Frontiers Coordinators: Ahmad Sylvester & Meriem Gaval
 Admissions Committee: Meag Ward & Michael Kelly
 Executive Committee: Todd Ahern & Daniel Manvich
 Curriculum Committee: Meera Modi & Sharon Swanger
 GSC Representatives: Elyse Katz, Kevin Murnane & Stacey Dutton
 DSAC Representative: Cliff Michaels
 ACSFN Representatives: Kim Maguschak & Rebecca Rosen



Eric Heuer

Just a Small Flight from Texas Amy Mahan, 1st year student

As I prepare to start my first year in the Emory Neuroscience program I am excited about what lies ahead. What attracted me to Emory initially was the depth of the program and the diversity of research opportunities that would be available to me. But what sealed the decision for me was coming to Atlanta in February and meeting the intelligent and friendly students who were very eager to socialize with us during recruitment weekend, and



interviewing with the very personable faculty whom all seemed very passionate about their research. The smaller dinner group at Café Lilly with a few students and faculty that shared my research interest, in particular, was unique to Emory's recruitment weekend and allowed me to mingle more closely with my future friends and colleagues. Together, everyone made me feel very certain that Emory was the place I wanted to be.

I moved to Atlanta in May, started a rotation in June, and have not once doubted my decision to come to Emory. Working in the exciting research lab of Dr. Larry Young, I have gotten to look at the role of AMPA receptors of the nucleus accumbens in social behaviors of the prairie vole. In addition, I have been working to sequence the ligands Urocortin II and III of the CRF system in hopes to bet-

ter understand how this system affects social behavior in prairie voles.

In addition, I have gotten to explore Atlanta and got to know some of the graduate students while rotating. Watching World Cup soccer at the Brewhouse, eating pizza at Little Five Points, exploring downtown Decatur, or playing pick-up soccer at the Clairmont campus with my "neurobuddy" and other graduate students made me feel much more at home in Atlanta then I did in May. This summer has confirmed what I was convinced of after interviewing in February...that Emory is the perfect place to pursue my graduate studies. I look forward to starting my classes and meeting the other first year students this fall.

To All 1st Years

August

1st day: "8:00 am classes...EVERY DAY!"

September

Before 1st test: "Holy shit, I'm freaking out!"

October

After 2nd test: "I am not getting paid enough for this."

November

Passed out late night in the library: "Stupid brain."

December

Home for the Holiday: "I hate grad school."

January

The start of a new semester: "Late morning class, two days a week...I can deal with this."

February

Begin to slightly understand a frontier's speaker: "Damn it!"

March

Maximized every meal to fall during a catered Emory event: "I can't believe I'm getting paid for this."

April

Finally do something right in 1st rotation: "Oops."

May

Give in to becoming a Nerdocientist: "Grad school is alright."

Disclosure: Some first years were harmed, mentally or physically, in the making of this article.

Fresh Faces

Congratulations to all the incoming 1st years for deciding to join the Emory Neuroscience community. It is a pleasure to see such a variety of backgrounds ready to contribute to the diversity of our program.

Amy Anderson
Santiago Archila
Terrell Brotherton
Amanda Caster
Brittany Copp
Charity Duran

Alisha Epps
Kalynda Gonzales
Erin Hecht

Amy Mahan

Anlys Olivera
Mark Porath
Stefanie Ritter

Neuroscience
Biomedical Engineering
Biology
Biological Sciences
Neuroscience
Molecular Biology &
Music Performance
Psychology
Biology
Cognitive Science &
Neuroscience

Biology &
Psychology
Psychology
Psychology
Neuroscience

William & Mary
Georgia Institute of Technology
Duke University
Antioch University (NY)
Tulane University
Meredith College (NC)

University of South Carolina, Columbia
University of Massachusetts, Boston
University of California, San Diego

Trinity University (TX)

Florida State University
Arizona State University
Furman University



Anyone who would like to welcome the new class can use the following e-address: NS-students2006@listserv.emory.edu

Mind the Gap: Dr. Andrew Jenkins Meagan Ward, Flatmate Correspondent

M: Why did you want to complete a PhD? What the hell were you thinking?

A: What the hell indeed. When I was 16 years old I wanted to study biophysics. I was good at physics, but biology was my passion. One of my teachers said there was no money in it and that I should do electrical engineering. Well I tried and hated it. I changed to physics during my first year at college. In my second year I started doing courses in biophysics and rediscovered my original passion. As luck would have it, one of my professors, Nick Franks, one of the most gifted scientists and teachers I've ever met, needed a grad student when I graduated. Plasma and High Energy physics didn't get a lookin'. I was off to biophysics and I had work to do! And boy was I in over my head...



M: Where did you do your PhD training?

A: Imperial College, University of London. It's Britain's version of MIT. Beer, rugby, insane lecture and lab schedule.

M: What was your project?

A: Well, the 4th one and the one I got my degree with was "The effects of general anaesthetics on a neuronal 5-HT₃ receptor" – read all about it in Br. J. Pharm. The ones that went by the wayside during the first 2.5 years included patch clamp studies of yellow speckled cells of the right parietal ganglion of *lymnaea stagnalis*, C6 glioma and the breeding of alcohol insensitive guppies. Urrgh.

M: What brought you to Emory? The research opportunity, Coca-Cola cash, HOTIanna Buckhead clubs?

A: Not baseball (Go Cubs!). Two splendid blokes: Jim Zaidan and Peter Sebel, the chair and vice chair of Anesthesiology. These guys are straight shooters who I'd trust my life with. They put together a package I just couldn't say no to. Part of that package was the chance to be part of the Emory neuro-community.

M: What committees would you like to join and think you could contribute most to? What about the program most needs to be addressed in your eyes?

A: Mentoring and pastoral care for students AND faculty. When things are going well, this is

the best job in the world. However, when it doesn't go well, it's lonely and horrifying and when that happens to us, we all need to know that there is a listening ear we can share our problems with. I don't want our students and faculty to visit some of the doldrums I've been to and so I'd like to be closely involved with the well being of all members of our program. We already have some great listeners, but I think we could do with a few more.

M: Why anesthesiology? What's so exciting that it will put me to sleep?

A: Many reasons. Philosophically, I get to think about consciousness all day. How Cartesian is that?! Scientifically, anesthetics modulate so many aspects of neural function, it makes them fascinating pharmacological tools. Practically, modern surgery wouldn't exist without anesthesia and despite 150 years of research, we still don't know how these drugs work at the molecular level.

M: You've just been awarded your first ROI from the NIH, correct?

A: Yep.

M: In a few short words, if that is possible, what is the proposal?

A: We're trying to work out how the GABA(A) receptor opens and closes its channel and how progesterone metabolites and general anesthetics acutely modulate receptor function.

M: What will you do with all that cash?

Booze, women, cars?

A: Drugs n' women. Sic. Partial agonists and Shannon & Carrie (my tech and postdoc) cost money.

M: Are you interested in taking on any grad students?

A: Yes! Absolutely!

M: When away from patch-clamping HEK

cells, how do you like to spend your time?

A: Watching England beat the French in rugby, sipping a pint down at the Thinking Man Tavern, skiing out west,...

M: What were your highest and lowest moments in your academic past?

A: High: The N₂O tank in my old lab, getting my PhD, getting the page proofs for my first paper, not getting triaged on my first ROI application, proving my old boss wrong and getting a paper into *Nature*.

Low: Being told "Andy, you're not the smartest guy in the lab, so you have to work harder than the other guys to make up for it". Blowing 6 months of data collection because of an error in a control experiment I rushed.

M: Personal highs and lows?

A: Lows: The usual, bereavements, break-ups. Although in hindsight, life is so good right now, I should count the breakups as positive things. Highs: Meeting Meag in New Orleans.

M: Good answer. What do you think are the potential long-term effects of the current NIH funding situation?

A: I shudder to think. Funding lines are still sliding, Pls are shrinking their labs, getting out of academic science; junior faculty aren't getting started. Thankfully, our program is still thriving. NS is not going away.

M: What do you see for yourself in both your personal and professional future? Drug development, more ROIs, ring shopping?

A: Yeah, and I've got to get a driving license too.

M: Another good answer. Any final words of wisdom you could provide to current unsuspecting grad students in terms of pursuing a career in science?

A: Follow your heart. Love what you do. Don't give into



dogma.

Your project has 3 parts:

1. the idea
2. grinding it out
3. FINISHING

You'll spend most of your time on #2. Don't forget about #3.

Don't write your thesis during your postdoc. Finish one thing before starting another.

Food for Thought: Sushi, Omega-3, & Mood

Alex Poplawsky, Editor

As the American culture drives deeper into the technology age, life continues to quicken its pace through the 21st century. One noticeable side effect is the drift from homemade food toward more time conserving methods, such as fast food, which consists of mostly terrestrial meats and vegetable oils rich in saturated and omega-6 fatty acids. Also, along with this trend of expedited eating habits is an increase in mood disorders like depression. Can there be a relationship? The answer may come from the eastern side of the globe where the Japanese report that they are less likely to experience mood disorders. Maybe it's something in the sushi.

The origins of sushi are somewhat debated, but it is believed that sushi in its earliest form came from Asia by rice cultivators or Buddhist monks arriving in Japan two thousand years ago. At this time, fish was packed with rice for several months until the fish became pickled. The fermented rice was then thrown away and the fish saved for consumption for up to a year later. As time passed, people began eating the rice and eventually acquired the taste. To shorten the preparation time from months to minutes, vinegar was added to fresh rice to mimic the sour taste. The combination of these two ingredients was later named sushi. However, it was not until the 19th century when a small stand in Tokyo started to place raw fish on the sushi to form the world's first fast food – nigiri-zushi or finger sushi. Today, this same form of fast food exists in America after almost 200 years in Japan.



Unagi-nigiri
(Freshwater Eel)

It is already known that sushi itself may not be attributed to having the mood correcting properties but instead the raw fish topping. However, it should not be ignored that the vinegared rice, along with the gari (pickled ginger), and wasabi have antiseptic and antimicrobial properties that may enable the body to consume the raw fish. Contrary to popular belief, the fish topped sushi does not have magical powers but instead contains the main ingredient that most American diets lack. Omega-3 fatty acids are essential for neurological development and maintenance in humans, but the machinery in mammals to construct these oils *de novo* is so inefficient that it can be considered nonexistent. Therefore, these unsaturated fats must be consumed from the diet through limited sources, such as fish and flax seed, which western cultures generally choose to ignore. To give a perspective, the ratio of omega-6 to omega-3 in the diet was once 1:1 for Americans, but has recently moved closer to 10:1.

The effects of this type of unbalanced diet are currently being traced to mood disorders. One proposed idea involves the general action of omega-6 and omega-3 as messenger molecules in the immune system. Omega-6 fatty acids are generally proinflammatory agents that mobilize other types of distress signals such as cytokines. On the contrary, omega-3 fatty acids counteract

the omega-6 signaling and are anti-inflammatory. With Dr. Andrew Miller in mind, an imbalance immune response that directs the body into distress will also unbalance the mind in a similar direction that may cause mood disorders. A second mechanism arises with the observation that omega-3 fatty acids are highly concentrated in the phospholipid membranes of synaptic vesicles, terminals,

and dendrite branches. By disrupting the amount of omega-3 available for membrane integration, the fluid dynamics of the membrane will be disturbed. In this way, such functions as protein-protein interaction, receptors, ion channels, vesicular fusion, etc.

Maguro-nigiri
(Tuna)

are changed in acute regions of individual cells to populations.

Finally, it is reported that countries such as Japan, who consume on the average of 147 pounds of fish per person per year, have a lower risk of seasonal affective disorder. Unfortunately, with every Ying there is a Yang that must also be respected. Due to pollution of the oceans, people who eat copious amounts of some types of fish may run the risk of mercury poisoning. However, this is a topic for a later discussion.

As more related research is done throughout time, it is becoming clear that our fast food western diet may be tilted in the wrong direction. Refocus your eating routine to include more varieties of food that fit a busy lifestyle. Instead, take a bite of an eastern society's way of fast food and eat more sushi.

Let the Bodies Hit the Floor

By Vasiliki M, Field Reporter

Whether you believe that the human body is a vessel that carries that which makes us individuals or whether you believe it is simply a functional machine, it is safe to say that the human body is both sacred and awe-inspiring. Until recently, it has been very difficult for the public to explore the human body closely enough as to quench the curiosity surrounding our most personal possession.

Bodies: the Exhibition, in town since March 4th of this year, allows us to quite literally look into ourselves. The development of a silicon based polymerization process has allowed the creators of the

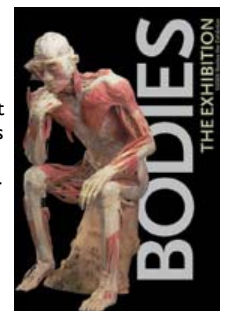
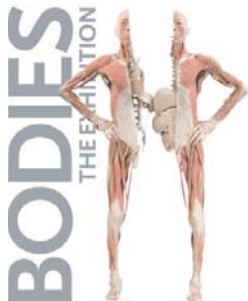
exhibit to preserve bodies in an artistic display, exposing the most intricate details of the human body to the common eye.

Within each room of the exhibit, you encounter magnificent dissections revealing each of the body's major components, including the vascular and circulatory, muscular, digestive, and skeletal systems. Most amazing and relevant to all of us nerdoscientists is the dissection of the nervous system. Sprawled out in a glass case is the meticulous network of nerves that link the periphery to the brain. It is amazing how such a delicate component of the human body is responsible for our being.

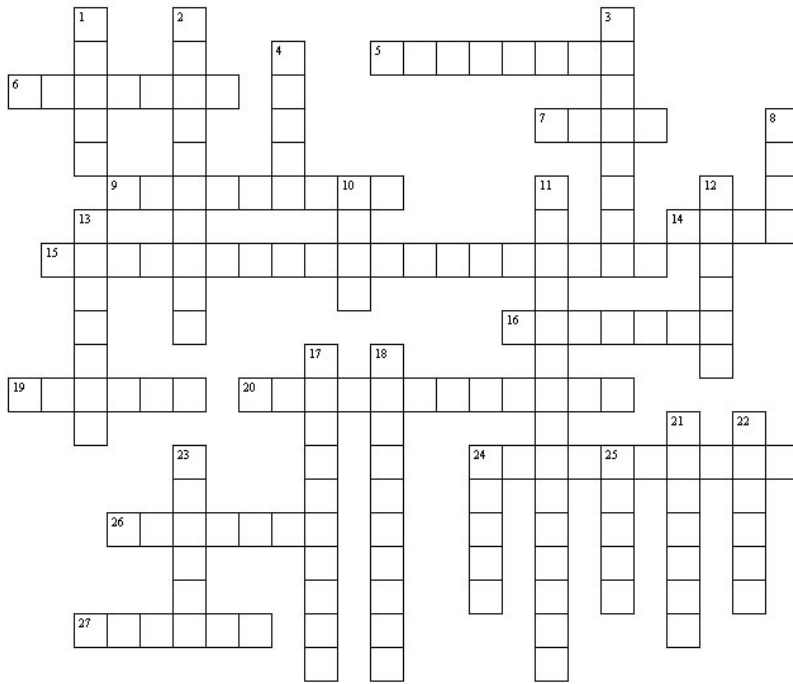
When asked to comment on her favorite aspect of the exhibit, 2nd year Meera Modi emphatically stated, "the mutant fetuses were so cool!" The finale of the exhibit takes you *in utero*, where embryos at different stages of development and others with severe congenital defects are

presented. At the exit there exists the opportunity to touch a polymerized brain, which actually feels nothing like something natural should and even makes you question whether any of the exhibit is truly real. Sure, the exhibit raises some difficult questions such as how the bodies for the exhibit were obtained, but for the most part, it offers some answers to questions we all have concerning our own bodies.

Bodies: the Exhibition is in town at the Atlanta Civic Center until September 4th, so if you have yet to make the trip, be sure to go and make your own conclusions.



The Printables...



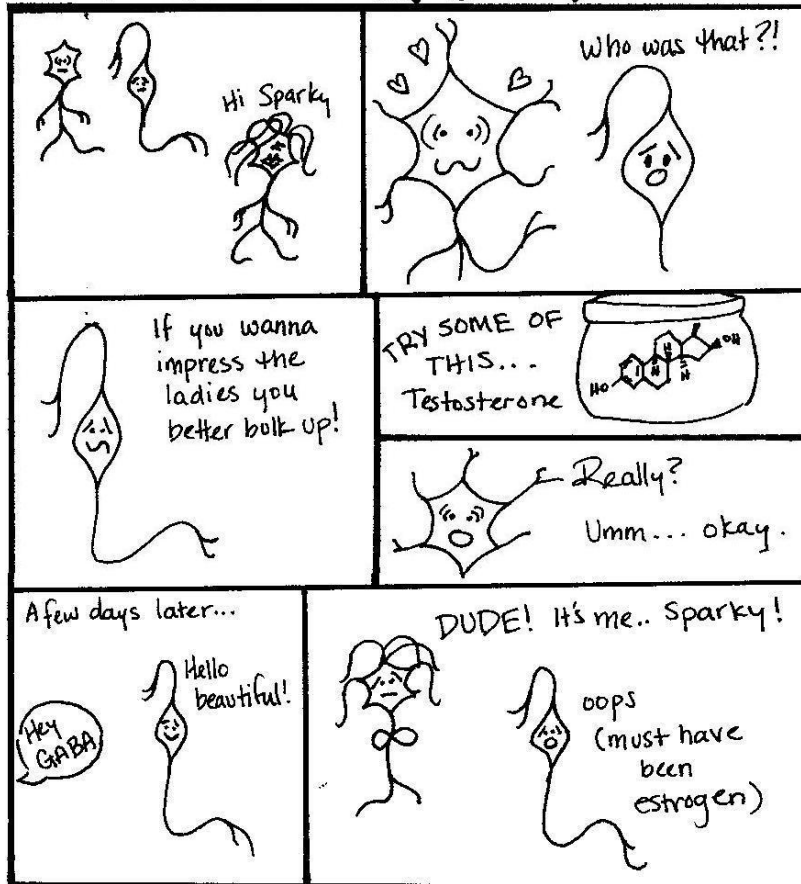
ACROSS

- 5 The craziest nut of the brain.
- 6 Astrid and Dieter are from here.
- 7 The host of the Annual Trivia Game.
- 9 Newest coffee/food stand opened up in this building.
- 14 This year SFN will be here.
- 15 RLS.
- 16 Why Yerkes isn't as cool as the other buildings.
- 19 The best beaches in the whole world are here.
- 20 GIN Prez Brothers.
- 24 ABC's Arch Nemesis.
- 26 Where the '06 retreat is, Historic _____ Mills.
- 27 He headbutted himself into FIFA history.

DOWN

- 1 Georgia's Arena Football Team.
- 2 The four "hollows" of the brain.
- 3 A Corpus wouldn't be complete without it.
- 4 Ron's favorite invertebrate.
- 8 First years have this many days of class.
- 10 New Editor in Chief of the Central Sulcus.
- 11 What we all wanted to become when we grew up.
- 12 Down the Hill and Up the Smell.
- 13 What's missing from the Exec. Committee.
- 17 The first B in GDBBS.
- 18 Dr. Vole Man.
- 21 The first author of the bible.
- 22 Location of Dr. Jenkins' lab.
- 23 Where Yoland is from.
- 24 The woman behind the Neuroscience curtain of EmOZy.
- 25 Permanent ink of a teaching assistant.

THE UPS & DOWNS by KBOZL



Sudoku

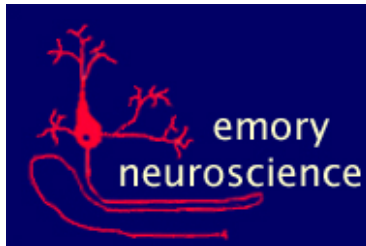
Rules:

- 1. Insert a number (1-9) into every square
- 2. Each ROW must contain every number 1-9
- 3. Each COLUMN must contain every number 1-9
- 4. Each 3 X 3 group of squares (highlighted with bold lines) must contain every number 1-9

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Crossword: Vasiliki Michopoulos
Sudoku: Meriem Gaval
Event Calendar: Meera Modi



...never lacks brains.

The EC Review (cont'd)

(Continued from page 1)

class. These changes will allow us to maintain the same high standards, but shift the timing to better align with the curriculum overall. As for the oral exam, the requirements will stay the same, but they will be moved to an earlier date. Beginning with the incoming class of 2006, the oral qualifying exam will be administered at the beginning of October of their third year, instead of February of their third year. This will allow students to potentially submit an NRSA before the usual December deadline.

As most of you know, the annual Neuroscience Retreat is coming up! On August 26th, 2006, the neuroscience program will host a day-long retreat at Historic Banning Mills (205 Horseshoe Dam Road, Whitesburg, GA, 30185). The keynote address will be given by Dr. Stuart Zola, director of Yerkes, and there will be several short presentations by David Weinschenker, Beth Buffalo, Stuart

Hoffman, Lary Walker, and Becky Kinkead covering a wide range of translational research arenas that are of interest to the current students. The retreat will also serve as a relaxed forum to meet and welcome the incoming students.

Lastly, we encourage everyone to attend our Frontiers in Neuroscience lecture series, which will occur weekly on Fridays at noon. This year, Frontiers will be organized by second-year students Meriem Gaval and Ahmad Sylvester. We thank them in advance for what should be a wonderful lecture series. We'll see you there!

Please contact either Todd Ahern (tahern@emory.edu) or Dan Manvich (dmanvic@emory.edu) your EC student representatives, if you have any questions, comments, or concerns.

SEPTEMBER

- Every Thursday Jazz Nights at Scottish Rite
(*Scottish Rite Hospital Lawn*)
- Every Saturday Concerts on the Square
(*Decatur Square*)
- 9/1-9/3 AJC Decatur Book Festival
(*Downtown Decatur*)
- 9/26-9/28 Mets at Braves
(*Tuner Field*)
- 9/24 Summer Jazz Series at Villa Christina
(*Villa Christina, 4000 Summit Blvd*)

OCTOBER

- 10/4-10/7 Atlantis Music Conference
(*Downtown Atlanta*)
- 10/13-10/16 Taste of Atlanta
(*Atlantic Station*)
- 10/14 Oakhurst Art & Music Festival
(*Harmony Park, Oakhurst, Decatur, GA*)
- 10/21 Great Decatur Beer Tasting Festival
(*Courthouse Square, Decatur, GA*)

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

or

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

For comments on this newsletter please contact Alex Poplawsky at apoplaw@emory.edu.

Special thanks to our past editor, Zoe Donaldson, for without whom this newsletter would not exist.