



# The Restriction Digest

## GSA Newsletter

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the Graduate Student Association

Johns Hopkins University School of Medicine

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### The Ravens Lost but the Purple Party Continues! Relay For Life of 2010

Laxmi Pellakuru



Hopkins has always been known for its excellence in patient care, research, and education, but is also known for its generosity and giving back to the community. There are so many individuals as well as groups that reach out to the various needs of Baltimore City, the nation, and the world – a pat on the back to everyone who takes time out of their ridiculously busy schedules to help those in need.

Despite the abundance of charitable groups, they very rarely come together in one place. There are

*Relay for Life, continued on page 2*

### Unique Dining in a Unique Neighborhood

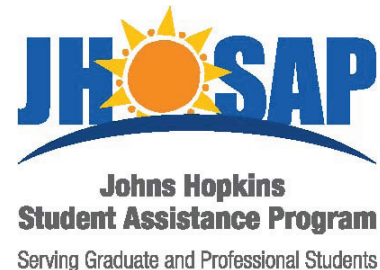
Christina Fuentes

Directly west of the Homewood campus, Hampden is a charismatic neighborhood not frequented by many graduate students situated at the medical campus. While not as convenient as other areas in Baltimore, this area is definitely worth checking out. “The Avenue”—West 36<sup>th</sup> Street between Falls Road and roughly Chestnut Avenue—is a distinctive strip of restaurants and shops. Just to name a few places (all within a few blocks of each other), wine lovers should visit 13.5% Wine Bar and The Wine Source, shoe and chocolate lovers should visit Ma Petite Shoe, vinyl record collectors should visit True Vine, and folks looking for an authentic Baltimore experience should eat at Café Hon. But my favorite place in Hampden is Golden West Café, whose style is exemplary of the Hampden scene.

In its current location of 1105 W. 36<sup>th</sup> Street since 2003 (it was at a smaller spot in Hampden for a few years prior), you begin to appreciate Golden West’s uniqueness

*Golden West, continued on page 2*

### Self-esteem: Building Self-worth & Confidence



Self-esteem is the perception of one’s own intrinsic worth, based on thoughts, beliefs, and life experiences. People with healthy self-esteem feel good about themselves, value their skills and talents, respect their own intelligence and act on their beliefs and feelings. People with low self-esteem - unable to accurately assess their strengths and weaknesses - often judge themselves harshly and negatively. While healthy self-esteem brings a sense of confidence and accomplishment, low self-esteem can greatly impact the quality of an individual’s relationships, work or studies. Low self-esteem can keep you from enjoying life,

*Self Esteem, continued on page 6*

immediately upon entering. The dining area is decorated with brightly colored walls, old framed paintings, and a mounted bison head and moose head. Emphasizing the assorted menu contents, which I'll get to soon, each menu cover is a different vinyl record cover. Record covers also wall the restrooms, and in the women's restroom parasols hang upside down from the ceiling. Sounds bizarre, I know, but somehow Golden West pulls off the décor in a way that seems fun and natural—nothing about the place feels pretentious or contrived.

As for the menu, Golden West focuses on New Mexican specialties, but really the menu is as eclectic as the décor and the surrounding neighborhood. For example, menu items include a chorizo breakfast burrito, chili cheese tater tots, white bean bruschetta, a Thai salad, polenta, and a vegan BBQ riblet sandwich. On this particular visit my two friends and I started off by taking advantage of one of Golden West's weekly specials: \$8 bottles of select wine on Wednesdays. The Oxford Landing Grenache Shiraz Mourverde was quite good, especially considering the price! With the wine served we began our meal with something that struck us as unusual: a Frito pie. A mix of Frito chips, salsa, jack cheese, black beans, and chorizo served in a bowl lined with a Frito bag, we agreed that this appetizer was as tasty as it was unusual. Under the appetizers section we noticed a listing for cookies. No, cookies aren't offered as an appetizer; they're listed there to remind customers to order the cookies when they order their meals so they have time to bake. We anxiously ordered three.

For entrees, one friend had the chicken quesadilla. With the chicken smothered in jack cheese and cilantro pesto, not a bite was left as he sat happily stuffed. My other friend had the breakfast quesadilla, which was filled with scrambled eggs and jack cheese and served with sides of hash browns, guacamole, and salsa fresca. Another plate left clean by the end of the meal. As for myself, I ordered the Pittsburgh steak salad, a huge pile of romaine lettuce, tomatoes, jack cheese, grilled hanger steak, and garlic fries (how could I resist trying a salad that included garlic fries??). My plate wasn't left empty, but that's definitely not because my meal wasn't delicious—I just couldn't finish such a large portion! And after all, I had to save room for

my cookie. The cookie selection of the day was Health bar cookies, and these warm, gooey cookies were the perfect end to a satisfying meal full of assortment (to say the least!).

There are a couple bonuses to visiting Golden West that I should mention. First, the cafe often hosts bands; to see a listing of upcoming shows go to <http://www.myspace.com/thegoldenwestcafe>. And finally, located behind the main dining room, Golden West also includes The Long Bar, which offers an array of beers, wines, and signature cocktails. The full menu is also available in the bar until 10 pm, and a bar menu is available from 10 to close.

As for logistics, the dining room is open weekdays from 10 am to 10 pm (closed between 3 and 5 pm) and from 9 am to 10 pm (Saturdays) and 8:45 pm (Sundays) (closed between 2:30 and 5 pm on weekends). The Long Bar is open until 1 am Monday through Sunday and until 2 am on Friday and Saturday. Only street parking is available, but with a little driving around I've never had a problem eventually finding a decent spot. A short cab ride from Mt Vernon or Charles Village, however, may be the ideal way to go.

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*Relay for Life, continued from page 1*



very few events that truly bring the entire Hopkins community together – few that unite all the various campuses, students, faculty, staff, patients, and the surrounding neighborhood. While the American Cancer Society's Relay For Life of Johns Hopkins did start as an event focused on raising cancer awareness and funds for research, education, advocacy, and patient services, it has evolved into something more and something spectacular. It is the event that brings everyone together. Groups and individuals come out to support the cause,

have fun, and promote their own initiatives – health awareness and education for various diseases, nutrition, general health, and so much more – while coming together and supporting the community.

Relay For Life is the American Cancer Society's signature event held annually on the Homewood campus. This year, it will be held on Friday, April 16 starting at 7pm until 7am Saturday, April 17. Teams camp out overnight to show their support by celebrating the lives of those who have battled cancer, remember those we have lost, and fight back against a disease that takes far too much and far too many lives. The Hopkins event is truly unique and amazingly fun. We invite all groups and individuals to join and/or support us – promote your cause and get our support while we receive yours. You're always going to be busy, always going to have that next experiment you want to do, maybe have that paper to write, but everyone can afford to take a few minutes to make a difference:

Visit <http://www.relay.org/jhu> or <http://www.jhu.edu/relay>:

- 1) Join the expanding Med School team: Pathobiology Super Troopers. Everyone is welcome to join!
- 2) Donate! All donations are tax deductible and much appreciated.
- 3) Come out! Come check out the event and the excellent entertainment, games, and fun:

Friday, April 16, 2010 at the Homewood campus – Keyser/Upper Quad behind the library: 7am – 7pm

Questions: Feel free to contact us at [Relay@jhu.edu](mailto:Relay@jhu.edu) or [JHURelayTeams@gmail.com](mailto:JHURelayTeams@gmail.com). Thank you so much!

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## Graduate Bible Study Group @ JHMI

The Graduate Bible Study Group at JHMI is a Christian fellowship made up of members of the Hopkins community (primarily graduate students, but everyone is welcome) interested in topics that relate to science and faith. We usually meet weekly to discuss issues that pertain to the aforementioned topics as well as fellowship together. If you are interested in finding out more about this group, please contact [gbsgjhmi@gmail.com](mailto:gbsgjhmi@gmail.com).

## Neuroscience descends upon the Windy City

Matthew Boersma  
GSA Travel Award Report



What do mad cow disease, your first date, neurons, and 30,000 scientists all have in common? The annual Society for Neuroscience (SfN) meeting in Chicago!

This was the first year that the SfN meeting took place in Chicago and was also the first time that I was able to visit more of the city

than the airport. One of the very first things that struck me about Chicago was how familiar the city seemed to me. Then it dawned on me: Chicago played Gotham City in the new Batman movies. While in the films you only get a general sense of the grand architectural styles, while visiting, it was the city's parks that really struck me. Chicago basically has miles of parks that line the waterfront of Lake Michigan. The mayor even ripped out an old airport from an artificial island and turned it into a huge park full of native prairie grasses criss-crossed with biking and jogging trails. By far my favorite area, though, was Millennium Park, which was a cross between a green roof garden and modern art, with a bridge connecting the park to the adjacent Art Institute of Chicago. It felt like I had just stepped into a landscaping or architectural magazine spread.

Just a couple of miles down the lakefront sits the convention center, a series of cavernous halls and many rooms to hold the throngs. The greatest strength of the annual SfN meeting is probably in its networking opportunities. Among the many thousands of attendees, I had originally thought that there would be no way you could run into anyone you knew without a pre-arranged meeting place or without looking for them at their poster. But on the other hand, with such a

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*SfN Chicago, continued on page 7*



# LIFE Earth Day Celebration 2010: April 22<sup>nd</sup>

What are the chances of three Snowmageddons in one winter?? How is this linked to climate change?? Could massive snowstorms become more common?? If you are interested in climate change and environmental issues then we would love to have you attend our annual Earth Day Celebration on Thursday April 22nd.

This year we will have a panel of experts who can answer your questions about climate change and sustainability. Of course we will provide plenty of beer and food. We will also be holding a raffle and will be accepting any used electronics, printer cartridges, and batteries to be recycled. So come have a beer (or two, or three...) recycle all those old electronics you have lying around, enter for a chance to win many exciting prizes, and most importantly learn how to live green!

Hopkins LIFE (Leadership Initiative for the Environment)

Wow, you're one  
Smart Cookie!

In honor of Women's History Month, the Biomedical Scholars Association (BSA) has planned two fantastic March events to celebrate women in science.

First, BSA will Spring into Science with Girl Scout Troop 1422! This community service opportunity is designed to inspire young girls to enter STEM (science, technology, engineering, and math) fields. Starting in March, we will be helping the girls of Troop #1422 earn their GS science badges and Smart Cookie patches with three hands-on learning modules. The molecular biology themed "It's A DNA World", the forensic science based "Who did it?", and mini-rocket construction in our "Let's go to space!" activity are sure to engage, excite, and encourage these girls to explore the wonderful world of science. We are planning to

deliver 1 module per month for the next three months and are looking for dedicated volunteers to help join the fun. If interested, please e-mail [bsa@jhmi.edu](mailto:bsa@jhmi.edu).

Later this month, BSA has partnered with the Greater Baltimore Chapter of the Association for Women in Science (AWIS) and the Hopkins Biotech Network (HBN) to hold the 2010 Women in Science Tea. This informal tea aims to bring together female scientists and supporters of women in science from various academic levels (students, postdocs, faculty, and staff) and sectors of science (academia, industry, and government). "Why would I want to go to this?" you might ask. The real question is "Why not network, make new friends, mentor or be mentored, and snack on delicious delicacies simultaneously?" BSA, AWIS, and HBN invite you to join us on Wednesday, March 31, 2010 from 2:00-4:00 PM in the Turner Concourse. Please provide a "personal or professional tip" when you RSVP at the following link: <http://www.surveymonkey.com/s/6NDK9VZ>. A compiled list of the tips will be available at the event. We're looking forward to seeing everyone later this month.

Khadijah Mitchell  
BSA President

www.girlscoutsofbaltimore.org

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„Restriction Digest“

# Brain Researchers Think Clearly in Rarefied Air

Matt Roos

## GSA Travel Award Report

The 10<sup>th</sup> annual Computational and Systems Neuroscience (Cosyne) conference was held this winter, drawing over 700 participants. The conference provides a forum for scientists to present their experimental and computation work in systems neuroscience and discuss approaches to problems in the field. The conference is split into two components. Meetings are held over three days in Salt Lake City and include presentations throughout the day and poster sessions extending late into the evening. Subsequently the conference moves to a nearby ski resort (this year it was in Snowbird) where focused workshops are held—allowing for more in-depth presentations and discussions, along with an afternoon break for mountain activities.

This year's meeting opened with an address by keynote speaker, Clay Reid. Dr. Reid is a professor of neurobiology at Harvard Medical School doing research on the visual system. His more recent work, and the subject of his lecture, involves the relationship between neuronal function in primary visual cortex (V1) and the underlying anatomical connections. Using two-photon imaging of calcium dynamics in V1 his lab identifies neurons with specific response properties (e.g., selectivity for the orientation of a bar or edge in an image). This same brain region is subsequently processed and reconstructed using large-scale serial-section electron microscopy (EM). Individual neurons analyzed with two-photon imaging can be identified in the EM reconstruction, allowing detailed synaptic connections of local circuitry to be identified and analyzed with the goal of understanding how the functional activity of an individual neuron arises. The work provides a wealth of data that may be used by neuronal modelers in pursuit of this goal. In some sense, Dr. Reid's work is ahead of its time. The mountain of imaging data requires extensive human labor to manually identify and trace circuitry about a neuron of interest. Full dissection of the circuitry is impossible under current methodologies, leaving much more work to be done.

A second highlight of the meeting was a special series of lectures to honor the career of Horace Barlow. Dr. Barlow has been a highly influential scientist within the computational and theoretical neuroscience community. His early thinking on the redundancy of neural coding and the role of this redundancy in higher cortical areas has driven the work of many research labs, both computational and experimental. His more recent work explores the sparse, overcomplete representations of sensory information in neocortex and the manner in which the neurons code for robust, invariant representations.

Perhaps the most memorable session of the conference, and one that adhered well to conference goals of open discussion and debate, was the final lecture in a workshop on “the sampling hypothesis.” The lecture, which morphed into a give-and-take with the audience, was given by Alex Pouget, one of the founders of Cosyne and a giant in the field of computational and theoretical neuroscience. While most workshops were attended by 20-30 people, this particular workshop was more heavily attended and was packed with perhaps 50 people by the time of Dr. Pouget's lecture, many of them standing against the walls two-rows deep, or sitting on the floor directly next to the projector or screen. The content of the lecture (neural implementation of Bayesian inferences) was intellectually challenging and not for the mathematically averse. Yet the crowd teemed with energy and one attendee, Dr. Máté Lengyel, emphatically debated finer points of the topic with Dr. Pouget—the two battling it out like a pair of fast and nimble prize fighters. Yet despite the jabs and uppercuts there was always a sense of mutual respect between the two and many listeners were captivated by the display of intellectual power. The scene epitomized the spirit of Cosyne.

And yes, the skiing was good.

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## Our next Restriction Digest Deadline is May 7th!

Send your stories, pictures, event announcements, and articles to one of our editors and also check us out online at:

<http://www.hopkinsmedicine.org/gsa/newsletter/index.shtml>

doing the things you want to do, and working toward personal goals.

## **What causes low self-esteem?**

The causes of low self-esteem are many and varied. It can result from depression, guilt, self-doubt, prolonged misfortune and ongoing failures, or trying to live up to unrealistic standards. Self-esteem can also be related to that which others think of us; we tend to believe the perceptions of others, right or wrong.

## **What are the effects of low self-esteem?**

Your self-image is extremely important in maintaining a healthy mind and lifestyle. If you are constantly questioning or doubting yourself, you may be creating conditions for one or more of the following effects of low self-esteem:

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- Social anxiety
- Depression
- Lack of confidence
- Lack of motivation or goals
- Procrastination
- Negative, unrealistic view of self and others
- Limiting beliefs
- Trouble forming healthy relationships
- Overly dependent on others
- Anger management issues

## **Watch your self-talk**

Your thoughts shape your moods. If your thoughts are causing you to criticize yourself, to feel angry toward others or interfere with your relationships at work or school, it may be beneficial to realize that your thoughts are just that, only thoughts. They are reflections, observations, and opinions over which you ultimately have the power to control.

## **Changing the damaging effects of negative self-talk through mindfulness**

Thoughts can be altered, transformed and changed in order to help you feel better, more positive and more hopeful. Becoming aware of your thoughts is the first

step. Mindfulness is an activity in which a person becomes intentionally aware of his or her thoughts and actions in the present moment, non-judgmentally, and intentionally replaces negative thoughts with more constructive and positive ones. The following suggestions can increase mindfulness and reduce negativity:

1. *Learn to be optimistic* - react to setbacks from a presumption of personal power by recognizing that bad events are temporary setbacks, isolated to particular circumstances, and can be overcome by your effort and abilities.
2. *Maximize the positive and minimize the negative* - Thoughts grow with attention. If you focus on negative thoughts, they will grow and become larger. Focusing on the positive will deflate self-limiting and self-defeating thoughts, thus, empowering you.
3. *Activate hope* - Believing that you have positive strengths and talents allows you to feel good about yourself, even through stressful times, because you can pull from a bank of resources that make you uniquely you.
4. *Drop “should have” from your vocabulary* - Avoid using “should have” statements that keep you embroiled in regret and guilt. No amount of ‘should have’ thinking can change the past, but statements such as: “I can” and “I will” may bring about a better present and future.
5. *Reframe in the moment* - When you find yourself in situations that you feel negative about, try to reframe the moment by generating alternative beliefs, putting the situation in perspective or by creating evidence that contradicts your negative feelings or thoughts.

## **Things you can do every day to improve self-esteem**

- Pay attention to your own needs and wants.
- Listen to what your body, your mind, and your heart are telling you.
- Take care of yourself - eat a healthy diet, exercise, get enough sleep.
- Take time to do things you enjoy.

- Do things that make use of your own special talents and abilities.
- Spend time with people.
- Make your living space a place that honors the person you are.
- Do things that you know will make you feel better about yourself.
- Do something nice for another person.

## Seek assistance

The Johns Hopkins Student Assistance Program (JHSAP) is committed to assisting students in managing the challenges they face during their academic careers. JHSAP provides support to students in dealing with substance abuse/dependency, personal, academic, and relationship problems.

If feelings of low self-esteem continue to interfere with your ability to be successful, you may benefit from more individualized services. Contact the Johns Hopkins Student Assistance Program (JHSAP) at 443-287-7000 or visit our website for more information: [www.jhsap.org](http://www.jhsap.org).

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*SfN Chicago, continued from page 3*

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broad attendance, you can run into *anyone*, from other Hopkins classmates to that great seminar speaker from last year. No matter who you find, a great conversation is always waiting to happen. I even went to go talk to the editor of a journal to discuss my submission and the review process. I thought that the editor would have been mobbed, but instead she was sitting quietly by herself and seemed eager to talk. One of the most useful opportunities for me was the ability to meet so many JHU alums who have since moved on to new institutions. Talking to them gave me the chance to try to get their inside information on great labs to join for a post-doc.

The main reason for attending the meeting, though, was to present a poster about my research into the regulation of synaptic connections between neurons by the NF- $\kappa$ B transcription factor. Fortunately I received lots of encouraging comments and even had one PI offer me a position. It was great to meet many of the other people studying NF- $\kappa$ B in the brain and learn about some new directions and of two new mouse lines that had just been made.

Generally my lab is interested in how changes in gene expression can regulate learning and memory, so I spent a good deal of time at posters focusing on synaptic connections. One possible mechanism for memory formation is to change the number of synaptic connections between neurons and also to modify the strength of those synapses. But proteins at the synapse can rapidly turn over, while our memories can last for a lifetime. So how do you maintain the strength of the synapse if its molecular components are constantly changing?

This was exactly the question that Nobel Prize recipient Eric Kandel was trying to address when he asked the audience in the largest conference hall at the meeting: Can you remember your first date? He was talking about his lab's work with prion-like proteins in neurons that can perpetuate themselves by causing a conformational change in a protein, just like prion proteins are thought to act in mad cow disease. He proposed that a prion-like protein could act as a perpetual signal to tag a synapse. This would allow that synapse to maintain long-term changes and subsequently maintain the memory itself, thereby allowing us to keep our life-long memory, be it good or bad, of our first date.

Even with a carefully planned itinerary, 30,000 neuroscientists can still be overwhelming (imagine 15 football fields full of posters and vendors). So during lunch one day, I wandered out to the lakefront to decompress and found a 6 acre sanctuary, ironically a green roof of a parking garage, to have a quiet minute to myself. Lots of native grasses and shrubs provided a great habitat for wildlife. And standing there in this field in the middle of Chicago, I even found what looked like a rabbit skeleton in the brush and the hawks flying overhead seemed to answer my unspoken question.

After the meeting, instead of taking the shuttles to the hotel, I walked back downtown from the convention center along the lakefront, talking with a college friend about our research and arguing about which restaurant had the best pizza in the city. For this great trip that let me explore Chicago, network, present my research, and learn about the latest science, I can thank the GSA travel award.



# Welcome to JHSAP

Balancing school, work, and everyday life can be challenging. That's why we're here to help!

Managing the demands of even small life events can be more difficult when your time and energy is heavily committed. As a result, it's easy to become overwhelmed and stressed. Extra support and developing healthy coping skills can be helpful in these situations - and that's exactly what the Johns Hopkins Student Assistance Program (JHSAP) has to offer.

JHSAP provides suitable resources to assist students with the pressures and difficulties they may encounter during their academic careers. JHSAP is a life management resource that helps students to identify and manage challenging issues, in healthy ways.

## Some common concerns are:

- Stress and anxiety
- Life Transitions
- Interpersonal relationships

- Depression
- Grief and mourning
- Eating disorders
- School and work difficulties
- Academic performance and productivity
- Family and relationship concerns
- Adapting to a new environment
- Substance use concerns
- Learning disabilities

JHSAP services are free, confidential, and there is no limit to the number of times a student may access services. Immediate family members of eligible students may also access JHSAP services.

For more information, to schedule an appointment, or to speak with an after-hours on-call clinician, call (443) 287-7000 or (866) 764-2317 (toll free). You can also visit our website at [www.jhsap.org](http://www.jhsap.org)

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## "Restriction Digest"

### Sudoku 12x12 - Puzzle 2 of 5 - Hard

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