

Publication of Neuroscience Students Neuroscience Graduate Students' Association, University of Alberta

Letter from the NGSA President

I will start by saying welcome to all of the new graduate students in Neuroscience! Some of you new students may already know the ropes of the U of A and you may already be very familiar with the Neuroscience program but I would love to see all the new students at the orientation day we have planned. The NGSA has organized a really fun afternoon and a perfect excuse to get out of the lab for a few hours!! Starting at 1:30 we'll be having pizza and pop with a rousing game of neurojeopardy. Don't worry, we'll make it easy on everyone! We have also challenged the profs to a game of softball on Corbett Field. So we hope to see everyone (new and old grad students) for the afternoon of Sept. 17.

Secondly I would like to update everyone on the plans for the 6th annual NGSA research days. This year, the event will be held in Bernard Snell Hall on November 4th. Tim Murphy of UBC will be giving a talk at our regular Thursday seminar and a poster session will follow at 2:00 – 5:00. I would encourage all students to submit abstracts to this event as there are cash prizes available! We have received a grant from the GSA and we hope to make this year's event better than ever. I would also like to invite anyone who is interested to join us for dinner with Tim Murphy following the poster session. It will be an excellent opportunity to get to know this world-renowned scientist who will be visiting Edmonton for only a short time. Look forward to more information on this event as we make further plans.

- Melissa Kelly

**Chocolate bars on sale
for \$1.00 in Carol Ann's office
(room 513, HMRC). Support
the NGSA!**

Letter from the Editor

Well, this is my final letter as Editor of the PoNS, so I'm going to take this opportunity to make a few points. This is primarily because... well, frankly, because I can.

First, I'd like to extend a hearty welcome to the new grad students and postdocs joining us this fall. Starting a new program can be daunting, particularly if you're from out of town. I'd like to encourage the newcomers to get to know the Neuroscience team at the U of A - come to the TGIFs, post-talk lunches, BBQs, sporting events... Don't be shy! I think you'll find our group here very friendly and easy-going. Particularly if beer is involved. Anyway, we've included a "grad school" survival guide in this issue of the PoNS, and we hope you'll take a few moments to check it out. Additionally, Dave Hayes was helpful enough to provide a number of websites with some great information on the Edmonton scene.

I'd like to encourage new (and continuing!) students to join the ranks of the NGSA - this group is completely student-driven and has accomplished a lot in the last year. And it won't run without volunteers. 'Nuff said? On that note, thanks to those of you who helped out with the PoNS by contributing articles, or granting us an interview.

I'd also like to take the opportunity to say congratulations to those of you (like me!) who have completed their studies here. It's been quite a ride! May the future bring you every success.

Finally, I'd just like to let everyone know how much I've personally enjoyed my time at the U of A, and particularly my association with the Centre for Neuroscience. I hope you keep in touch.

- Hannah Pazderka-Robinson

Interview: Dr. Timothy H. Murphy

By Dave Hayes



Having come to Edmonton just once before, Dr. Tim Murphy is both excited and honoured that the Neuroscience Graduate Student's Association has invited him for another visit. He recalls his first visit as having a few surprises. "It wasn't very cold," he said, referring to our internationally renowned winters, "I came sometime in April and though I was a little amazed by the amount of ice still in the river, it was actually quite warm outside". When I asked what he thought about our University, he laughed to himself and said, with just a tinge of guilt in his voice, "I was very impressed by the hospital – it actually seemed better than the one at UBC".

Dr. Murphy has been a professor at the University of British Columbia since 1994, working both in the Psychiatry Department as well as in Physiology. While his main focus is in cellular and molecular neuroscience, it wasn't always that way. "Having grown up in Hawaii, I was originally interested in marine biology, which is why I did my BSc in Biology at St. Mary's College of Maryland. I found that it entailed a great deal of lab and field work, so I began to realize that medical research was more practical". When asked about how his focus got steered towards neuroscience he replied, "I had a small introduction to it in undergrad...I remember learning things involving cell and molecular changes in aplysia, that sort of thing...When I went to grad school in 1984, there weren't many neuro programs around at the time. I got really interested in the actions of endogenous opioids and peptides and how they affect mood and behaviour, so I ended up joining [the department of] Pharmacology".

Recalling his own grad student days, I asked him what piece of advice he would give to the current generation of students. "Well, don't think about short term goals", he said. "Everyone gets bogged down with that, and if you plan on getting a[n academic] position in the next four years, you need to open your mind...read and discuss. There is too much hunkering down in the specifics – the student should

focus on being self-directed and motivated". One example he offered was many students' reluctance to attend their journal clubs. "When I was in grad school we didn't have the internet," he pauses to express a little amusement at the thought, then continues, "so I was reading 5 or 6 main journals, like Science, Nature, Neuron, Journal of Neuroscience, PNAS. Though I can't say I actually do that anymore...the more you read, the better off you become." With regard to the graduate work itself he notes, "I also see a lot of reluctance towards the criticism of one's work...the student might complain 'it's not ready yet' or 'I haven't figured it all out', when in fact this is the most important time for interaction and discussion – not anxiety".

His own research today is focused in a few different areas. After mentioning that graduate students are often unable to put their own research into a 30-second, concise talk – "a good [self]-test towards knowing if you can understand and conceptualize your own work" – I challenged Dr. Murphy by asking him to do the same. "Well", he laughed, "let's see...my work has distilled into different areas such as looking at stroke and the endogenous pathways in astrocytes and how to block damage found in ischemia. We look at plasticity after stroke, for example, because both humans and animals improve in this respect, suggesting that rewiring or new allocation of function is occurring. So one aspect of our research focuses on how dendritic spines turnover or adapt to ischemia in vivo. Another line of research uses imaging techniques to investigate synaptic function at the level of the individual synapse. While previous work has looked at the functioning over populations, much more can be learned at the single synapse level. Finally, looking at ischemia in terms of its clinical relevance is also a good thing. We try to investigate factors regulating damage, plasticity, neuroprotection and post-stroke objectives". For someone not very familiar with Dr. Murphy's work, I conveyed my interest and appreciation for his '30-second test'. "I passed?" he said with a chuckle.

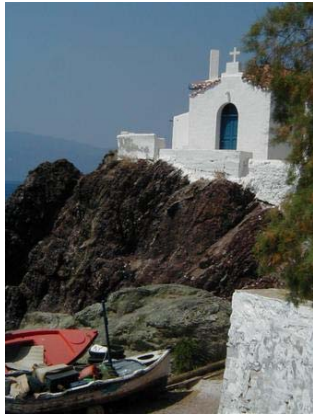
**Dr. Timothy Murphy will be speaking at this year's Neuroscience Research Day that will be held on November 4th in Bernard Snell Hall. All are welcome to attend.

*The 2004 Vivian Smith Institute of the International Neuropsychological Society**

**or, What I Did on My Summer Vacation*

By Hannah Pazderka-Robinson

This summer I had the great pleasure to accept a Vivian Smith Institute fellowship for the study of the human frontal lobes. The Institute is held annually in conjunction with the International Neuropsychological Society (INS) for one month, in the seaside town of Xylocastro, Greece. A total of 84 students from around the world participated, with specialties in areas as diverse as Parkinson's Disease, depression, schizophrenia, OCD, brain injury and - my own area of interest - addictions. The breadth of experience varied from brand new grad students, to practicing clinical neuropsychologists.



We were joined by 12 professors offering coursework in everything from neuroanatomy, to development, to clinical aspects of frontal lobe function, to theories regarding the role of the prefrontal cortex. As registered students, we attended no less than 40 hours of coursework on topics of our choice, although we were free to attend as many extra classes as we wished. Additionally, a course on scientific writing, and a Greek language course were also offered to anyone interested.

Of course, students can't be expected to work *all* the time, and we certainly did our share of site seeing. From the ruins of the theatre of Epidauros and



ancient Olympia, the site of the first Olympic games circa 750 BC, to the lovely beaches of Xylocastro, to the lush mountains of the Greek islands

- every weekend was an absolute thrill. The museums were filled with artifacts dating back literally thousands of years, and you were never quite sure when you turned a corner whether you might come upon some ancient ruins. Of course, a mitigating factor was the constant 40 degree



heat - but it's a price we were willing to pay...

But really, the best part of the entire experience was getting to know the other students. Most of us arrived as complete strangers (I was the only student from western Canada), but we left as friends. I will forever treasure the memory of sitting at one of the seaside cafés, comparing grad school war stories, comparing political and social systems, or just soaking up the sunshine. I'm sure future years will see them not only (I hope!) longterm friends, but esteemed colleagues.

Of course, none of this speaks to how much I learned in terms of scientific information - which was a lot! There's something to be said for attending intensive, specialized courses, and I know I came away with a lot of valuable knowledge. I'd strongly encourage others to seek out comparable opportunities, it really was a once-in-a-lifetime experience.

This is only the third year that the Institute has held the summer school; previous year's topics were language and memory. Although the



topic for 2005 has yet to be announced, rumor has it that it might be ADHD or autism.

If you're interested, or would like more information on the Institute, visit their website at:

<http://www.uth.tmc.edu/clinicalneuro/institute/index.html>

Graduate Student Survival Guide

By Hannah Pazderka-Robinson

By all accounts, graduate school is supposed to mark an exciting, fulfilling chapter of your life, marked by opportunities for meeting friends and colleagues with similar interests, and developing one's capacity for rational thought, and introspection...

Well, maybe it should, but that ain't always the case. The truth is, this probably isn't the easiest path you could have chosen, so consider this fair warning. I'm going to walk you through the developmental trajectory of grad studies, with the hope that it might be instructive, or at least mildly humorous! Keep in mind that the following only represent my thoughts and experiences...

The Acceptance Letter

The two-week period following your acceptance to the grad school of your dreams is generally a honeymoon period. It is filled with moments of joy when you realize you have a (somewhat) viable lifeplan for the next few years, interspersed with moments of puffed-up pride and calling yourself "Dr." in your own head, and panic. This is a pretty magical time. It will fade quickly once classes start.

Oral Exams

Given that your coursework is going okay, one of the most frightening things about grad school is oral exams. Keep in mind that public speaking is considered the number one phobia (followed by heights and snakes... if your dissertation happens to be on mountain-dwelling snakes, no one envies you.)

Anyway, there is no great way to tackle this. I took a class in public speaking via a Continuing Education program, which was pretty helpful in terms of getting practice. Other excellent advice I received was "practice it 3 times" – beyond that, you *will* be comfortable with it. In the final analysis, I found the "just do it" approach works best for me. Once the presentation is ready and you're happy with it, don't waste time obsessing about it. Walk in, take a deep breath, and go. Tip: be sure to keep a glass of water

handy, which will both help your throat and give you a way to stall (not that you'll need to).

Data Collection

There are likely ethics issues or, at the very least, a proposal to put together. It obviously differs from lab to lab. For instance, I was working with a group of people in treatment, and the only time they could participate in my experiment was on Saturdays. I was also paying them out of pocket, which also hindered some of the data collection. These would not be issues for someone working with animals. Or bacteria. Or animals covered in bacteria.

The nice thing is, at least some of this is bound to become mechanical, and eventually you will find yourself churning out data.

Analysis is another issue...

Data Analysis

This is often one of the most daunting parts of the task, yet one which can likely be overcome relatively quickly, once you convince yourself to tackle it. If you're nervous or having problems, look for resources. If you can, talk to your supervisor. There are lots of helpful sources on-line now, as well as newsgroups devoted to statistics. Inevitably, it's never quite as bad as you think it's going to be.

The Crisis

As far as I can tell, this appears to be a bonafide stage of the grad school process. For whatever reason, it co-occurs with data analysis. At this point, expect to have a breakdown (yes, you *will* cry), during which you tell your significant-other, or mom, or best friend, or maybe a bartender, that you have "no idea why you're doing this", and maybe you should "chuck the whole thing and become a jewellery designer/CEO/sailor" or whatever bizarre alternate life is calling to you.

Take for example the case of my friend whose supervisor told him that his thesis topic sucked. Nice.

Once you come to terms with the fact that this crisis is normal, inevitable, and *will pass*, you will be better equipped to handle it. (Note – guys in the honeymoon

period, I know you're laughing now, but mark my words....)

The Grind

At some point, the angst and inertia pass, and that's where the dissertation really begins to take shape. Here is an important suggestion to take away with you: It doesn't matter when or how you write. I gave up a year of weekends with my daughter to sit in my parents' basement and slog through papers. Other approaches I've heard of include taking a two-week sabbatical to "commune" with your thesis, or writing for 20 minutes every morning. Some people work best at 3:00 am. In the end, it really doesn't matter – there's no "right way" to complete a dissertation.

Finally, the social factor inevitably plays some role:

Friends and Family

Mostly, your friends and family will be baffled - not only by what you're studying, but by your desire to study it - and will often inquire whether you are "done yet". This will quickly become the bane of your existence (see section entitled "The Crisis").

Other Students

I've found a great deal of variability in terms of interactions with other students. One friend, who was accepted to study down east, developed the habit of comparing cv's every time she came back to visit. That gets old fast. Another was constantly running down our supervisor (whom I quite liked), which made for unnecessary tension in the lab. So, in the end, I'm still best friends with the same old guys from high school, who couldn't care less about the content of my days or my head. But that's just me.

A Life During Grad School: Just a Dream?

So in the final analysis, the real question is: Can grad school really be a period filled with not only intellectual enrichment, social connectedness and emotional fulfillment? Is it possible to have a life?

The short answer is: No. Not really

Well, okay, sure it can. But it's not easy. It's tough enough to maintain balance in an ordinary life! The next few years will see you constantly being tested,

trying to incorporate and integrate new information, and to maintain focus when those around you are goofing off. Also expect to live on mac and cheese because, in the final analysis, you get to pay for the honor of being here. And be prepared for your friends to be get married, have kids, buy new cars and homes, while you continue to struggle with exams and papers. And expect them to rub it in.

Remember, though - taking care of yourself is not an option. Don't be ashamed to take a break when you need one. Make it a priority to keep yourself healthy, and don't lose touch with the people you love

Face the Facts

You will hear it at some point, so it's just as well you hear it from me: Grad school is an endurance race.

Once you're here, it doesn't have much to do with how smart you are. Everyone here is smart. It's about how passionate you are about your topic, and how stubborn you are. It's about self-confidence – sticking with what you're studying even when people whose opinion you respect are being negative. And I suspect the ability to speed-read is a real advantage. Maybe take some time to learn to do that.

Anyway, the best piece of advice I can offer is one I got from a Quote-a-Day newsletter, as attributed to Confucius: *"It doesn't matter how slowly you go, as long as you don't stop"*.



Just one trial of conducting "blind" research.

Courtesy Eric H. Chudler, University of Washington

News and Events

Graduate Student Research Days

This year's graduate student research days will be held in the Bernard Snell Hall on November 4. This is a great opportunity to find out what your fellow students are up to, and to present what you've been working on in your lab. Dr. Tim Murphy, University of British Columbia will be our guest lecturer – read an interview with Dr. Murphy on pg. 2.

What to Do in Edmonton

Contributed by Dave Hayes

For those of you who are new to the city (and still determined to have a life, despite our dire warnings), here are a number of sites to orient you to some of the local goings-on. Might we suggest you check some of these out *before* the snow starts to fly...

<http://www.edmontonplus.ca/portal/index.jsp>
<http://www.infoedmonton.com/>
<http://www.infoedmonton.com/Restaurants/>
<http://www.eventexpress.ca/eventshowLISTsep04.html>
<http://www.edmontonopera.com/>
<http://www.jubileeauditorium.com/northern/>
<http://www.winspearcentre.com/>
<http://www.tixonthesquare.ca/IndexSetup.lasso>
<http://www.yardbirdsuite.com/>
<http://www.nightlifeposter.com/>

TGIF

The NGSa is hosting a TGIF on Friday October 15th - come drink & mingle at The Bridge after work!

Elections

NGSA elections will be held sometime in December/January. All people interested in filling a position are invited to attend. Positions include:

- President
- Treasurer
- Newsletter editor
- Clinical visit coordinator
- Sports representative
- Social representative

Please come out – remember, it looks good on a cv!



Courtesy Eric H. Chudler, University of Washington

Neuroscience Resources

Contributed by Dave Hayes

Some interesting neurosites and University of Alberta links worth checking out:

<http://web.sfn.org/>
<http://www.neurosciencecanada.ca/topEN.html>
<http://www.ibro.info/>
<http://www.uofaweb.ualberta.ca/financesub/nav01.cfm?nav01=16931>
<http://www.hslas.ualberta.ca/>



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