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Career Network for Science PhDs at Yale

By Michael Bradley

So...what to do with that bioscience PhD, in these economic times? According to a recent NSF survey, since 2006, > 50% of all science, technology, engineering, and mathematics (STEM) PhD holders in the U.S. are working outside of academia. Although the total number of bioscience postdocs currently working in the U.S. is a tough number to pin down, it is estimated that among postdocs actively seeking a tenure-track academic position, < 20% will land one. My point in quoting these figures is not to discourage anyone from pursuing a career in academic science research and/or teaching. Rather I intend to dispel the notion that non-academic careers for bioscience PhD holders should be viewed as “alternative careers” or “backup plans.”

While STEM doctorate workers have much lower unemployment rates than the U.S. average, many struggle to develop non-academic careers that fully leverage their skills, aptitudes, and credentials.

Typical graduate programs generally lack official curricula aimed at helping students develop marketable skills with application outside the classroom or research lab. However, leading bioscience graduate training institutions like Yale often organize extracurricular presentations, panel discussions, and workshops that at least discuss non-academic career possibilities. Nevertheless, while these top graduate schools may sponsor events that list non-academic career choices, they can be inadequate in facilitating non-academic job placement for bioscience PhDs. It’s as if a Yale graduate student who has just defended her thesis walks through a door into a room with many other doors leading to a variety of career options. Thanks to the extra-curricular workshops she attended during her training at Yale, she can at least see signs on the doors that name each career choice. However, after trying several of them, she realizes she doesn’t have the keys to any of the doors except the one labeled “Academia”, and upon opening it,
finds herself at the back of a long line of recent graduates and postdocs.

To help address these issues, we recently created the Career Network for Science PhDs at Yale (CNSPY). Our primary aim is to help advance the careers of science PhDs through informational events and more importantly, networking opportunities. An Executive Board composed of Yale graduate students and postdocs currently organizes CNSPY activities and initiatives. We envision a new paradigm where connections forged between academic science training centers (e.g. Yale University) and organizations that employ and value science PhDs will help optimize the flow of highly trained scientific capital.

Our model utilizes a network connecting graduate students and postdocs, faculty, and career mentors from PhD employing organizations. We arrange events where career mentors representing scientific industries, non-profits, and governmental organizations present profiles of jobs in their organization that require or prefer PhD holding candidates. Our goal is not only to facilitate discussion of “what employers are looking for,” but also to help Yale graduate students and postdocs build their professional network en route to selecting and progressing along their chosen career path.

CNSPY additionally intends to help generate an entrepreneurial atmosphere at Yale, in New Haven, in Connecticut, and beyond with the help of its affiliated organizations including venture capital firms, tech transfer groups, and the Yale Office of Cooperative Research. As hard-working, creative, and industrious individuals, PhDs are often well suited to start new companies and develop ideas into profitable products and services. Bioscience PhDs in particular have the possibility to advance human health with their discoveries, which can provide a track record of achievement that when packaged correctly and leads to attractive job offers in the biotech and pharma business sectors.

CNSPY events incorporate networking opportunities to the benefit of all parties involved. CNSPY works to catalyze dialogue between students/postdocs, faculty, career mentors, and affiliated organizations. As mentors of PhD students and postdocs, faculty members are uniquely positioned to identify opportunities and facilitate networking between potential employers and their mentees. In addition to helping trainees discover career paths that resonate with them, career mentors gain access to well-trained top talent and professional contacts with the Yale faculty. CNSPY aims to foster connections between students/postdocs, faculty, and industry experts to help establish avenues for collaborations, new business ventures, and job opportunities. We currently count ~80 graduate students and postdocs, ~20 Yale faculty, and over 40 companies/non-academic organizations as members and supporters of CNSPY. We welcome the participation of additional trainees and faculty (including serving on our Executive Board), and we’re always looking for additional career mentors and affiliated organizations.

If you would like to learn more, please check out our website: http://www.careernetworkforsciencephds.org/
You can also find us on LinkedIn: http://www.linkedin.com/groups?gid=4138977&trk=hb_side_g
Getting to Know the Yale Police Department

By Andrea Stavoe

I was shivering in the dark holding a paintball gun in the middle of New Haven. I rounded the corner of a parked bus and tried to determine which target had a weapon. I was supposed to quickly determine which target had a gun and shoot it. There were a few problems – it was dark out with only orange street lights for visibility and, more importantly, one of the targets had fallen down. There were two targets remaining and the closer one was clearly holding a cup of coffee, not a gun. So I figured the guy in black holding something that looked black was a better choice than the woman holding coffee. So I switched the safety off and pulled the trigger. I had never shot a gun (other than a water gun) before. Not surprisingly, my first shot did not hit the target. It actually sailed through the air far above the target, over the wall and apparently into the Grove Street Cemetery. I was determined to do better. Two shots later, I shot the target in the torso. I was quite pleased with myself and promptly returned the paintball gun to the police officer, who informed me that I had just shot an innocent man who was holding a remote (who walks around carrying a remote?). That made me sad, but the actual target holding the gun was the one that fell down, so I figured I did pretty well.

If you’re worried about the fact that a completely naïve grad student is wandering the streets of New Haven carrying around a paintball gun shooting innocent targets at will, don’t be. You can do it too! This fall, I participated in the Yale Police Department Citizen’s Academy. We got to shoot the paintball guns on the last day, under the full supervision of several police officers. If you think my tale was shocking, there were more terrifying people in my class. One woman shot the bus window; several others decided they needed to take out all of the targets (the targets were wood, fyi).

The Yale Police Citizen’s Academy is a 6-week program during which anyone affiliated with Yale can learn about the Yale Police Department. My friends, family and mere acquaintances can attest to the amount of information I learned about the Yale Police (I would relay most of the information to everyone I could). For example, I learned how the Yale Police Department was founded. We can thank Yale medical students for that one. Apparently, in the 1880s, Yale medical students did not have enough cadavers, so they dug up recently deceased citizens from the New Haven Green (or so the rumor went). Unsurprisingly, this was cause for concern among New Haven residents. So much concern that the citizens went beyond occupying the Green and straight to rioting.

New Haven Police had to take care of the situation, but two officers thought it might be a good idea to start communicating with the feisty med students. The two officers got hooked and the Yale Police Department was born.

Apart from all the cool things I learned (did you know Yale has a bomb squad and a SWAT team?), I got to meet Eli, Yale’s own bomb-sniffing dog. He even showed off his impressive talents, finding bomb-making materials that were hidden in the conference room. I couldn’t smell anything out of the ordinary. We heard all sorts of tales about bombs found by the police and the incredibly idiotic things ordinary citizens do (would you carry a bomb in your lap while carelessly driving in New Haven?). We got to hold and inspect defused bombs and models.

A different evening, the FBI came to visit. I was very excited, since I’m a big fan of TV crime dramas, but had never had any contact with a real live FBI agent. I learned that there are 120 FBI agents in Connecticut (60 in New Haven)! I also learned that many successful applicants to the FBI now hold Masters or PhD degrees (the FBI is one of the few federal agencies still hiring), so I found a new job opportunity. We also got a tour of the Yale Police Department from Assistant Chief Patten – the evidence lockers, the interrogation rooms, the holding rooms, the booking station, the gym, and the dispatch center (it has a lot of screens and only two people working there at any given time).

One evening they focused on what to do in active shooter situations (think Columbine or Virginia Tech). #1 – Get out (obvious). #2 – Call 911, no matter how many people are calling. Those were all fine and good, but then they started talking about what you needed to do if you couldn’t get out. #3 – Hide out – but be prepared that the police won’t be sure that you aren’t the shooter and will treat you as such. #4 – Lock/barricade the room that you’re in. The last was the worst – what if the shooter comes into the room that you are in? Take out the shooter (following the logic that at this point you are fighting for your life and have absolutely nothing to lose). That conversation made me nervous, but after relaying the information to my labmates, we concocted a very detailed (and somewhat ludicrous) plan of action. Unfortunately, my bench is practically in the doorway, so it’s my job to somehow take out the shooter before being shot.

One highlight of the program was meeting and interacting with the police officers, detectives, sergeants, lieutenants, assistant chiefs, and the chief of police. Yale has some pretty amazing people working at the Yale Police Department. They are committed to our community and keeping us safe (many of whom stayed late to help out with the Citizen’s Academy). One thing that they told us is that the police interact with people on the worst days of those people’s lives, which can get to be very stressful. It just never occurred to me, so now I try to smile and say hi to police officers (without appearing creepy).

The Yale Citizen’s Police Academy is offered once a semester. I strongly encourage you to take advantage of this resource and learn about the department and people sworn to protect you.
This year’s BBS recruitment was extremely successful and resulted in a 2012/2013 entering class of 114!!

Recruitment photos courtesy of Carol Russo, Shirlene Scott and Thai Binh Luaong
One Year (365 Days/8,760 Hours) Later

By Gadareth Higgs

With the recent invasion of recruits from the various BBS tracks, I’ve been reminded of just how quickly time has passed since last February. It seems as though just a few weeks ago, I was one of the many students being entertained by upperclassmen during Yale’s visiting weekend. I distinctly remember sitting on a table with some fellow recruits, while Dean Pollard enlightened us about our ultimate goal while pursuing a Yale PhD: to discover something novel.

But this year, I found myself wearing the other shoe, as I now had the awesome responsibility of attracting recruits by shining the Light and telling the Truth about Yale. Given the fact that I’ve had more than my fair share of positive experiences here over the last year, this undertaking proved to be more of a privilege than a task.

I had the good fortune of coming into Yale early in June to participate in a summer internship at Bristol-Myers Squibb. On top of gaining exposure to a popular modeling program and additional experience in industry, this opportunity allowed me to better adjust to New Haven life, and meet fantastic people before classes.

My transition from the Bahamas was certainly made easier by the wonderful group of interns I worked with. Apart from meeting up regularly for lunch in the company cafeteria, we built camaraderie, through weekly gatherings and potlucks, which has endured. This network of fellow students has opened up doors for the other shoe, as I now had the awesome responsibility of attracting recruits by shining the Light and telling the Truth about Yale. Given the fact that I’ve had more than my fair share of positive experiences here over the last year, this undertaking proved to be more of a privilege than a task.

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Dear B,

I'm a little embarrassed and hope you can help me. I've never used radioactivity in the lab before, and, well, I don't know what to wear during my upcoming experiment.

--Clothed in Ignorance

Dear Clothed in Ignorance,

No need to be embarrassed. I'm here to help. Follow the instructions below, and you'll be both safe and fashionable:

Your feet – Should you spill radioactivity on the floor, distance from the spill is your best defense. That's why you should wear platform shoes. Google “gene simmons shoes” for guidance on what to buy.

Your private parts – Everyone knows that plaid naturally repels radiation, so definitely wear plaid pants.

Your torso – While there’s some disagreement here, most experts agree that a Captain America shield is all the protection you need. Make sure it's painted red, white, and blue. These colors confuse the radioactive particles.

Your hands – Those particles will literally bounce off of your hands if you're wearing big foam fingers that say "We're #1!".

Your head - This one is pretty obvious. Don a fencing mask. If it can protect your head from those pointy sword thingies, then radioactivity doesn't stand a chance.

Dear B,

My little brother is going to college and wonders whether to choose a career in art or in science. What do you think?

--Big Bro

Dear Big Bro,

If he chooses art, he'll be unemployed and living at home with your parents till he's 40. If he chooses science, he'll need to go to grad school.

Looks like a career in art, don’t you think?

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Lifestyles of the Poor and Academic Travel Lite!

By Phillip McCown

Wondering what to do for travel for spring break or for a vacation... conference on a grad student's salary? Well, I have a few tips for you that will allow you to stretch your dollar, but not compromise on your stay.

1) If you need a credit card or if you want to get another one, either get one that has airline miles as perks or transfer over to one that does. Every dollar you spend can mean discounts on mileage for an airline ticket. Be on the lookout for expiration dates on miles, though also look for instances where you can double or triple your miles earned.

2) Try to book a flight on discounted airlines. The only caveat with this is that you most certainly get what you pay for.

3) Try by bus or by car. Everyone should experience a Greyhound at least once in their lifetime and road trips are ALWAYS fun. Because, after all, Scotty doesn’t know...

4) Take a train. Sometimes it may be worth it to take a train, plus, as with the Greyhound, you should take one at least once in your lifetime. Beware of trying to get to Michigan, Wisconsin, Minnesota, or the Dakotas from here, however, as it will take a LOT longer to get there due to geography.

5) Attempt to use travel sites or travel agencies. Now, bear in mind that the travel agents and sites are out to make money on you saving money, so it would be worth it to do a bit of math ahead of time to make sure you at least break even. Also, some travel agents have a tendency of not taking airport sizes into account when you book connecting flights. I've heard first-hand accounts of this happening, often to the dismay of many people who missed connections due to a 5 minute window in between the arrival time of one plane and the departure time of another. However, Seth McFarlane is definitely appreciative of his travel agent making this same mistake.

6) Book your flights/train tickets/bus tickets well in advance. Sometimes this cannot be done; however, if you know when you'll be on vacation, book a ticket well in advance. At least one month is sufficient. Airlines have a price scheme where prices increase at one month, two week, one week, and one day prior to flight, with one day prior being most expensive. Some airlines even have a price scheme down to a day-to-day schedule. I've also noticed that Amtrak does the same, though with not as large of a time window as airlines.

7) Have fun! It is said that getting to somewhere is half the adventure of the trip itself. Oh, remember to take a camera, lots of memory for it, and sunscreen! As always, if you’re going to a foreign country, make sure your passport is up to date and wcheck www.state.gov/travel. It is a fantastic website that is full of advice for people traveling abroad. It also has a list of visa requirements for US citizens and assessments of countries as a whole for every country under the sun.
Movements in Food
Recipes
Pielets, or Mini-Pies

By Natalie Ma

This winter’s mild weather has brought us an early spring! Entertain guests finally willing to leave their homes again to visit you with these adorable individual-serving pies. They take a bit of work to make, so if you want to be lazy about it you can always just forgo the muffin tins, cut the pie crust into rectangles, and then put filling on one side and fold over and close the edges with a fork. Then they’re turnovers!

Materials:
- 2 pie crusts*
- Pie filling of choice**
- A wide-mouth glass or round cookie-cutter ~120 cm in diameter
- Muffin baking trays
- Canola or vegetable oil or spray

Methods:
- Preheat the oven to 350° F.
- Brush or spray the cups of the muffin baking tray with oil.
- Roll out the pie crusts until they are ~3 mm thick.
- Use the glass or cookie cutter to cut circles out of the pie crusts, and press them into the cups of the muffin baking tray. Press the crust against the bottom and sides of each cup so that most of the cup is covered with the crust, but be sure not to tear holes in the crust.
- Spoon pie filling into each of the crust-lined muffin tray cups until nearly full. You may have pie filling left over afterwards, but that’s okay. Just eat it and pretend it’s nutritious.
- Use the glass/cookie cutter again to cut more circles out of the pie crust. Place each circle of crust on top of the filling, pressing it down around the edges so it joins with the bottom crust lining the cup.
- Bake for 30-40 minutes or until crust is golden brown.

Makes 12-16 pielets

* I made my own crust using this recipe: http://allrecipes.com/recipe/french-pastry-pie-crust/detail.aspx
**Pie filling pictured is this: 5 cups finely chopped apples (about 4 apples), 1 cup brown sugar, ½ tsp. cinnamon, 1/8 tsp. nutmeg, 1/8 tsp. allspice. Toss everything together so the apples get evenly coated with the sugar and spice.
Dear B,

The undergrads in my class were really upset this semester because I expected them to work hard. Am I missing something here?

--Confused

Dear Confused,

Missing something? Apparently you’re missing Secret Society Tap Night, sorority and fraternity rush, College formals, Naked Parties, Spring Fling, squash practice, toasts at Mory’s, Master’s Teas, and about 425 other things your students needed to focus on. It’s a bit presumptuous to think they were going to, you know, study, don’t you think?

Dear B,

I’m presenting a poster at a big national meeting. Putting this poster together takes a lot of work, and it will be an utter waste of time if nobody at the meeting comes to look at it. How do I draw a crowd?

--Poster Child

Dear Poster Child,

If you’ve been to meetings before, you already know some of the desperate strategies for getting attention: wearing a clingy outfit, getting all your friends to stop by at the same time and pretend to be amazed by your results, or using phrases like “potential cure,” “finally solved,” and “world peace” in your poster title. Sad. Just plain sad. If you really want to draw a crowd of authentically enthusiastic people to your poster, stand a giant stack of plastic cups in front of the poster. Next to the cups, tap a keg of beer. See where this is going? Now rip open a bag of pretzels, and stand back as you say hello to a throng of very, very happy poster viewers.

B magazine’s "Self-Help Books for Scientists" Contest

1st Place  The Great Outdoors: Photos of the Outside World You Once Knew
winner of $20 gift certificate to GPSCY
Matthew Akamatsu, MB&B

2nd Place  LB Broth for the Soul
Jonathan Chee, Microbiology

3rd Place  Eat, Pray, Get Back in the Lab and Finish Your Experiments
Stacey MacGrath, MB&B

Honorable Mention

The audacity of hope: how to obtain your PhD in less than 7 years
Alex Lipovsky, Genetics

Other Notable Entries

A Data Point a Day, Keep Your PI Away: A Guide to Data Fabrication
Vincent Yip, MB&B

PI waffle-mind: Why your experiment idea was great yesterday, terrible today, but will be great again tomorrow
Anit Banerjee, Genetics

Coping with Murphy’s Law, Book I: Admitting you are powerless
Jonathan Haskins, Ex. Pathology

Grad School: the art of working 100 hours per week while still making minimum wage
Jay Serebrenik, MCDB

Success: the 1,963 step program
Callen Hyland, MCDB

Hobbies, “Free-time” and 25 More Obsolete Concepts for Scientists
Zen and the Art of Microscope Maintenance
Matthew Akamatsu, MB&B

How to Win Grants and Influence Journal Editors
Stacey MacGrath, MB&B