Newsletter
Behavioral Laboratory in the Social Sciences
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Alice Li

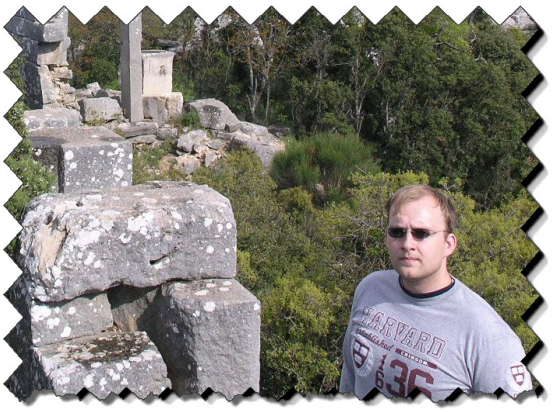
Year: 2014
Concentration: HDRB
House: Winthrop
Hometown: Chino Hills, CA

PRISE research project: Identifying Small Molecules that Increase Efficiency of Direct Conversion from Old Mouse Fibroblasts to Motor Neurons

When fibroblasts isolated from young embryonic mice are directly reprogrammed into neurons, the efficiency is 20%, but when fibroblasts are isolated from old mice, the efficiency is only 0.2%, marking a significant 100-fold decrease. This is an issue because human regenerative medicine does not make sense for treating human embryos; the intended age range includes adults and the elderly. Thus, it is of great interest for us to find ways to increase the efficiency of direct reprogramming when the starting cell type is isolated from older subjects.

About Alice: Outside of science, I'm really passionate about food politics- my inspiration is Jamie Oliver, a British chef who was able to revolutionize school cafeteria systems to shift from processed "food" to entirely fresh ingredients. I find it unbelievable that french fries are considered by many school systems as a full serving of vegetables, or that there are "food deserts" in Los Angeles where entire neighborhoods can't even find a single apple. Eating right may sound cliché, but it holds such unbridled potential for preventive medicine and it's something that really inspires me to get involved!

Laszlo Seress



Name: Laszlo Ryan Seress
Year: 2014
Concentration: Chemistry and Physics, Joint Concentration in Mathematics
House: Cabot House
Hometown: Dublin, OH

PRISE Research project: I work for Professor Betley in the chemistry department. My project is the design and the synthesis of a catalyst for C-H bond activation and functionalization. The goal is to take hydrocarbon feedstocks and convert them into commodity chemicals (for example, converting pentane into n-pentanol).

About Laszlo: I enjoy white-water rafting, bungee jumping, and riding roller coasters. I can probably be seen wearing argyle or singing christmas carols in the yard. I have an unhealthy fascination with Harry Potter, but I love almost all science fiction and fantasy books. My favorite films include all of the ones by Studio Ghibli and Holiday Inn. I enjoy seeing ruins and traveling around the world - I've been fortunate enough to have visited 26 countries!

Most embarrassing lab experience: Once, I was running a reaction overnight at reflux and the tubes came off the reflux condenser and sprayed water everywhere, flooding the lab.

Fun fact about you: I once caught an eel while fishing.

Most embarrassing lab experience: Everyone in my lab is assigned a “lab job”- mine includes restocking individually-packaged filters for cell straining. One day, I thought the amount in the box looked low, so as the responsible, helpful undergrad, I brought up a new package from our received mail room and started to restock…until the box started getting fuller and fuller and I’d created a perfectly crafted mountain of filters, the kind where you take out one and start an avalanche. For some reason, *no one* noticed until a research assistant did a double-take and asked out loud, “Who’s restocking the filters?”…and then showed me the designated shelf for half-restocked boxes!

Fun fact about Alice: I choreograph classical Chinese dance (and hip-hop/krump) for Harvard’s Asian American Dance Troupe.

Michael Lindeborg

Year: 2014
Concentration: Human Developmental and Regenerative Biology
House: Kirkland
Hometown: Laguna Niguel, CA

PRISE research project: My research project focuses on a special cell cycle inhibitor p57 in the context of hematopoietic stem cells (HSCs). P57 is a protein that acts as a cyclin dependent kinase inhibitor (CDKI), possible tumor suppressor, and negative regulator of the cell cycle in most cell types. Interestingly enough, it is the only member of its CDKI family (CIP/KIP) that is expressed at high levels in HSCs. Therefore, I am investigating the effects of p57 in HSCs by knocking it out in mice and studying it in parallel with other hematopoietic progenitor cell lines.

About Michael: Growing up, I really loved magic.

Nicholas Stanford

Year: 2012
Concentration: Chemical and Physical Biology
House: Currier House
Hometown: Lima, Ohio

PRISE research project: Revving up worm immunity: Can activating the innate immune response of an animal BEFORE it comes into contact with a pathogen increase its chances of survival when exposed to a pathogen? Hopefully, yes, otherwise this will be a long summer.

About Nicholas: I originally wanted to write fiction, but then I noticed that writers tend to die profoundly unhappy. Sometime freshmen year, I read *Surely You're Joking Mr. Feynman*, and his zany antics taught me that life as a scientist could be a lot of fun. I also liked the social nature of problem sets - everybody sitting around a dhall table until the wee morning hours, alternatively cursing humanities concentrators and the stupid head TF.

Most embarrassing lab experience: I left a fridge door open over the weekend and ruined a lot of stuff...

Fun fact about you: Fox's *Glee* is set in my hometown.

Louise Hindal

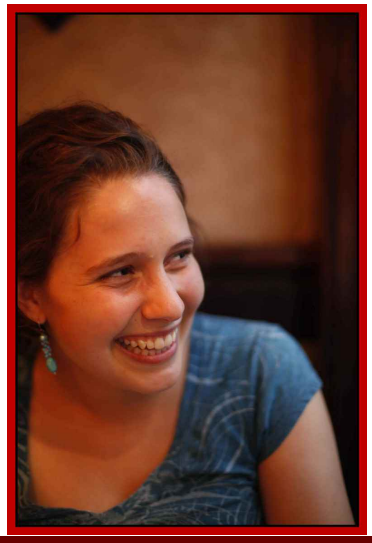
However, once I learned that magic really wasn't real and figured out that I really wasn't that impressive of a magician, I resorted to the next best thing: science. I loved making ice cream in a bag, dissecting things, and feeling the heat off of the exothermic salt-whipped cream reactions. These things are almost magic, and one of those things on that list really tested my scientific aptitude lately.
On a random note, I love music, snowboarding, and traveling. At Harvard, I play the oboe in the Harvard-Radcliffe Orchestra, and I just got back from an awesome tour in Cuba.

Most embarrassing lab experience: So…actually my most embarrassing lab experience happened back in the glory days: middle school. In our 8th grade lab, we had to boil a beaker of water. For some reason, our group was a little over enthusiastic, and we decided to turn up the Bunsen burner extremely high so that flames were literally crawling up the sides of the beaker. Since our school's science program was safe and logical, our teacher told us to use paper towels as a potholder. Nobody in our group wanted to touch the boiling beaker, so I did with lots of paper towels because obviously, I didn't want to get burned! Unfortunately, the paper towels caught fire and I may have set the classroom on fire. Luckily, I was able to put out the fire with a graduated cylinder, but my teacher wasn't so happy. We also didn't think of turning down the Bunsen burner to make it easier. After that glorifying experience, I knew I was made for science.

Fun fact: I like to eat big bowls of raw spinach.

Richard Ebright

Year: 2014
Concentration: Chem or CPB
House: Cabot! Woo Quad life =]
Hometown: North Brunswick, NJ



Year: 2012
Concentration: CS (Mind, Brain, Behavior Track)
House: QUINCY!!!!
Hometown: Originally Pittsfield, MA but more recently Charlotte, NC

PRISE Research: I am working on a project developing computer software that is meant to help teachers better understand what their students are doing. The idea is that there are many ways to solve a problem (in particular math and science problems) and that it is helpful for teachers to be able to easily know the method a student tried to use. Teachers can't watch over the shoulders of 30 students all at once, so this software is meant to help them get a better sense quickly of what their students are doing by analyzing the individual steps they take.

Personal Bio: I have always been interested in science, math and engineering because I love understanding how things work. When I was young, I was constantly taking things apart to see how they worked and tinkering with things to understand how all the pieces fit together. I used to go to the Museum of Science and would sit in front of the pool ball machine for hours to make sure I understood how every piece of it moved. I didn't discover CS until college, when I realized I got to use my love of problem solving to make programs that could better help me understand the world.

Outside of science, I am really involved in Harvard FOP. I participate in Quincy IMs and generally try to be an involved house community member. I am also very interested in education, community, group dynamics and leadership.

Most Embarrassing Lab Moment: I wish I had a good one! I mostly work on my computer by myself though, so

PRISE research project: I'm working with the Cancer Target Discovery and Development team in the Schreiber lab. We screen small molecules with specific targets against large numbers of human cancer lines. The goal of the project is to identify small molecules that have effects on certain cancer lines, then to use the specific properties of the small molecule and the cancer line to determine why the effects occurred. Doing so will allow us to determine novel pathways involved in cancers, as well as help us identify novel targets for anti-cancer drug discovery.

A short personal bio: Although I'm a chem/cpb major, I do bio research and my most time consuming extracurricular is Model United Nations. Now, you may be wondering why I do Model UN as a science major. Luckily, I've been asked this countless times, forcing me to develop a go-to response that contains the phrases "correspondence, conversation, and collaboration," "working with live people," and "things that I can't do with my chemicals." In addition to growing cancer and corresponding/conversing/collaborating, I breakdance (badly), and I also enjoy playing Ultimate frisbee and tossing glowsticks in the air.

Also, yes, I'm hapa (half Asian, half white), but no, I don't speak either Chinese or German. And I might be pre-med, but I'm not sure. That should cover the standard questions. =P

Most embarrassing lab experience: In high school, I worked in a lab that used ethidium bromide for running gels. The first time that I ran a gel, my postdoc warned me that ethidium bromide was very dangerous, and that I had to be super careful when loading the samples into the gel. After a few practice wells, I assured my postdoc that I was fine, and he went to the bathroom or something. About 10 seconds after he left, I dropped the eppendorf with the ethidium bromide all over myself and the floor. Needless to say, my postdoc was not happy, and he sent me home to change. So I had to drive home/back in rush hour traffic because of a few drops of blue stuff. Also, my gel failed.

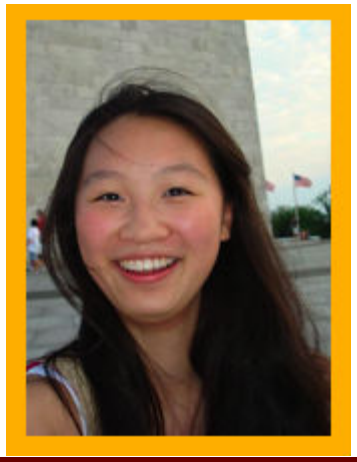
Fun fact: I drink a Starbucks venti (large) iced coffee with 2% milk and toffee nut syrup every day. In fact, I was drinking one as I write this. Yay caffeine and capitalism!

Mark Martinez

not much opportunity to really get laughed at.

Fun Fact: I still take a first day of school picture every year, and have a collection of them going back to preschool.

Shelun Tsai



Year: 2013 (rising junior)
Concentration: Neurobiology
House: Eliot
Hometown: New City, NY

PRISE Research Project: This summer I am working in Dr. Breakefield's Dystonia Lab at MGH. Dystonia is a neurological movement disorder in which sustained muscle contractions result in involuntary twisting movements and abnormal postures. We are specifically studying early-onset torsion dystonia (EOTD), which is caused by a glutamic acid deletion in the carboxyl terminus of torsinA (ΔE-torsinA) and is associated with dopamine system dysfunction. Despite the presumed relationship between torsinA and the dopaminergic system, the biological function of torsinA and its connect to dopamine has yet to be definitively determined. Since torsinA is a putative ER chaperone protein, we plan to investigate whether it has a role in the proper trafficking of dopamine 2 receptors (D2R), which could potentially assist in pharmaceutical advancements for dystonia patients.

About Shelun: I feel like I've always been fascinated by science, (I mean, who doesn't enjoy making things explode, watching shiny objects, exploring the unknown, and taking things apart just to see how it works.) but my interest in neurobiology was sparked by a course I took as part of Columbia University's Science Honors Program (SHP). Outside of academics, I enjoy indulging

Year: 2014
Concentration: Physics or Math/CS
House: Adams
Hometown: Not applicable

PRISE research project: Finding the Electron Electric Dipole Moment

About Mark: I've always been interested in science, but video games were probably one of the most influential reasons why I pursue it. I was introduced to retro games such as Megaman which relied less on written narrative and more on filling in the gaps with imagination, when I was really young. Those futuristic societies fascinated me and still fascinate me today.

Outside of science I like to play the piano, compose, and write.

Most embarrassing lab experience: I happened to run into the head of the physics department 4 times in the same week. The last time resulted in my graduate student being scolded by professor Franklin for trying to leave me alone at the water jet.

Fun fact about you: I've moved about 9 times. Lived in three continents and three states before coming to Harvard.

in delectable cuisines, watching Glee, and fencing sabre.

Most embarrassing lab experience: I run a lot of Westerns at the lab, and after running a Western I need to transfer the proteins on the gel to a membrane. I've done this multiple times, but one day, for some reason, all the transfers stopped working. I tried the transfers 5-6 times before realizing that I kept forgetting to push the "ON" button on the machine.

Fun Fact: My name isn't pronounced like it is spelled, and I technically pronounce my name incorrectly.