NEW BEGINNINGS

THE INTERVIEW EDITION

Features:

LETTERS TO MY YOUNGER SELF
PIs reflect on their own journeys through academia

THE FUTURE OF SCIENTIFIC RESEARCH
The Messenger discusses how research may be affected by the nation’s new administration

THE THREE-MINUTE THESIS
A public speaking expert explains how to present your research concisely
FROM OUR DESK TO YOURS

The Sackler Administrative team offers a warm welcome to the incoming graduate students

Hello, Sackler! The start of the New Year is an optimal time to provide updates about our new initiatives!

As you may have noticed, Sackler is expanding its scope, incorporating new training tracks of Biomaterials Science, Biostatistics, and Epidemiology. We are looking forward to adding Population Health to our portfolio in the coming year. These additions reflect the increasing scope of quantitative science at NYU School of Medicine, a field integral to all of biomedical research. The Institute of Systems Genetics, led by Jef Boeke, PhD, and Institute of Computational Medicine, led by Itai Yanai, PhD, are recruiting training faculty that will be part of the renamed Systems & Computational Biomedicine training track, formerly biomedical informatics. We look forward to recruiting students interested in these fields.

We are continuing our efforts to prepare graduate students for a variety of careers following their training. Sackler plans to offer a Board Certification Medical Affairs Specialist Program (BCMAS) for 10 PhD students in their final year of training. Medical Affairs is an increasing area of interest for PhD students, with the field growing at 300% in the last 10 years. The BCMAS designation is quickly becoming recognized as the ‘gold standard’ within pharma/biotech. The certification is an on-line program and therefore self-paced. We will announce details soon about the selection process for enrolling in this certification. We are also offering a 6-week Science Communications workshop in the spring, led by Tim Requarth, PhD. Dr. Requarth received his PhD from Columbia University and is now a freelance journalist who also directs NeuWrite, a national network of collaborative working groups for scientists and writers. This interactive class will provide valuable communication skills and begins in early February.

Our team is also growing, with the recent hiring of Valerie Newsome, PhD, who will be focusing on Sackler’s diversity and inclusion efforts.

(To read more about Valerie, see page 11.)
Lastly, we are excited about our new virtual tour website (http://nyusackler.university-tour.com/) that just launched. We encourage you to visit the site! Thank you to all the students and faculty who participated in creating these videos. We know this will be a valuable resource to showcase our research, academic programs, and community! Many of our applicants have never been to New York City or are not aware of what a graduate program in an academic medical center looks like. We are proud to be able to showcase our campus, students, and faculty.

Naoko & Susanne

THE SACKLER ADMINISTRATION

Lisa Beth Greene, MA
Assistant Director, Graduate Student Services

Valerie Newsome, PhD
Program Manager, Diversity and Inclusion

Jessica Dong, MA
Project Manager, PhD Program

Heather Petrucci, MSc
Project Manager, Medical Scientist Training Program (MSTP)

Amanda Tufekcier
Project Coordinator, SURP

Melissa Mangar
Program Coordinator, Master's Program in Biomedical Informatics

You can find Dr. Naoko Tanese (top left) in the Skirball 3rd Floor Administration area.

The rest of the Sackler Administration can be found in the Old Public Health Building (OPH, 341 E 25th St, corner of 1st Avenue), on the 2nd floor.
SACKLER AROUND THE WORLD
An infographic illustrates the many cultures represented at NYU School of Medicine

232 NYU PHD SACKLER STUDENTS* COME FROM 40 COUNTRIES

EUROPE
- Austria - 1
- Bulgaria - 1
- Denmark - 1
- France - 4
- Germany - 1
- Greece - 3
- Italy - 2
- Macedonia - 1
- Netherlands - 1
- Romania - 2
- Russia - 3
- Spain - 1
- Sweden - 1
- Turkey - 5
- United Kingdom - 1

ASIA
- China - 19
- Hong Kong - 1
- India - 8
- Iran - 1
- Israel - 2
- Japan - 5
- Korea - 1
- Malaysia - 2
- Nepal - 2
- Pakistan - 1
- Philippines - 2
- Singapore - 2
- Taiwan - 5
- Thailand - 1

AFRICA
- Ethiopia - 1
- Kenya - 1
- Nigeria - 1
- South Africa - 1
- Zimbabwe - 1

NORTH AMERICA
- Canada - 7
- USA - 133

CENTRAL AMERICA
- Costa Rica - 1
- Puerto Rico - 5

SOUTH AMERICA
- Chile - 1

* Determined by student's citizenship. No current MSTPs included.

Created by Dr. Arthee Jahangir

THE UNITED STATES OF SACKLER

As of December 2016, there are 232 enrolled PhD students* in the Sackler Institute. According to each student's permanent address and US citizenship, 133 of our PhD students represent 27 states, colored in dark purple.

* Not including current MSTP students

Created by Dr. Arthee Jahangir
Hey Sackler!

Happy New Year! Whether you are sad to see 2016 go or ready to leave it behind and embrace what 2017 has to offer, it sure has been a year to remember. We have really enjoyed the past six months as your student council and are looking forward to the fun and growth that comes with the new year.

The Fall began with welcoming the new graduate class of 2016 to Sackler with the traditional Orientation Week. We introduced the first year class to daily life in New York City with events such as the boat cruise, game night, bar crawl and barbeque dinner. In October, students showed off their artistic talent at our pumpkin carving event and danced the night away at the Halloween Party. With the help of candy canes, ugly sweaters and pizza, we closed out the year in style at our holiday party. Lastly, in an effort to give Sackler student clubs more exposure, we have been showcasing their initiatives at our bi-weekly happy hours. If your club wants to participate, let us know!

The start of a new year can bring changes and new opportunities. We are looking forward to meeting prospective graduate students and sharing with them what makes Sackler so great. Stop by the happy hours on Fridays (starting January 23rd) to meet these great students and keep an eye out for our emails for more ways to get involved. This spring, we will bring back our usual happy hours in addition to the annual spring formal, a baseball game, beach trip, and brewery tour. We are looking forward to seeing you guys out at our events!

If you have any ideas for events, or general comments and questions, feel free to contact any of us at any time. Your class liaisons are also available to bring any questions you may have to us. Thank you all for your support! We are looking forward to a great year.

With lots of love,
SSC 2016-2017

Emily Radke, President
David Ichikawa, Vice-President
Caroline Amendola, Treasurer
Sophie Dyzenhaus, Secretary
Alex Calderón, Diversity Chair
Greg Brittingham, Social Chair
Emily Kawaler, Social Chair
LETTERS TO MY YOUNGER SELF

If you could meet your younger self, what advice would you give them? In this feature article, current faculty members reflect on their careers.

By Lydia Grmai

The road through academia is anything but easy. It is seldom as straightforward as we think, even if we plan it out years ahead of time. And let’s be honest - academia is not a unique career path in this respect.

Whether you plan to pursue academia, industry, communications, administration, or something else after you graduate, there is a lot of uncertainty ahead. Undoubtedly, some will pick a path, stick with it until the end, and live scientifically ever after. But for many of us, our roads will veer: we’ll switch fields, we may leave the bench forever. Some will walk away from science and return years later, while a brave few may even return to school and pursue a different degree.

I would argue that there is high value in whatever we choose to pursue next, even if it doesn’t become our lifelong career and even if identifying that career takes us a decade. Making the most of every opportunity is important, whether or not we like them all.

That being said, wouldn’t it be great if we could talk to our future self, hear about all our victories and defeats, and make sure the ride is as smooth as possible?

We haven’t built a time machine yet, but here is the next best thing: we asked current faculty members at NYU to travel back in their minds to when they were young graduate students. The letters that follow are words of wisdom they would have given to their younger selves if they had the opportunity to meet him/her face-to-face.

You may not be able to hear advice from your own future self, but hopefully this sage advice offers some “pro tips” and encouragement as you go along your way.

First, we hear from Hyung Don Ryoo. Dr. Ryoo is an Associate Professor in the Department of Cell Biology at the Skirball Institute and studies mechanisms of ER stress and cell death using the fruit fly Drosophila melanogaster.

Dear Don,

I still remember as if it was yesterday: I was a graduate student in my twenties, full of energy, surrounded by equally energetic peers, searching for excitement and joy. Also with the youth came uncertainties: Anxious about the next lab meeting presentation, the temper of our mentors and our career prospects beyond graduate school. Now I am writing to you as a more reserved middle-aged man with a settled family life and a stable job. I am not sure how you will receive any advice that I can provide, as in reality I am now quite removed from the various issues, anxieties and challenges that are grappling you, but I will give it a try. I will argue that I frequently revisit the memories of my youth, vicariously re-live those moments while looking after my two young children. I am not that much different from you in that my favorite movies have once again become Disney animations, and my favorite music is by the composer of the Charlie Brown sound track, Vince Guaraldi. In fact, I am writing this letter while listening to his piano piece called “Cast your fate in the wind”.

I know that you had no reason to pursue science as a career. There are no scientists in your extended family who inspired you as a child, and as I understand, you were reasonably good in most subjects, including humanities, music and art. But you have now reached a stage in your life where you are forced to choose a particular career track. It is a competitive world out there, and being somewhere in the middle of the pack is being looked down with the word “mediocre”. So, how do you
decide which career path to pursue, and do you need to sacrifice your other interests?

In my case, I must confess that it was a series of Brownian Motion that took me to the path of a scientist. I think I would have been equally happy if I were in the business of creating animation movies. It just happened that I met a neighbor who was a microbiologist who lectured me about the beauty and the significance of biological science one day. Biology wasn’t exactly my favorite subject, but I was a blank slate who could be easily influenced. Somehow I cast my fate in the wind, as Vince Guaraldi’s piano piece title goes, and that wind has carried me to where I am.

Since I chose my profession rather impulsively, can I argue that this is really my true love? All I can say is that along the way, I have come to love science. It is not because I like to stuff my brain with more knowledge, but because the creative process of making hypotheses and the euphoria associated with making a new discovery is not different from other creative activities such as making movies, composing music and having a sense of deep satisfaction.

Even if you are fully in love with science, I know that it takes some courage to pursue the academic track that involves a lengthy postdoc, faculty job application and competition for grants. It sounds daunting, but I can tell you that things were not that different when I received my degree. We all had a habit of pointing to our professors who went to graduate school in the 60s and 70s, who used to tell us that most of their peers are now professors at major Universities. My peers and I used to lament the fact that times have changed, and job prospects in the academia are not great anymore. Some of my brightest peers decided not to continue with science, and instead, went to work for jobs that could immediately allow them to pay their bills – in consulting companies or law firms. And after twenty years, what I know now is that those peers who were bright, who had strong desires to succeed professionally and were not content with being merely in the middle of the pack, are all successful in their professions and living a good life. One of my brightest peers went to a part time law school while working as a paralegal. It was a grueling schedule (typically fifteen hours a day working, going to school and studying) for the first five years, but she is now an attorney earning a professional salary, living in a nice apartment, and successful in what she is doing. Another friend decided to become an administrator in an academic institution. She was smart and had great people skills, and is a valued member of her institution. And a surprising fraction of us who pursued an academic career, especially those who of us who had developed a strong passion and didn’t mind putting in extra time and effort into our work, ended up being professors in institutions that range from Columbia, the University of Wisconsin, Hunter College, etc.

Now, none of these jobs are easy, and we also complain about our difficult tasks. Lawyers tend to work long hours and are often sleep deprived. Administrators have to deal with many people who can cause headache. And of course, professors complain about their papers and grant proposals being rejected. But let’s face it. All jobs have their own challenges, and let’s not walk away thinking that ALL of these are bad professions. I often tell our peers that getting those rejection letters are no different from vendors who have customers walk away from them all the time, and business people who submit bids that get rejected frequently. That is the way of life for most of us living on this planet. We cannot help but to be shaken and demoralized by the complaints of our peers, but it would be misleading to put too much weight on those negative comments.

Along the way, I have come to love science. Not because I like to stuff my brain with more knowledge, but because the creative process of making hypotheses and the euphoria associated with making a new discovery is not that different from other creative activities.

So, Don, if my own experience can be of any use to you, I would conclude with the following piece of advice. Inevitably, life takes unexpected turns and you cannot predict in advance what will happen to your career in the long run. I myself consider these life changing events as fate, and I have tried to make the most out of them. But, once you have taken a certain trajectory, it will serve you well if you work with passion and drive. Believe it or not, there are still a lot of opportunities out there for talented and hard working people. Good luck!

From your Avatar,
Don Ryoo
Next, we hear from Heran Darwin, a Professor in the Department of Microbiology. Dr. Heran’s lab studies the role of the proteasome in promoting the pathogenesis of Mycobacterium tuberculosis.

Dear Younger Heran,

I know you love science, and maybe you don’t think you could actually be a scientist, but with the right decisions, you might actually be a decent scientist one day. Please permit me to give you some advice to help get you there:

1) Take ALL of your classes seriously. I know you’ll hate chemistry, biochemistry and (really hate) physics, but believe it or not, it will ALL come in useful. People might actually call you a biochemist one day.

2) Read the literature - and not just papers directly related to your work. I know, its another pain in the %#* and you’re a slow reader, but as someone once told me, “an hour in the library (or on PubMed) will save you three weeks at the bench.”

3) While you might always want to question your abilities as an academic, don’t. But do always challenge your knowledge and push yourself to learn something new all the time.

4) Surround yourself with supportive people. Whether it be family, friends or colleagues, they will be key to your sanity. Tidy the haters out of your life.

5) Don’t moonlight. Working another job while training is just wrong. I know you will try, so let me try to rescue you now...

6) Be a good friend and colleague. Don’t always let it be about you.

7) Be honest, but don’t be mean.

As you move up through the world, never compromise whom you take into your lab. Your lab is your second castle that you may spend more time in than your own home. People you hire should deserve the right to breathe the oxygen in your lab. Keep this in mind even on those days when you are totally stressed out over getting grants. More than anything, having passionate, motivated and creative trainees in a supportive environment will guarantee exciting science that will merit funding.

You will have many affirming moments in your career...they will be the days that YOUR trainees discover something that was never known before.

While there will be many ups and downs, I assure you that the ups will far outnumber the downs and you will love the fact that you have one of the most rewarding, exciting, and just downright fun jobs in the world.

You can do this...

With love,

Your older, more fabulous Self

While you might always want to question your abilities as an academic, don’t. But do always challenge your knowledge and push yourself to learn something new all the time.
Dear Rob of Yesteryear (and others),

Here's some advice: just be yourself! Lol, JK - as neuroscientists we know there's no such thing.

Anyway, you get lots of well-intentioned bad advice. Here are four things to know instead.

1) Undergrad

I went to art school and then got a degree in computer science; had minimal background in biology going into graduate school. I think that worked out - I still see a lot of parallels between the cultures of art-making and science, and having training in both programming and graphic design (as well as a love of language) has helped a lot while I'm writing papers.

2) Grad school

I didn't get into grad school the first round I applied. (See above re: lack of background/training in bio.) I almost took a job working at a bar, but instead lucked out and found a neuro lab that needed a programmer. The lab head knew my future grad school PI and that's more or less how I got into my PhD program. I think the lesson there also is to trust people; work hard for them and they'll work hard for you.

3) Postdoc

All my postdoctoral fellowship NRSA applications were triaged; I almost had to quit and find a new job. (Fun fact: each of those garbage proposals years later would be a Nature paper.) With only two months of funding left for me, I got a Jane Coffin Childs fellowship which saved my position. The Jane Coffin Childs proposal was very left-field, a cancer research grant for systems neuroscience. I think they just liked the novelty. Regardless, I did most of what I proposed anyway, because I felt obligated and grateful to stay in science. Bottom line: keep writing grants, over and over - all you need is one.

4) Faculty

I went out too early on a faculty job search a year into my post-
doc, and it was terrible. Reader, I'll spare you the details but my advice is - as long as there's funding for your current position, keep at it. I think it's common - but wrong - to feel like this year is special and if you don't go out and get a faculty job this year, all the positions/that special position will be gone. And keep talking about your work, meeting after meeting, person after person.

Good luck,
Rob

Executive summary: This is an art job about words and people. Expect a lot of failure, but please get weird. I think it's good to be philosophical about what you do and why you do it.
FALL EVENT Recap

Some highlights from recent events, sponsored by the Sackler Institute

Phillip Geter (left) and Julia Derk (right) are regulars at "Coffee With Susanne," which happens every Wednesday at 9:30am in the Smilow Cafe.

December 3: Sackler runners join Lisabeth in Brooklyn’s Prospect Park for the NYRR’s annual Jingle Bell Jog.

December 15: Scientists-by-day channeled their inner van Goghs by night at Paint Along NYC.

November 5: Students put their bow-and-arrow skills to the test at Gotham Archery in Brooklyn.

Upcoming events in Spring 2017:

- **January 18**
  - Ice Skating
  - Bank of America Winter Village

- **February 24**
  - MetroChords a cappella show
  - NYU Langone Faculty Dining Room

- **March 29**
  - How to Make Cupcakes
  - Butterlane, 123 E 7th St.
December 14: Students gather around the gingerbread cookie-decorating table at the annual Sackler holiday party.

November 18: Dean Naoko Tanese poses next to her surprise birthday cake at the Sackler mixer.

At the holiday party, students showed off gingerbread cookies AND a Sackler holiday gift - texting gloves in NYU colors!

OTHER FALL 2016 EVENTS:

September 24: Apple picking at Pennings Orchard
October 17: Visit to Zum Schneider, Bavarian Beer Garden

FEATURED COMIC:

NOW INTRODUCING...

As part of Sackler’s inclusion efforts, the administrative team will be joined on January 9 by Valerie Newsome, PhD, as the Program Manager for Diversity and Inclusion. Valerie obtained her Master of Science in Community/Clinical Psychology from Florida A&M University and a PhD in Biobehavioral Health from Penn State University. She recently finished her postdoctoral fellowship at NYU School of Medicine in the Department of Population Health, studying racial and ethnic disparities in health, specifically cardiovascular disease, HIV/AIDS, and sleep health. Valerie will work closely with the Office of Diversity Affairs to recruit, develop, and retain a diverse and inclusive community within the Sackler Institute. Please join us in welcoming Valerie to Sackler!
This podcast gives scientists a platform to tell their stories: not just about their work, but how it affects their lives.

By Kara Zang

Everyone seems to be listening to podcasts these days. They are a great way to pass the time while performing mundane, repetitive tasks in lab. If you’re looking for an excuse to get out of lab, your love for podcasts can still come in handy—many podcasts are recorded as live shows right here in New York City.

The Story Collider, co-founded in 2010 by physicists Ben Lillie and Brian Wecht, features true personal stories about science. The storytellers are sometimes scientists, but often they are not. Lillie and Wecht believe that science is part of everyone’s life, and their goal is to forge an emotional connection between their audience and science. The pieces are not lectures; they are stories about how science has affected the storyteller’s life.

For the lay audience, The Story Collider offers a window into the world of scientists and doctors. It provides a space for them to explore how much we benefit from modern medicine and technology. For the scientist storyteller, The Story Collider is a great opportunity to present ourselves as what we are: normal people. As an audience member, I find the most interesting stories are the ones that talk about how other scientists have dealt with adversity in their science or how science has failed them.

When I attended a show this fall, there was a woman who spoke about her PhD in marine biology. She told us about her love of diving to collect specimens. Soon after her qualifying exam, though, she found out that she had a heart condition, and she was no longer allowed to dive. She told us about working with her thesis committee to figure out if she could still earn her PhD and about dealing with the heartbreak that came with such devastating news. In the end, she acted as the project manager and successfully earned her PhD. She still acts as a project manager on dives.

At that same show, a doctor shared a very moving story. He told us about a little girl he helped deliver who had severe neurological problems. He and his team didn’t think she would survive past the age of two. The mother refused to believe them and would not allow any talk of such dire outcomes. After a few days, the mother and her baby daughter left the hospital. The doctor and his team wished them the best.

Ten years later, the doctor was at the hospital working, and a little girl in a wheelchair approached him and asked his name.

“You delivered me,” she said.

“That’s wonderful,” he replied. “What’s your name?”

Then her mother spoke up. “This is my daughter. Ten years ago you told me that she wouldn’t survive past the age of two. I just wanted to tell you that you were wrong.”

His jaw dropped. “Did you find a specialist?”

He asked, incredulous.

“No,” the mother said. “I prayed.”

Sometimes, the doctor told us, we get so hung up on what we think we know that we forget that there are still things that we cannot explain.

This is just a taste of what you might encounter if you check out the podcast at http://www.storycollider.org. The live shows are performed monthly, and the next Story Collider is on January 14. Hope to see you there!

WANT TO SEE THE NEXT LIVE SHOW?
CHECK OUT STEM FEST

This January, UNDER St. Marks becomes the “Large Hadron Collider” of the East Village as they ask the question: What happens when theater and science meet head-on at high velocities? Will we discover the Higgs-Boson Particle of Science Theater?

Test your hypotheses at STEM Fest from January 4-21, 2017.

More info:
http://www.horsetrade.info/stem-fest-16ce

Kara Zang is a 6th year PhD candidate in Niels Ringstad’s lab. She uses the reproductive behavior of C. elegans to study serotonin-driven neural circuits. She loves to dance and bike, but at heart she is a huge bookworm—she has read the Lord of the Rings trilogy 10 times. Since starting grad school, she has read at least 50 books (and she is always looking for suggestions).
WHAT PODCASTS ARE YOU LISTENING TO?

In 2016, we witnessed a surge in quality podcasts. While at the bench, podcasts can offer stimulating and nuanced commentary on topics ranging from politics to cooking techniques to race and identity. We asked your fellow graduate students to give us some of their best podcast recommendations.

By Cynthia Chen

"The Ezra Klein Show has some of the most spectacular interviews ranging from the writer Ta-Nehisi Coates to Jim Yong Kim, the president of the World Bank, and beyond. On it, Ezra guides in-depth interviews with compelling and dynamic guests explaining their perspectives on their work, current events, and how to revolutionize our world for the better."

"Invisibilia is extraordinary. It’s all about the invisible forces of the world - particularly psychological, social, and neurobiological - that shape human behavior. The story telling is addictive and they have extraordinary insight."

"I always listen to Two Dope Queens when I’m sorting flies at the bench. It’s a comedy podcast with topics spanning everything from racism to Ryan Gosling, and the dialogue between the two hosts always has me holding back laughter around my labmates." (YQY!)

"Code Switch by NPR is where to go for discussions on race and identity. Hosts Gene Demby and Shereen Marisol Meraji have thought-provoking discussions (with guests and with each other) on issues involving race in the news. Topics they have tackled include Philando Castile’s numerous traffic stops before his fatal encounter with police and the “explanatory comma.” Don’t know what that is? Or don’t know how to talk to your friends/family about these complicated issues? Stop and listen to Code Switch first."

"I listen to Another Round as soon as it comes out every week. The hosts, Heben and Tracy, are silly, fun, and smart. They (mainly) interview notable people of color, from UN Ambassador Susan Rice to Ta-Nehisi Coates to Michelle Obama’s hairstylist. Tracy and Heben come from very different backgrounds and age groups so it’s interesting to juxtapose their perspectives. Definitely worth starting from the beginning if you’ve never listened before; listening is like having a conversation with your BFFs."

"Host Aisha Harris on Slate’s Represent discusses representation of minorities, women, and LGBTQ people in movies and TV. She typically interviews one guest per episode and focuses on a specific topic relating to representation. Since we are experiencing somewhat of a Black Renaissance when it comes to film/TV, this is a great podcast to hear critical analysis of these new depictions and talk about what is still missing."

Cynthia Chen is a 4th year PhD candidate in the lab of Dr. Susan Schwab. Her research focuses on understanding the role of homing receptors in T cell acute lymphoblastic leukemia. In her increasingly limited free time, you can find her at the dog park with her dog, Beau, or hanging out at dive bars around town.
RESEARCH AT WORK

In each issue, we highlight the recent work of one talented Sackler student. In this installment of Research at Work, Valentina Snetkova pushes our understanding of transcriptional regulation by enhancers.

By Evelyn Litwinoff

Our immune systems are designed to recognize thousands upon thousands of antigens (small pieces of protein) in order to determine if our bodies are under attack by a foreign pathogen. Antigens are recognized by receptors on a variety of cells, including B cells that secrete antibodies to contain the pathogen, and T cells that call in reinforcements to remove the pathogen. The diversity of these receptors is what allows us to fight so many different molecular invasions, and is made possible by gene rearrangements during cell development.

Valentina Snetkova, a graduate student in Dr. Jane Skok’s lab, studies gene regulation in B and T cell development, specifically focusing on the effects of enhancers. Enhancers are short regions of DNA that transcription factors bind to promote transcription of a nearby gene. Several enhancers aligned one right after another are referred to as enhancer “clusters”.

gether with her colleagues, Val showed for the first time that in developing B cells, the presence of one enhancer, named MiE?, can increase transcription of the other enhancers within the cluster.

In B cells, this MiE? enhancer actively promotes gene rearrangement. Normally, it is inactive in T cells (suggesting that it is dispensable in these cells), but Val observed that deletion of MiE? arrested T cell development. Although MiE? is inactive, she showed it is still needed to interact with a different active enhancer on a separate chromosome to advance T cell development. Therefore, inactive and active enhancers can both affect transcription of genes, regardless of their proximity. Val’s findings have important implications for all gene deletion studies, since her results imply that deletion of enhancer regions in one gene can have unintentional effects on non-targeted genes.

As is typical in biomedical research, Val explains: “The project did not start out as a linear hypothesis-driven investigation but rather findings emerged from a descriptive approach. Initially we tried to integrate several genome-wide techniques to study the effects of enhancers.” “We uncovered some interesting findings...[and] picked up a phenotype of one enhancer affecting [a] gene more than 26Mb away.” Val plans to graduate in May 2017 and will continue studying gene regulation as a postdoc at Berkeley National Laboratory.

Enhancers are short regions of DNA that transcription factors bind to promote transcription of a nearby gene. Val’s findings imply that deletion of enhancers (even silent ones) in one gene can have unintentional effects on non-targeted genes.

Evelyn Litwinoff is a 6th year PhD candidate in Dr. Ann Marie Schmidt’s lab studying the importance of inflammation in the progression of obesity to type 2 diabetes. When not in lab, you can find her baking up a storm of fancy flavored breads including coffee cake, balsamic apple date, fig olive oil sea salt, and cheddar jalapeno!

Valentina (right) with her labmate and co-author Ramya Raviram.
RESEARCH IN THE TRUMP ERA

What happens to science research with Trump in the White House? A closer look at some of the President-Elect’s newly appointed cabinet members

By Anjelique Schulfer

Let’s start with some news that, while somewhat controversial, is considered a boon for medical researchers; the 21st Century Cures Act was enacted in December, including $4.8 billion for biomedical research funding!

That money will help sustain the BRAIN Initiative, Precision Medicine Initiative, and Beau Biden Cancer Moonshot. It was widely favored and may have had the most bipartisan support of any legislation in the last 4 years.

Since the Trump administration has said very little about medical research, scientists have been left guessing about their future post-election. We know that there is at least one person who may have the interest and ability to advocate for biomedical research funding at the executive level - Newt Gingrich. Gingrich, a Trump ally who appears to have some sway with the president-elect, has been on record several times calling for a doubling of the National Institutes of Health (NIH) budget.

Now hold on to that warm feeling of optimism; it is going to have to sustain you for a while. Let’s discuss the presidential appointments that could have a broad impact on science, if confirmed by the Senate.

The director of the NIH is presidentially appointed. The current NIH director, Dr. Francis Collins, has stated that he will turn in his resignation letter, as expected, before the inauguration. There is some discussion of bipartisan support for keeping him in the role, but it is anyone’s guess right now how much credit to give this rumor. Traditionally, the National Science Foundation director serves a 6-year term. Dr. France Córdova took the role in 2014, so technically she could stay until 2020. However, it is possible for the President to force a change. At this point, it is unknown if she will remain.

Scott Pruitt will head the Environmental Protection Agency (EPA), responsible for overseeing environmental regulations. Pruitt, currently the Attorney General for the State of Oklahoma, denies climate change and has spent a significant amount of time suing the EPA.

Secretary of State is a position that has huge influence on global relationships and priorities. The current Secretary of State, John Kerry, played a key role in brokering the Paris agreement on climate change. Trump has nominated the president of Exxon Mobile, Rex Tillerson, for the job. Tillerson has acknowledged that climate change is real, making him unique amongst Trump picks. However, he recently argued at a shareholders’ meeting that climate change is not as severe as scientists say and we should not move quickly to address it. Rather, Tillerson advises that we wait until the problem becomes clearer to think of solutions.

Rick Perry will be leading the Department of Energy, which he both forgot the name of and vowed to dissolve in 2011. Perry is a climate change skeptic and sits on the Board of Directors for Energy Transfer Partners, the company building the highly controversial Dakota Access Pipeline. Rick Perry has twice attempted presidential runs, and in September 2016 he competed on the TV show “Dancing with the Stars” (he was eliminated in the second round). The current Energy Secretary, Ernest Moniz (although criticized for financial ties to the fossil fuel industry), is an eminent nuclear physicist.

Ultimately, there is still a lot we don’t know about what will happen to research science in the coming administration. As biomedical research scientists, we can rest assured that while we may have lean years ahead, our funding
sources are more likely to remain stable over the next four years than our colleagues working in other kinds of basic research.

Regardless of what the next four years hold for the STEM workforce, I hope all researchers continue in their efforts to advocate for their work – if we do not take the time to communicate with the public about the importance of research, we may lose the ability to do what we love and drastically slow scientific progress.

**THE 3-MINUTE THESIS**

An expert in public speaking coaches students on how to give a dynamic presentation of your thesis work in just 180 seconds

By Kara Zang

The 3 Minute Thesis is an annual competition that challenges graduate students to present their work in only 180 seconds. Scott Morgan from The Morgan Group can tell you that being able to present one’s work in three minutes or less is more than just a catchy competition - it is an important skill in today’s world. Mr. Morgan has been teaching scientists how to give concise, effective talks for over 20 years. This fall, we were fortunate enough to have Mr. Morgan come to NYU Medical Center to give a "Three-Minute Talk" workshop to Sackler graduate students and postdocs.

Think three minutes to present your work is impossible? He once had a client who had only two minutes to defend a grant proposal to a study section. The success of such a high-stake situation depends on one’s ability to quickly and effectively convey one’s points. The good news? As Mr. Morgan puts it, once you know how to give a talk in three minutes, a 20-minute talk is just a 3-minute talk with an extra 17 minutes for filler.

Every effective talk—whether it’s a 45-minute job talk or a one-minute wedding toast—must have these components:

1) Larger relevance to your audience

This is the most important part of an effective presentation. Your audience will not listen if you do not make it worth their while. We often start talks with statistics on the disease we study, but Mr. Morgan suggests we get a little more creative. Address how your research affects the people sitting in your room, not how it affects the people next door.

While the exercises Mr. Morgan led during his workshop focused on a three-minute talk, he also gave us tips for preparing longer talks that we can all benefit from:

a) You should plan on about 2 minutes per slide or "bullet".

b) Use animations effectively. The point of your slide show is to act as a visual aid to keep your audience with you.

Studies show that executive functioning goes down if you listen and read at the same time. Choose either to have your audience listen or read along with each picture. Don't expect them to do this impossible multitasking while digesting your data.

Alternatively, make sure that the words on the slide match the message you’re saying.

c) All talks should have a "money slide" - a slide that you are really excited about. It's usually the climax of your story.

d) Never use a yes or no question as a title for your talk. While this is fine for short talks, in a longer-format talk, audiences tend to get bored.

e) Practice out loud. It can be a little bit at a time while you are doing something else, like taking a shower or waiting for the subway, but verbalizing your points will solidify the delivery of your talk.

f) Once you have your slide deck made, keep your headings and delete all the data. If you can still give your talk, that means your titles and your talk are truly data-driven.

And lastly: ALWAYS end early.
2) Your personal connection to the topic

This is critical for job talks. If you work in a team, it can feel uncomfortable to say “I”. However, when you are trying to convince an audience that you are an expert, you must tell them what you yourself contributed to the project. This also tells your audience why you, and not the guy next to you, are giving the talk.

3) A single question you are addressing

This is the best way to ensure clarity. It will also help you stay within your time constraints. I once attended a conference where the keynote speaker had an hour allotted. She spoke for an hour and forty-five minutes before the moderator cut her off. If she had chosen one project to tell us about, she would have finished on time.

Here, Mr. Morgan points out that the work in your talk does not have to be presented in chronological order. It is perfectly appropriate to build a question around the data that you are showing and not in the order that you did the experiments. The goal is to present a cohesive story, not a timeline history of your work.

4) Brief methodology

The details included in this section will vary depending on your time constraints and your audience. Before you craft this part of your talk, you must ask yourself: is a data talk or a methodology talk? This will help inform the level of detail you include.

5) Three to four major data points

This is context-dependent, and as always stick to your time constraint. Don’t cram in more than you can effectively explain within your allotted time. It is always better for an audience to leave with a solid understanding of a few main points than to overwhelm them with information that will confuse them.

6) A take home message

If you can’t easily summarize your work, your audience won’t be able to, either. We were actually taught this skill in high school English, when we had to write a thesis sentence before the actual essay. Generate your “thesis sentence” before you craft your talk - if anything derails you from this message, remove it.

In a 45-minute talk, Mr. Morgan states that your main question should come absolutely no later than 5 minutes into the talk. Any longer, and your audience may find it difficult to follow the rest.

7) Ideas for future study

This is important for all talks, but is especially important in job talks. Even if you have completed the story, you should still discuss the implications of your work. In the case of a job talk, your “future studies” are the proposed works for your research program.

8) Relevance to your audience - a reprise

Remind the audience of the impact of your work. Just like those old English essays, end with a statement that mirrors your opening. You’ve just taken your audience on a journey through your data. Now bring them home.

This may seem like a long list to fit into three minutes, but if you force yourself, I guarantee that you will be able to get your thesis work into one sentence. Mr. Morgan had us perform this exercise to find our “nugget” - the one thing that you MUST say in every talk you give about your work. My nugget takes thirty seconds to say. It is, “I found a T-type calcium channel that gates the response of serotonin neurons to inhibitory neuropeptides.” Once you identify your “nugget”, a three-minute talk may even seem leisurely.
**STUDENT PUBLICATIONS**


*authors contributed to work equally*
STUDENT PUBLICATIONS


*authors contributed to work equally
May 2017 Deadlines
Register on Albert (home.nyu.edu) from:
October 10, 2016 to February 3, 2017

Preliminary Thesis due:
March 17, 2017

Final Thesis due:
May 5, 2017

September 2017 Deadlines
Register on Albert (home.nyu.edu) from:
February 6, 2017 to June 16, 2017

Preliminary Thesis due:
August 4, 2017

Final Thesis due:
September 15, 2017

Click here for guidelines on submitting the dissertation.