Left to right: Andreea, Eshaani, Lien, Christina, Stecia-Marie

The BWH Post(Doc)

FALL/WINTER 2022

BWH PostDoctoral Association

BRIGHAM AND WOMEN'S HOSPITAL POSTDOCTORAL ASSOCIATION

Communicating with The Outside World as a Scientist

By Bidisha (Eshaani) Mitra, Ph.D.

Not only is it important to ask questions and find the answers, as a scientist I felt obligated to communicate with the world what we were learning. (Stephen Hawking, Brief Answers to the Big Questions)

The urgency to educate others has left scientists in need of acquiring the necessary skill of communicating their science. As scientists, we work towards improving the world and helping the masses through our research advancements. However, what makes the beneficial nature of these discoveries truly valuable is the ability of the world (outside the specialized field) to recognize their priceless potential. The pertaining pandemic of cluttered information has well-established that science has permeated our daily lives and created a ubiquitous influence. Unintentional restricted dissipation of the accurate information by scientists has led to a breeding ground of misinformation, conspiracy theories, myths and fake news regarding COVID-19 that cost lives (1). And the knowledge gaps have often led to the colonization of some deadly distorted "facts". Hence, imparting accurate information, transparent discussions and public accountability should be our biggest motivators for better communication.

Scientists practice scientific communications almost every day through proposals, manuscripts, poster presentations, talks, and others. However, the realm of science communication that I want us to prioritize right this moment is the one targeted to share with the masses, for the folks outside the field of research, the one devoid of scientific jargons!

Budding scientists such as we and the generations to follow should break open the shackles of restricting science communication to their dedicated fields and extend it to the entire society waiting outside those invisible walls with the core goals of informing, educating, inspiring, and creating awareness. A clear and transparent communication creates support for science, promotes understanding of the relevance to a wider audience, and helps with more informed decision-making while making science a diverse and inclusive domain.

Continued on page 3

IN THIS ISSUE

CONTACT

Bidisha (Eshaani) Mitra or Andreea Stancu

Co-Chairs, Communications Committee

Career-Speak series

by Andreea Stancu, M.D.

Innovation and entrepreneurship are the kernels of a capitalist economy. New businesses, however, are often highly risky and cost-intensive ventures. As a result, external capital is often sought to spread the risk of failure. In return for taking on this risk through investment, investors in new companies are able to obtain equity and voting rights for cents on the potential dollar. Venture capital (VC), therefore, allows startups to get off the ground and founders to fulfill their vision. Venture capital is a type of equity financing that investors give to startups and small businesses they believe have long-term growth potential. Generally speaking, it comes from well-established investors, investment banks, and other financial institutions. Venture financing reached an all-time high of over $23 billion—up over 60% on an already strong 2019 (*Figure*). More than $11 billion worth of new biotech funds were raised.

Are you interested in pursuing a career in venture capital realm? **Dr. Gunes Bozkurt is a Senior Associate at the RA Capital** and she shares with us insights of how to transition from academia and apply your knowledge and skills in the biotech investing.

Q. Tell us about your background and how you became involved in venture capital (VC)?

I did my PhD at the University of Heidelberg in Germany with a focus in protein biochemistry; I moved to Boston for postdoctoral work, first at the Whitehead Institute, then at Boston Children's Hospital, where I had the opportunity to explore alternative careers via the **Harvard Biotech Club** and **MIT Biotech Club** . I also volunteered for **MassBio** to get additional exposure to the biotech ecosystem. I have been with RA Capital for 2.5 years and am currently a Senior Associate within the TechAtlas Team. Since last year, I have been closely working with our Venture Team.

Q. What specifically about scientific research prepared you for a role in venture capital VC?

My academic career fostered a broad intellectual curiosity, keeping up on scientific literature outside of my own specific projects, as well as critical appraisal of new scientific data. These skills are all important in the VC world as well, where we additionally focus on how to bring these scientific innovations to the clinic and ask ourselves how scientific advances can address unmet needs of the patients.

Q. What are the major challenges or opportunities that arise from being involved in the venture capital VC world?

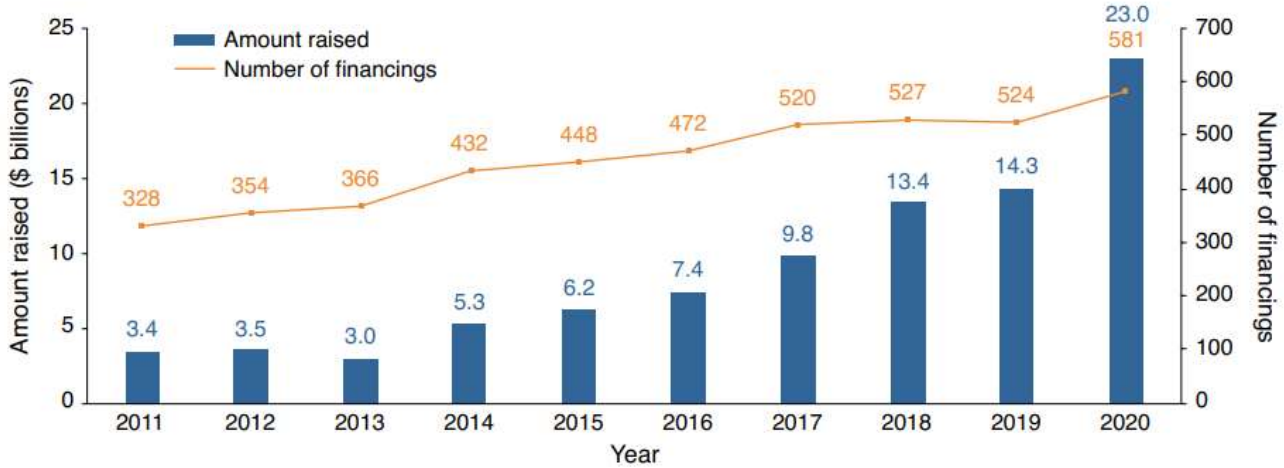
The major opportunity in the VC world is to bring the right talent together to translate scientific innovations to create new solutions for patients.

Q. From your experience, how important is the relationship between the VC firm/employee and the entrepreneur, and how does one ensure a productive relationship between the VC and startups?

Relationships between a VC and startups is really the key for to success. Fostering these relationships is a collaborative process between both parties and requires building trust, providing objective feedback to entrepreneurs, and spending the time to dive deep in the data to help explore how startups can create value.

Q. What advice do you have for entrepreneurs in selecting the right VC to work with?

Entrepreneurs may learn a lot through discussions with other entrepreneurs who have previously worked with particular VCs to get their impressions, create an impression and for advice. In addition, entrepreneurs should consider reviewing the portfolio companies of the VCs that they may like to work with to get a sense of their relative expertise. Ultimately, choosing the right VC depends on where entrepreneurs need the most help. Beyond capital and financing strategy, VCs can support startups by helping to refine business and clinical development plans, by building management teams and/or SABs, and by selecting targets/indications.



"Biotech bubbles during the global recession", *Nature Biotechnology (2021)*

Q. How is failure being acknowledged in venture capital world?
Developing innovative therapies and technologies carries a high degree of risk, thus failure abounds in the biotech sector. Because of this, our goal is to ensure that we always learn from our failures and take away any relevant lessons, whether they are scientific or focused on operations- or execution-focused, that can help position other companies for success.

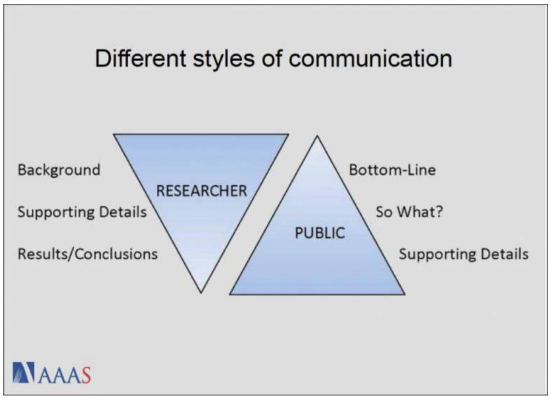
Q. Why did you choose to jump from academia to venture capital and what challenges did you face?
I decided to jump from academia to venture capital because I wanted to get greater exposure to how scientific findings are translated into drugs that improve the lives of the patients. Like every scientist coming from academia, I also faced challenges when exploring other career paths in the biotech industry. In particular, I found it difficult to find the right contacts to provide advice and/or tips for ensuring a successful transition from academia to industry.

Q. Which skills do you think scientists should focus on developing if they want to apply for a venture capital job?
Those interested in transitioning to venture capital should read the scientific literature from multiple and diverse fields, build their analytical skills, and learn the fundamentals of drug development.

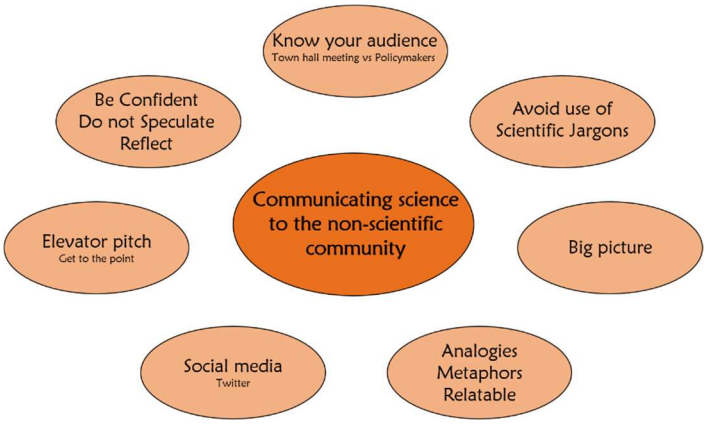
Q. Finally, what advice do you have for scientists/postdocs interested in making the transition into entrepreneurship or venture capital?
My advice to postdocs and scientists interested in this transition is to be proactive and build a strong network that can provide advice and support.

...Continued from page 1

Budding scientists such as we and the generations to follow should break open the shackles of restricting science communication to their dedicated fields and extend it to the entire society waiting outside those invisible walls with the core goals of informing, educating, inspiring, and creating awareness. A clear and transparent communication creates support for science, promotes understanding of the relevance to a wider audience, and helps with more informed decision-making while making science a diverse and inclusive domain.



Well then, how should one communicate science to the community? The goal is to construct a clear, concise version of one's research as an entertaining story in the fewest words possible that convey the gist. A Forbes article that I have always referred to advises (in a nutshell):



Science communication is a part of everyday life. I strongly believe that we need to be effective communicators to be better scientists. Good communication allows for collaborations and innovation in the current era of interdisciplinary science (2). Effective science communication is where the message and the meaning remain the same, but the language changes to adapt and make sense to the wider audience. Using analogies such as comparing our immune system as the first line of defense for a kingdom, aka the human body, can help society understand the concept better. While science engages rationality, relating to common emotions and beliefs helps *Homo sapiens* connect personally to the subject. And the communication doesn't have to be limited to words. Visual aids are a big hit, and so are improv and dance routines on the sidelines! As scientists, we are taught to be detailed, and science communication challenges that very core upbringing of our education and training. Elevator pitches and 3-minute theses are terrific ways to start stimulating ourselves because, as Einstein once said, *If you can't explain it to a six-year-old, you don't understand it yourself*.

To explore how my peers verbalize their research to society, I reached out to certain fellow scientists and requested their locution:

Shatadal Mishra, Ph.D., recently graduated from Arizona State University where he majored in systems engineering. Dr. Mishra succinctly quotes his expertise in "the research and development of unmanned aerial vehicles for aerial grasping and manipulation."

Sneha Das, M.Sc., a microbiologist graduate research assistant at the University of Illinois-Champaign, communicates her research as "what happens in bacteria when they fail to remove contamination from their genome."

Soutick Saha, M.Sc., a theoretical biophysics graduate research assistant at Purdue University specializing in understanding cell migration patterns through mathematical models articulates that they study how cells move in response to nutrients and what causes them to move the way they do.

Emily Kellogg, B.Sc., a research assistant with Rachel Wilson's group at Harvard Medical School, verbalizes her work on investigating, through genetic manipulation of specific brain cells, how fruit flies process their different senses, such as vision, and how that guides the fly's movement giving us the big picture and highlighting the approach used.

Science Communication is entering a new era and has become a global phenomenon. As The Conversation states, "community knowledge is a powerful context; successful science communication is integrated with other beliefs; and there is an expectation that researchers will contribute to the

development of society" (3). We must understand that society at large isn't scrolling and scavenging through PubMed and peer-reviewed journals for recent advancements in science. They are relying on the media, which, in turn, are looking upon us to make sense of what we are publishing to advance the scientific community in the most approachable and simplest way possible. The decision-makers are waiting to be educated and informed. The public is waiting to be made aware of the fascinations that science births and bears. The next generation is waiting to be inspired. As today's emerging scientists, we shoulder the responsibility of making this once-considered "daunting" territory transparent and approachable to boost the impact and augment its value! Because it's time that we fight back and confront these seemingly harmless, otherwise life-threatening misinformation, through Science Communication.

I challenge you to grab a piece of paper right now and pen down a 1-2 minute blurb on your research in comprehensible words to share with your non-scientist family and friends!

Bibliography

1. *Fleming, N. (2020, June 17). Coronavirus misinformation, and how scientists can help to fight it. Nature.*
2. *The spaced-out scientist (2018, October 5). Science communication: just as important as science.*
3. *Gascoigne, T. Leach, T. (2020, November 8). Science Communication is more important than ever. Here are 3 lessons from around the world on what makes it work. The Conversation.https://theconversation.com/science-communication-is-more-important-than-ever-here-are-3-lessons-from-around-the-world-on-what-makes-it-work-147670.*
4. *Feliu-Mojer, M. (2015, February 24). Effective communication, better science. Scientific American. https://blogs.scientificamerican.com/guest-blog/effective-communication-better-science/*
5. *Department of Global Communications. "UN Tackles 'Infodemic' of Misinformation and Cybercrime in COVID-19 Crisis." Accessed October 17, 2020.*
6. *Fischhoff, Baruch, and Dietram A. Scheufele. "The Science of Science Communication." PNAS. National Academy of Sciences, August 20, 2013*
7. *Shepherd, M. (2016, November 22). 9 tips for communicating science to people who are not scientists. Forbes.*

A postdoc's brief guide to begin applying for funding in the US

by Lien Nguyen, Ph.D.

A maxim: Doing science is expensive

It is a truth universally acknowledged, among a judicious population, that doing science is expensive. I cannot speak for theoretical physicists, but as a bench neuroscientist, I marvel at the cost of the tiniest amount of reagents. For example, 1.5 mL of Lipofectamine™ costs $684, which, at the current exchange rate, is 15,582,490 Vietnamese dong (yes, that's 15.5 million). Back when I was a college student, tentatively weighing my first gram of polyethylene glycol, stuff written on the board magically arrived a month later. As a graduate student entrusted with buying my own reagents, I became aware of just how pricy things were. Now, as a postdoc, I am learning that buying reagents constitutes just a fraction of the cost of doing science. There are salaries to pay, fancy instruments to purchase, animals to house, and overhead costs to pony up, to name a few. Where does all the money come from if one does not inherit a fortune or win a few lotteries? The answer is from grants, fellowships, and scholarships.

Another universal truth is that a few hundred thousand dollars for good science, or anything really, is hard to come by. Were I an expert, I would have employed another person to write this article. Nevertheless, I write this from personal experience, some familiarity with U.S. funding sources, advice I have received, and books I have read. I hope you find this helpful, too.

What are some other reasons for applying for research funding?

If you are not sufficiently convinced that money for doing science is good enough, there are also several other excellent reasons for postdocs to apply for independent funding:

- To gain experience, self-confidence, and show initiative, creativity, and leadership in crafting a proposal worth supporting.
- To allow for flexibility and security from PI's grants.
- To enhance the potential for career advancement – in academia and other career tracks.
- To secure financial support, which may help with obtaining changes in immigration status (e.g., O1 visa or EB1 green card) for international postdocs.
- To practice important scientific communication skills, such as writing, public speaking, and fostering relationships with lab members, collaborators, administrative staff, and funding agency officials.
- To practice administrative skills, such as planning and budgeting for a project.
- Application writing can be repurposed for other applications as well as for publications.
- Motivation for reading up on the latest findings and trends in the field. Proposal request often highlights what the funder thinks is currently important or trendy.
- Better sooner than later: Many grants or fellowships have time restrictions, for example, a maximum of 3 years after obtaining a terminal degree, so planning ahead is important.

To sum up, in my opinion, money, fame, a good life, the opportunities to explore one's curiosity, and perhaps in the process, making the world a better place.

Types of funding agencies and grants/fellowships

Briefly speaking, a grant supports a specific project, while a fellowship supports a specific researcher. The NIH R01 grant is the mainstay of many academic labs but is perhaps out of reach of most postdocs. However, there are many, often hidden, sources of research riches for a postdoc to rummage around. I include several different agencies with some comments below:

- U.S. government: These sources include The National Institutes of Health (NIH), The National Science Foundation (NSF), The Department of Defense (DOD), The National Aeronautics and Space Administration (NASA), and many others. For these, application information is typically readily available online. However, many grants or fellowships from the U.S. government have citizenship or immigration status restrictions. Still, one feasible grant may be the NIH K99/R00: Pathway to Independence Award, which has no citizenship restrictions but requires no more than 4 years of postdoc experience at the time of submission.
- Home-country government: For international postdocs, many governments may provide support for their citizens doing research abroad. It is important to note that accepting funding from your country likely requires you to return home for a few years after a J1 visa. Therefore, you should consider whether this fits your plan.
- Philanthropic or private foundations: These foundations offer funding for research that fit their specific areas of interest. Before applying for a grant from a foundation, make sure to clearly understand the guidelines and propose an eligible and well-suited project. Examples of private foundations that fund research are The Howard Hughes Medical Institute (HHMI), The Michael J. Fox Research Foundation, Autism Speaks, Bright Focus, and The Alzheimer's Association.
- Professional societies: Societies like the American Heart Association, American Cancer Society, and American Society for Biochemistry and Molecular Biology provide various support, from travel awards to fellowships, for their members - often with no citizenship restrictions. Many societies require membership for a fixed period of time (usually > 1 year) prior to application, so be sure to maintain professional society memberships.
- Internal grants: Grants can also be obtained from BWH through Brigham Research Institute (BRI). Examples include BRI's Fund to Sustain Research Excellence, BRI Microgrants, and pilot grants from specific departments. Subscribe to "Friday Funding Opportunities" emails to learn about these as well as many other external grants.
- Business and industry: Biotech or pharmaceutical companies, for example, Biogen, Qiagen, Merck, may also provide funding for related projects or discounted products. These opportunities are often not well-advertised and require active searching or networking but may be helpful, especially if you are already considering transitioning to industry. They may also be associated with strict confidentiality requirements that may delay publications.

Funding agencies provide a range of support, from a one-off <$1,000 mini-grant or travel award, to a single year of salary or project support of ~$50,000, to multi-year support of >~$200,000. Logically, the larger the award, the more extensive your CV, proposal, and subsequent output need to be.

So, where do I start?

"Water, water everywhere, / Nor any drop to drink." - Samuel Taylor Coleridge
(That one line anyone remembers from "The Rime of the Ancient Mariner")

There are grants and fellowships everywhere, but I can say from experience that it isn't easy to get one. Indeed, securing independent funding requires an almost miraculous alignment of yourself with the universe. Know yourself, your project, your PI, your peers, your department, your institution, and the funding agency to make that alignment just a little more possible.

Know yourself:

- Can you spend a lot of time and effort on writing a good application while balancing work and non-work responsibilities, as well as taking good care of yourself? This is especially important nowadays that everyone is a little, or honestly, quite exhausted with the ongoing pandemic.
- Do you have an exciting, groundbreaking, but still feasible idea that is worth supporting?
- Do you have a good CV or publication record that makes you competitive for the application? Or should you focus on publishing a few papers first to make you competitive?

Know your project proposal:

- Does your exciting research question address a knowledge gap in the field or translate an idea from basic science to clinical applications?
- Do you have the preliminary data to support that idea?
- Are you the expert in the methods required to address the research questions, or know someone who is the expert?
- Are you currently in an environment conducive for the project, including personnel, equipment, supplies, space, technical support?
- Can you (*honestly*) estimate how long the project will take – 1, 5, or 10 years?
- Do you have a realistic estimation of how much the project will cost, including salaries, reagents, animals, equipment, publications, travels, and many others?

JOIN OUR TEAM!

Are you a postdoctoral researcher at BWH and are eager to make a positive impact on the postdoc community? Are you interested in honing your **leadership skills**? Are you looking forward to forging new friendships with like-minded peers? If that's you, then join the leadership council of the **BWH Postdoctoral Association (PDA).**

BWH is home to over 900 postdoctoral researchers, and the PDA seeks to serve this large community in various aspects to better the postdoc experience. **As a member of the governing group, you have the opportunity to participate in executive meetings, bring new ideas to the table, plan events, and establish connections with other postdoc associations.**

Additionally, serving on the leadership team provides opportunities to advocate for all BWH postdocs, address their needs and concerns, and serve as a liaison between postdocs, the Office of Research Careers (ORC), and other BWH Offices.

For more information about the **BWH PDA** and its various committees, please visit our website here.

If you'd like to join the Advocacy Committee or simply get involved, contact me at rnshimiyimana@bwh.harvard.edu or any of the team members listed on the website.

Know your PI:

- How did your PI obtain funding when they were at your career stage? How do past/ current postdocs in your lab or department obtain independent funding?
- Does your PI fully support your intent to apply for independent funding? Or do they prefer that you focus on the projects currently funded by their grants?
- Is your PI willing to mentor you through writing an application and providing a glowing letter of recommendation?

Know your peers/ collaborators:

- Will your collaborators support your project and provide letters of support?
- What makes your (interdisciplinary) collaboration unique? Who can provide what materials and techniques? What is the best mix of researchers/PIs to list on the proposal?
- Have your collaborators applied for similar grants? Does the funder allow for sharing funding among collaborating laboratories?

Know your department/ institution:

- Is your institution willing to support your application? They may not be willing to support grants or fellowships that do not provide sufficient overhead costs.
- How long in advance do you have to let the administrative staff know your intent to apply? Preferably +4 weeks in advance.
- Have you discussed your intent to apply with administrative staff? They can address questions about salaries, overhead costs, patents, copyright, ethical compliance, and more – e.g., protection of human subjects, humane treatments of animals.
- Does your department/ institution provide grant writing support? Can you seek help from other people in the department?

Know your funding agency:

- Have you carefully read and understood the proposal request? Be sure to check with agency officials for clarity as needed.
- Does your proposal match the purpose of the agency?
- Do you qualify – check eligibility requirement?
- Are there any obligations for the future?
- Are the funding levels, overhead costs, or restrictions acceptable to your institution?
- Is the application open to everyone in a broad field (more competitive), or are there details that may make you more competitive (e.g., a narrow research field, a particular method, strict eligibility requirement – underrepresented backgrounds, etc.)

Taking the first steps

After some very extensive soul searching to answer the questions above, you cannot be faulted for just wanting to relax, sit back, and hope for continuing support from your PI. If you have persisted to the end of this article, let me share some additional thoughts. Firstly, I believe that no award is too small if appropriately scaled with the effort invested. You have to start somewhere. Secondly, don't be afraid to seek help from many sources – your PI, labmates, friends, collaborators, institution administrative staff, and grant agency officials. Don't hesitate to treat them to (virtual, if needs be) coffee, cookies, or other beverages, and then pick their brains for advice or get a peek at their successful applications. Finally, keep on writing, revising, and recycling, just as you persist with your experiments. If you are starting an application, good luck, and happy writing!

Acknowledgment: I thank the members of the Postdoc Mentoring Circles Program (MCP) Circle 2 for their valuable insights and comments that greatly helped with the writing of this article. New MCP circles are formed every September (https://pda.bwh.harvard.edu/mentoring/mcp/). Consider joining one to enrich your postdoc experience at BWH!

Additional resources

- Subscribe to "Friday Funding Opportunities" emails
- BWH's resource page: https://orc.bwh.harvard.edu/resources/
- Ten Simple Rules for Getting Grants (https://doi.org/10.1371/journal.pcbi.0020012)
- "Grant Application Writer's Handbook. 4th edition" by Laine Reif-Lehrer, ISBN-13: 978-0763716424

Core facilities at BWH

by Christina Martins, Ph.D.

If you are new in Boston as a postdoc, a PhD student or a researcher, perhaps you have no idea of the several core facilities you can use to facilitate your work. Maybe you need to perform some cell sorting, mass spectrometry or confocal microscopy experiment and don't have the tools in your lab to do it.

Well, you must know that a lot of facilities in several biology areas are available perhaps a few meters from your lab. These facilities called facility cores are resources offering services to the research community: technologies, methodologies, instruments, or expertise.

For example, Beth Israel Deaconess and Mass General Brigham give access to facility cores here in Boston. The choice of which one of them to use depends on you and what you want to do. Although they have overlapping facility cores, you may be, for example, in a position where only one offers what you need, and the other doesn't.

One link seems to resume all the facility cores available, and a few other websites can allow you to explore them and get all the information or contact you need to set up your next experiment.

The best way to get information about facility cores around you are the following websites :

- https://harvard.eagle-i.net/sweet/cores/
- https://researchcores.partners.org/
- https://www.bidmc.org/research/core-facilities .
- https://cores.catalyst .harvard.edu

Science Podcasts: Listen More, Learn More

by Stecia-Marie P. Fletcher, Ph.D.

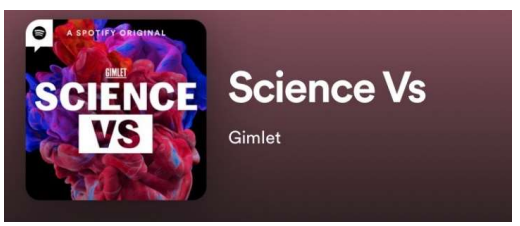
As postdocs, we wear many hats. We are often at the forefront of collecting and analyzing data. We write articles, apply for funding, and engage in a plethora of additional activities with the aim of professional development. While the dynamic nature of our positions is as an advantage for many postdocs, it requires a lot of self-discipline to ensure that we keep up with some of the less glamorous activities of academic life. In my case, reading has always been a challenge. Throughout my PhD and early stages of my postdoc, I have developed successful techniques for staying abreast of research in my specific field of Therapeutic Ultrasound. However, I continue to struggle with keeping up with the broader scientific community and building a pool of knowledge I know will be necessary if I desire a successful career as an independent researcher. I am an experimental physicist by training, but over the years, my chosen research has grown to rely heavily on preclinical and clinical applications. The highly interdisciplinary nature of biomedical research, while rewarding, can prove challenging. Many times, I feel overwhelmed by the vastness of literature and research peripheral to my interests. I am also dissuaded by the scientific jargon I encounter when trying to navigate journal articles on topics where I have little or no background knowledge. Over the last several months, listening to scientific podcasts has taught me that the task of broadening my basic knowledge of biomedical sciences does not have to be a chore.

Walking is a great hobby of mine, but I find it difficult to pass the time without some form of audio stimulation. Podcasts have been one of my favorite forms of audio media for many years, but until a few months ago, it had not dawned on me that there was an entire genre dedicated to science. I assume that most people don't immediately associate them with learning. A quick search for the keyword 'science' on platforms like Spotify and PlayerFM tells a different story. There are dozens, if not hundreds, of podcasts dedicated to Science, Technology, Engineering and Mathematics (STEM). Some are extremely specific to a particular field, but many cover a broad range of diverse topics. In this article, I introduce my top three scientific podcasts and share some of the new knowledge tidbits I've gained from recent episodes.

Science Vs from Gimlet

The title of this podcast ensures that it is one of the top hits for anyone looking for a starting point for science-based podcasts. This was the first podcast of its kind that I listened to, and it did not disappoint! This podcast covers a range of scientific topics, from Astronomy to Paleontology. (However, it does seem to be biased towards the health-sciences.) Here is everything you need to know before diving in:

Where to Listen: Spotify, PlayerFM
New Episodes: Weekly
Episode Length: 9-44 minutes
Pros: Accessible, Dynamic Hosts
Cons: Creators and hosts have a unique sense of humor which may not be for everyone



My Best Episode: "Chronic Pain: Can Our Brains Fix It?"
Why I Chose this Episode: I have a collaborator who studies therapeutic interventions for chronic pain, so it seemed relevant.
Best Parts: Interviews with experts and real-life patients, pointers for future reading

Something New I Learned: There is not necessarily a physical cause for pain. Instead, the sensation of pain can be due to neuronal mis-firings, e.g. in anticipation of pain. In fact, functional MRI studies have shown that corticolimbic (i.e. the part of the brain that integrates emotion with cognition) white matter connections, but not pain-related circuitry, predisposed patients to chronic pain.
Other Interesting Episodes: "Burnout: Can We Fix Work?", "Lab-Grown Meat: We Grill It?", "Coronavirus: How Scary are the Variants?

Unexplainable from Vox

Before coming across 'Unexplainable', I was already a fan of Vox productions – most notably the Netflix Original Series, 'Explained'. ('Explained' also has a podcast which discusses non-scientific topics, like "The four-day work week".) Of the three podcasts discussed here, this one arguably offers the best listening experience, mainly due to a high production quality. I also enjoy the diversity of topics, and the diversity of opinions in each episode. Here's what you should know:

Where to Listen: Spotify
New Episodes: Weekly
Episode Length: 24-33 minutes
Pros: Accessible, Immersive Listening Experience, Unbiased
Cons: Episodes targeted to a non-scientific audience, so topics are oversimplified.

My Best Episode: "What causes Alzheimer's?"
Best Parts: Interviews with experts, discussion of various scientific hypotheses, relatable discussion of difficulties of funding for unpopular hypotheses and ideas

Why I Chose this Episode: I was interested because of the recent discussions surrounding the FDA approval of Biogen's drug, aducanumab.
Something New I Learned: The Amyloid Hypothesis is only one hypothesis (albeit the dominant hypothesis) for what Causes Alzheimer's Disease (AD). Most current clinical trials for AD target Amyloid-β Plaque, but have shown little progress for the alleviation of symptomatic disease. This episode includes discussions of the Tau Hypothesis, and the role of infectious agents and prion proteins in AD.
Other Interesting Episodes: "The mysteries of endometriosis", "The 150-year-old human", "Placebos work. Why?"

Science Magazine Podcast

This podcast gains credibility points due to its association with Science Magazine. The style is unique when compared with the other podcasts on Spotify's platform. Episodes feature interview-style commentaries on selected articles in Science's network of journals.

Where to Listen: Spotify, PlayerFM
New Episodes: Weekly
Episode Length: 20-47 minutes
Pros: Episodes based on current articles in Science Magazine and its network of journals, descriptive written abstract provided for listeners
Cons: Two or more topics in each podcast that can be on very different topics, some of which may not be interesting to the listener.

My Best Episode: "Whole-genome screening for newborns, and the importance of active learning in STEM"
(Note: I only listened to the first half of this episode.)
Why I Chose this Episode:
I recently had a discussion with another postdoc about the ethical implications of genetic screening.
Best Parts: Interviews with article authors
Something New I Learned: Existing national healthcare systems play an important role in the discussion of widespread genomic sequencing of newborns. The "100,000 Genome Project" is an example of a successful program in the United Kingdom, where there is universal healthcare system. In the United States, a project of similar scale could be complicated by ethical issues of data handling, and how to assure equity in testing and treatment options if genetic predispositions are determined.
Other Interesting Episodes: "The long road to Launching the James Webb Space Telescope, and genes for a longer life span", "Debating healthy obesity, delaying type 1 diabetes, and visiting bone rooms.", "Scientists' role in the opioid crisis, 3D-printed candy proteins, and summer books"

These are only three of the many scientific podcasts that are available online. There really is something for everyone. Although podcasts are not sufficient if you want to become an expert in a specific field, they are an immersive and time-efficient tool for staying up to date with the ever-evolving world of research. My experience with podcasts has been a game-changer. I have gotten ideas about my own research through listening to them, and they have been useful for finding in-depth resources on topics of interest. By sharing this article, I hope they can be beneficial for others too.

Happy listening!

PLC Retreat: Thanksgiving Potluck 2021

Clockwise:

A part of PLC joining together for a group selfie (L-R, Front row: Rowan potter, Lien Nguyen, Sourabh Soni. Back Row: Andreea Stancu, Bidisha (Eshaani) Mitra, Stecia- Marie Fletcher).

Jenga skills exhibited by our co-VP, Eshaani .

Lien approaching her turn to triumph the ultimate Jenga.

Frederike Kramer braves the humongous Jenga while our President, Sourabh, cheers on.