

The NICHD Connection

November 2021

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Slides and Scales: The Common Ground of Music and Science

By Paul Elizalde

What does music have to do with science?

Not much at first glance: music evokes emotion; science requires detachment.

Musicians turn notes on a page into expressions of sound. Scientists craft arguments based on evidence. But like scientists, musicians learn to set high standards, to isolate difficult passages, to troubleshoot during their practice, and to collaborate with other musicians.

Music has been a constant part of my life. Growing up with a concert pianist as a mother, my lullabies were Chopin's Études, Mozart's arias, and Albeniz's dances. My mom tried to teach me piano, but I was more interested in the trumpet after listening to Wynton Marsalis playing the trumpet fanfare "Abblasen" to open *CBS Sunday Morning*. I didn't always love playing like I do now, but it became a large part of my life as I got involved with Saturday music programs.

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Paul Elizalde playing in a concert at St. Patrick's Catholic Church on Long Island in the fall of 2019.

Letter from the Editor

By now, many of you have heard that Francis Collins, MD, PhD, is stepping down as the director of NIH. If you haven't, check out the [News Release](#) from last month.

On behalf of the NICHD fellows community, thank you to Dr. Collins for his stalwart leadership for more than a decade. Tasked with difficult obstacles, including a worldwide pandemic, Dr. Collins inspired progress through the most challenging of circumstances. And he did it with a calm demeanor, a smile, and a guitar in hand. His band, the Affordable Rock'n'Roll Act, graced many stages during his tenure at the NIH helm.

In honor of Dr. Collins' 12 years of service as NIH Director, [our feature article](#) this month highlights the commonalities between music and science. Postbaccalaureate fellow Paul Elizalde compares playing the trumpet for an orchestra to doing scientific research in a lab. If you've never picked up an instrument, this might get you to try—or at least put on your favorite song.

Moving from music into visuals, you'll find an [infographic on page 7](#) introducing the Fellows Safety Committee. They are recruiting new members, so if you have an interest in keeping scientists safe, consider this opportunity to join! And don't miss this month's [Rep Report](#), [Deconstructing Bias column](#), and [November announcements](#), including contact information for making your own SciBites video for the Intramural Research Program website.

Enjoy this November art-themed issue, and we'll see you next month to wrap up the year!

Your Editor in Chief,
Shana R. Spindler, PhD

Please send questions, comments, and ideas to our editor at shana.spindler@nih.gov.



Slides and Scales: The Common Ground of Music and Science

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Going into college, I knew that I wanted music to remain a large part of my experience, even if I did not major in music. Actually, I wasn't sure what I wanted to study. I applied as a music major to some places, a history major to others, and a biology major to The Catholic University of America. One of the reasons I decided to attend the latter was because the program would help me grow as a musician *and* scientist.

During my first semester, I auditioned for various performing ensembles and started my first research experience in the Choy lab in the Department of Biology. Going from orchestra rehearsals to the lab sometimes felt like I was traveling between worlds populated by different people, but I found that creativity is important in both contexts. As a musician, you play the notes written on the sheet music. Sometimes there's improvisation (think jazz or Baroque ornamentation), but most of what I've played has been performed thousands of times before. The creativity in those instances means different interpretations of the music (changing how you play the notes). Thinking outside the box can be important in science as well—for example when you must come up with an alternative explanation to test.

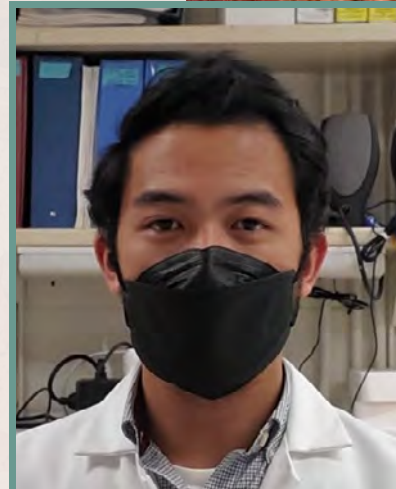
Important motivations to pursue music or science include passion and perseverance. Without passion, one would not be able to persevere. Practicing difficult musical passages can be frustrating, especially when I can't seem to get something the way I hear it in my head. When that happens, I have to learn to take things apart, identify the problem, and troubleshoot new ways I can practice. Life as a scientist is similar. Finding contamination in a culture, experiencing a lack of funding, and enduring rejections are

demoralizing. It takes passion to persist—to summon perseverance and identify the source of contamination, submit another research proposal, or consider improvements to an application.

As a musician, I have learned the importance of being collegial through experiences in everything from playing duets with a friend to playing in orchestras. Every player is important, especially in smaller ensembles. When we play, we react to what others are playing. We don't have to be best friends, but we should be professional. We must work through ideas about how to interpret the music and come to a consensus as a group, just like in the lab.

I am far from alone in my pursuit of both music and science. You might know scientists who play music, like Dr. Francis Collins, but there are also professional musicians who are scientists. Dr. Mark Almond, the associate principal horn in the San Francisco Symphony, is a physician with a PhD in immunology and virology. He is currently researching COVID-19 as a postdoc at University of California, San Francisco. There's also Dr. Brian May, the lead guitarist of Queen, who happens to be an astrophysicist.

Music is more than just a hobby for me—it's a passion. Music has taught me the importance of high standards, persistence, creativity, problem solving, and collaboration, all of which I apply in the lab. In continuing to play trumpet as a postbac, I engage with both science and music, which reinforce each other and enrich my ability to both understand and enjoy the world around me.



Paul Elizalde

Deconstructing Bias: Intersectionality

By Triesta Fowler, MD

“Intersectionality” as defined by the *Merriam-Webster Dictionary* is “the complex, cumulative way in which the effects of multiple forms of discrimination combine, overlap, or intersect especially in the experiences of marginalized individuals or groups.” The term was originally coined in 1989 by Kimberlé Williams Crenshaw, a civil rights activist and legal scholar who is currently a professor of law at Columbia Law School and a Distinguished Professor of Law at the University of California, Los Angeles. She used it to explain how African American women experience the additive effects of both racial and gender discrimination. She believed that to better understand this experience, we must look at the intersection of race and gender instead of looking at them separately.

An analogy that Crenshaw has used to explain intersectionality is to compare it to intersecting roads. The roads are our identities, like race, class, gender, sexuality, age, or ability, and the cars on the road are the policies/inequality that can negatively impact those identities. If someone was standing at an intersection of those roads, they would be “hit” by traffic on both roads. Therefore, if an African American woman was “hit” at the intersection of the two roads representing her race and gender identities, she would not be able to get help at the intersection. This is because the “ambulance” which represents most initiatives are usually designed to have just a singular



focus. Therefore, it would never reach the woman because it can only go to the race or gender road, not the intersection, making the “ambulance” ineffective. This model illustrates that when a person is impacted by an inequality, damage is done to the whole person not just one of their identities. So, any action to address inequity must consider all identities.

Since its introduction over 20 years ago, the study of intersectionality has grown to be inclusive of *all* identities and intersections. Race, class, gender, sexuality, age, ability, and others are viewed as different identities that comprise how we view ourselves and how we are viewed by others. Each individual experiences these identities simultaneously and the expression of each identity is shaped by intersection of all the others. When asked today what intersectionality means, Crenshaw comments that “It’s basically a lens, a prism,

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Deconstructing Bias: Intersectionality

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for seeing the way in which various forms of inequality often operate together and exacerbate each other. We tend to talk about race inequality as separate from inequality based on gender, class, sexuality or immigrant status. What's often missing is how some people are subject to all of these, and the experience is not just the sum of its parts."

Environments where you work and live can be inclusive and collaborative when everyone feels free to express all their identities. Explore the resources below to learn more about intersectionality and look at some ways to acknowledge intersectionality with intention from a blog featured on the [NIH Office of Equity, Diversity, and Inclusion website](#) by Hillary Flowers:

1. **Recognize what intersectionality is** – Understand that everyone has multiple identities and that we all face unique challenges because of the intersections of our identities. For example, a female scientist at the NIH who was born in the US will face different challenges than a male administrator at the NIH who is a long-term permanent resident.
2. **Create a safe environment so that all individuals feel secure sharing their stories.**
3. **Bring your whole self to work** – Show your true, authentic self at work.
4. **Raise up the voices of others** – When you have the opportunity, raise up the voices of others around you. Respect their stories.
5. **Collaborate** – Collaborate with others who have different backgrounds than you, have different jobs at the NIH, or are from different communities. Think of unique ways to interact with people outside your usual circle of colleagues. Collaboration fosters innovation and expands your network.

SOURCES/RESOURCES/ADDITIONAL READING

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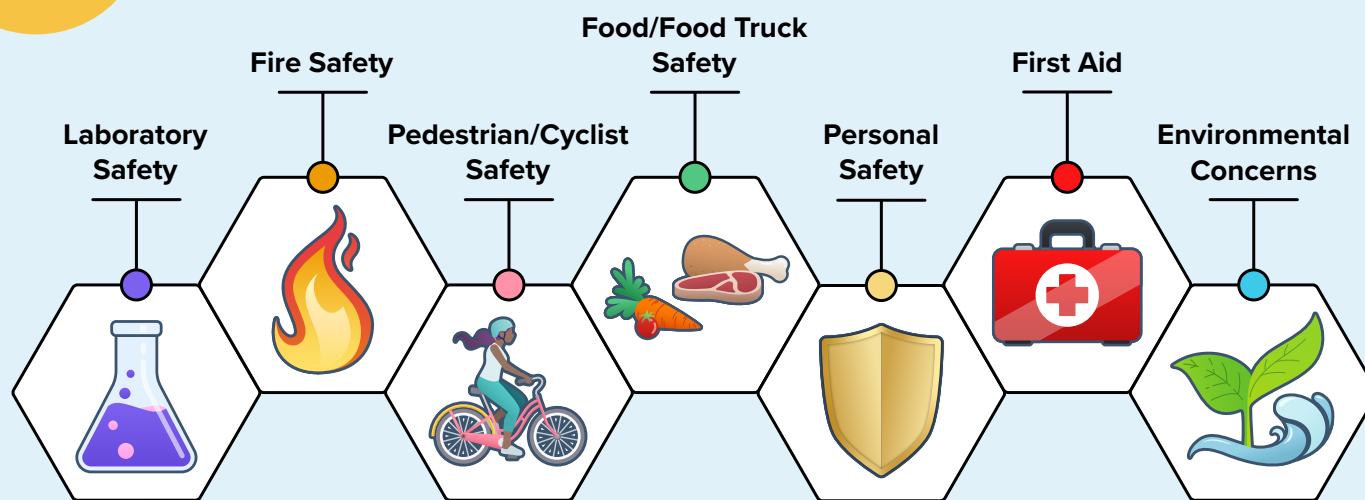
THE FELLOW'S SAFETY COMMITTEE

who?

Grassroots movement to talk about safety concerns in and out of the laboratory

what?

A safe space to discuss concerns and create a collective knowledge
A holistic approach to safety:



when & where?

Meetings are a combination of virtual and in-person, socially distanced events held once a month

All fellows are welcome, including undergraduates, interns, postbacs, grad students, medical students, postdocs, and clinical fellows!

why?

Laboratory jobs come with hazards that require experienced and nuanced risk assessments

In the last 20 years:*

120 academic research laboratory accidents

87 laboratory evacuations

96 serious injuries

3 deaths ☠️

1/3 of injury reports are **student employees** in some locations*

BENEFITS OF JOINING THE COMMITTEE

- Leadership opportunities
- Service opportunities
- Safety skills training for any research-based career (academic, government, industry, administrative)
- Networking across Institutes and Centers at NIH
- Networking with Division of Occupational Health and Safety professionals
- Opportunity to attend safety conferences

how?

Contact Dr. Anna SantaMaria (Rouault lab) for more information!

Email: anna.santamaria@nih.gov



Eunice Kennedy Shriver
National Institute of
Child Health and
Human Development

The Rep Report

By Lauren Walling, PhD

As the current NICHD Basic Sciences Institutes and Centers (IC) Representative, I represent NICHD postdoctoral fellows at the Fellows Committee (FelCom) meeting every month and share the latest news with you here. Do you have a concern or question that you want brought up at the next meeting? Contact me at lauren.walling@nih.gov!



Two FelCom committees are looking for new members to help support their activities:

- » The [Social Committee](#) plans social and networking events for NIH fellows.
- » The [Career Development Committee](#) organizes monthly panels exploring career options for scientists.

If you are interested in joining the Social Committee, please contact Nick Madian (nicholas.madian@nih.gov), or if you are interested in joining the Career Development Committee, please contact Victoria Hill (victoria.hill@nih.gov) and Amit Singh (amit.singh3@nih.gov).

The [Women Scientist Advisors Committee](#) is hosting the annual Anita Roberts Lecture on Monday, November 1, from 1–3 p.m. The speaker this year is Michele K. Evans, MD, Deputy Scientific Director and Chief of the Health Disparities Research Section at NIA. The link for this virtual event is: <https://videocast.nih.gov/watch=41534>.

A guest presenter spoke at this month's FelCom meeting—**Brandon Levy**, the editor of the *I am Intramural* blog. He spoke about the numerous means by which the Intramural Research Program (IRP) shares the research going on at NIH, to both educate the public and inform other scientists in the field. Please see [their website](#) to find links to their social media pages and the *I am Intramural* blog, as well as postdoc profiles, Research in Action stories (profiles on senior scientists) and SciBites (video series featuring fellows and their research presented for the public). If you are interested in having your research featured as a postdoc profile or creating a SciBite video, please contact the FelCom [Outreach Liaison](#) Alison Jane Martingano (alisonjane.martingano@nih.gov).

November Announcements

HAVE YOU TOLD US ABOUT YOUR ACCOMPLISHMENTS THIS YEAR?

We'd love to recognize your great news from 2021—from winning a poster award to landing a new job! Please send a letter to our editor, at shana.spindler@nih.gov, with your accomplishment(s) from 2021, and we will include them in our December issue.

REMINDER: ALL FELLOWS MUST COMPLETE 2021 NIH ANTI-HARASSMENT TRAINING

All staff (federal, trainees, fellows, and contractors) are **required to complete the 2021 NIH Anti-Harassment (No FEAR/POSH) Training by Monday, November 30, 2021**. This training must be taken annually. The NIH Anti-Harassment Training is **mandatory** and meets the requirements of both the Notification and Federal Employee Anti-discrimination and Retaliation (No FEAR) and Prevention of Sexual Harassment (POSH) trainings.

Should you have any additional questions, please contact NICHDMAPS@mail.nih.gov.

SCIBITES: A TASTE OF RESEARCH AT NIH

Want to see what your Intramural Research Program (IRP) colleagues are up to? Check out [SciBites](#), a series of easily digestible, “bite-size” videos about IRP research. For example, former NICHD graduate student Dr. Laura Gorrell (Leikin lab) made [this short video](#) about her research on the cells that make collagen and build bone. If you are interested in producing your own SciBite, please contact the NIH Fellows Committee (FelCom) Outreach Liaison Alison Jane Martingano (alisonjane.martingano@nih.gov).

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November Announcements

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ETHICS IN RESEARCH ONLINE TRAINING FOR POSTDOCS

This training is required for ALL NICHD postdocs within their first year of training and only needs to be completed once.

From the OITE website:

Research Ethics is at the foundation of everything we do in the scientific endeavor, and training in Responsible Conduct of Research is an essential component of your development as a scientist as you train here at the NIH. OITE is offering this course specifically for postdocs to ensure that you have the foundation to both conduct rigorous and ethical research and to train others to do the same.

“Becoming a Responsible Scientist” is offered as a full-day workshop using a combination of lecture, video, writing exercises, small group discussions, and full class discussions. Certificates will be issued to those who successfully complete the entire course. **The course will next be offered on Wednesday, December 8, from 10:00 a.m. to 4:30 p.m.**

Topics covered include, but are not restricted to:

- » The impact of research misconduct on individuals, institutions, the scientific enterprise, and society
- » The history and modern oversight of Animal and Human Subjects regulations
- » Formal definitions of “Research Misconduct” and discussion about Questionable Research Practices
- » An explanation of resources provided by NIH and how to find and use them
- » How an investigation into research misconduct unfolds
- » Data management: collection, protection, and sharing
- » Mentor-mentee relationships
- » Conflict of Interest
- » Peer Review
- » Expectations of trainees as scientists at NIH
- » Best practices for setting up your own lab

Please follow the link for registration: [Ethics in Research Training for Postdocs](#)

Participation is tracked by the NICHD Office of Education. Please contact Ms. Veronica Harker (veronica.harker@nih.gov) if you have any questions.

November Events

FRIDAY, NOVEMBER 5, 9 AM–1:15 PM
DIPHR & DIR Joint Scientific Retreat

Please join us for the annual DIPHR & DIR Joint Scientific Retreat, which will be held virtually this year. We strongly encourage all NICHD intramural researchers, PIs, and lab members to attend as we celebrate our research achievements and try to spark new ideas and collaborations.

For questions about the retreat, please contact Ms. Amaessa Abiodun at amaessa.abiodun@nih.gov.

WEDNESDAY, NOVEMBER 10, 4–5 PM
Fellow's Safety Committee Fall Open House
Building 31, 6C Conference Rooms A & B

The Fellow's Safety Committee provides a platform for fellows across NIH to openly discuss safety both in and out of the laboratory, while providing opportunities to participate in service activities. If you join the committee, you will develop a network that spans multiple NIH Institutes/Centers and the Division of Occupational Health and Safety, all while gaining valuable safety skills and leadership experience.

To learn more about the committee see [page 7](#), and please feel free to reach out to our Secretary/Outreach Coordinator Anna SantaMaria (anna.santamaria@nih.gov) for more information!

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November Events

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MONDAY, NOVEMBER 22, 1–2 PM

Job Interviewing Workshop

Scott Morgan, Public Speaking Coach

If you are actively looking for a job, we strongly recommend you attend this informative and dynamic workshop. During this session you will learn tips for perfecting the broad interviewing skills needed to secure scientific positions (job talks, chalk talks, and the interview itself) and increase your comfort level and confidence. You will have the opportunity to analyze expected questions, themes, and dilemmas through interactive exercises and peer review. Learn about:

- » Tips to help you prepare for your interviews and present yourself professionally
- » Types and examples of questions you can expect
- » Strategies for delivering your best answers
- » Types of questions to ask your interviewers
- » Interview skills for virtual platforms during the COVID-19 pandemic

Participants can also schedule an individual one-hour coaching session with Scott prior to a scheduled job interview. To register for this virtual workshop, please email Ms. Katherine Lamb (katherine.lamb@nih.gov).

ONGOING EVENTS AROUND CAMPUS

NIH-Wide Office of Intramural Training and Education (OITE) Events

For more information and registration, please visit [Upcoming OITE Events](#).

NIH Library Training and Events

For more information and registration, please visit the [NIH Library Calendar](#).