

Academia, Pharma, Biotech Nonprofit—Balancing a Career Journey (ongoing)

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Executive Director

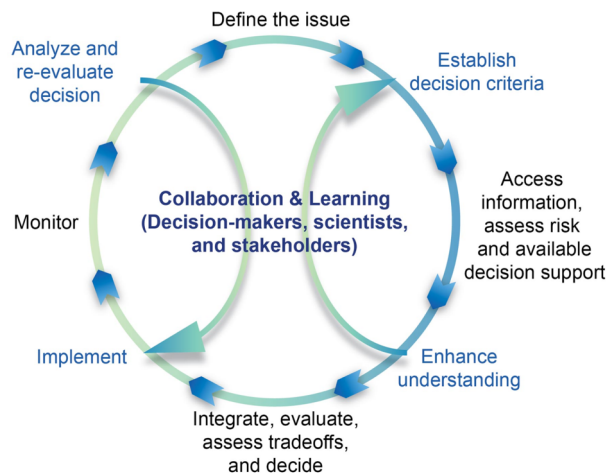
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or LinkedIn for career and science content



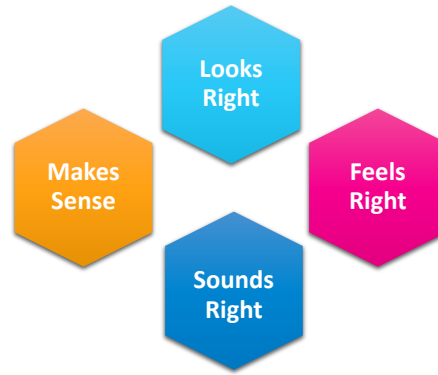
How Scientists Think They Make Decisions



Decision-Making Framework



How Scientists Really Make Decisions



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A Call to Action



*This is your future, you need to be responsible for it.
You can gather data, like a scientist, and prepare.*

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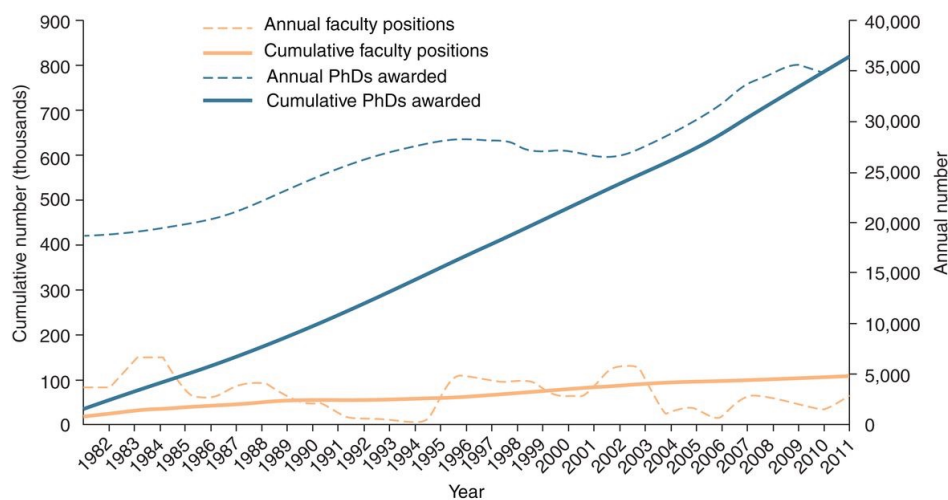
Changing the Script



- NatureJobs “It took a lot for Virginia to set aside the feeling that she was **wasting her PhD.**”
- “Sometimes, the brightest stars in science **decide to leave.** *Nature* finds out where they go.”
- “group leaders who see their star students **quit the lab:** pleasure that he or she has found a life they are happy with, tinged with **regret that science will not benefit from the student's talent.** ”
- APS News, **Leaving Science** Can Be a Good Career Decision
- Cheeky Scientist “5 Illogical Myths Keeping Talented PhDs **Stuck In Academia**”
Scientist is not something you do, it is something you are. It's a way of thinking and of solving problems...you don't leave science, you bring it with you.



I know you love data...



<http://m.cshperspectives.cshlp.org/content/9/9/a032755.full>



Know Yourself



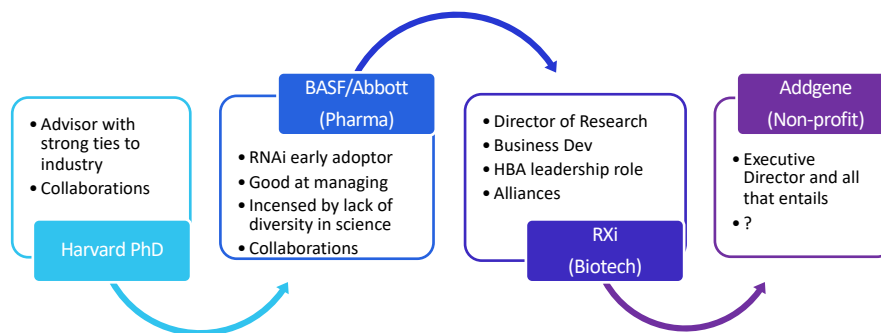
- Some of the information you need is about yourself
- It is worth taking some time to consider your own style and needs before making this important decision
 - What do you care about?
 - What is fun?
 - What are you good at?
- And of course these might change over time...



Mentoring relationships are a good way to explore these issues—
see Mentoring 101 eBook
blog.addgene.org



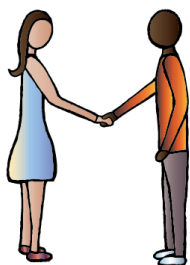
How I Got Here



How Did I Meet People (especially outside Academia)?



How did you find your current job position?



52% - Networking

- 13% - Other
- 10% - Job board
- 8% - Company website
- 8% - Recruiter
- 3% - Conference/event
- 2% - Alumni network
- 2% - Serendipity
- 2% - LinkedIn

- Networking of course (but I hate that name for it)
 - Developing diverse relationships (not just contacts) is the key to having access to opportunities and help
 - And you can't wait until the last minute

Also "networking"

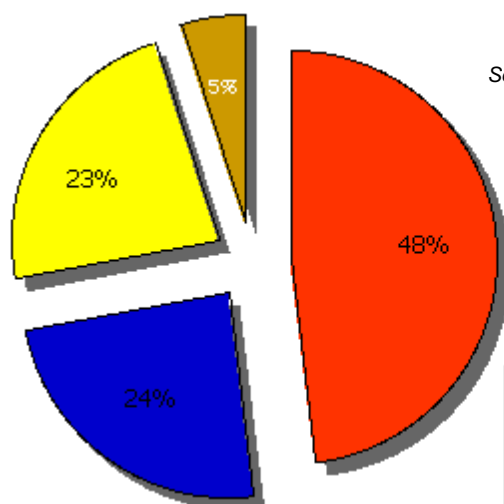
Many more networking tips at blog.addgene.org, my Linked In blogs or watch "Not Networking 101" on YouTube



The Voice of The Global Scientific Community n=1043 07/07/15
 *These results do not represent the views of The Science Advisory Board. They are aggregated responses to the question above from a poll fielded around the world.



How Relationships Help You Get a Job



Source: US Department of Labor, 2001



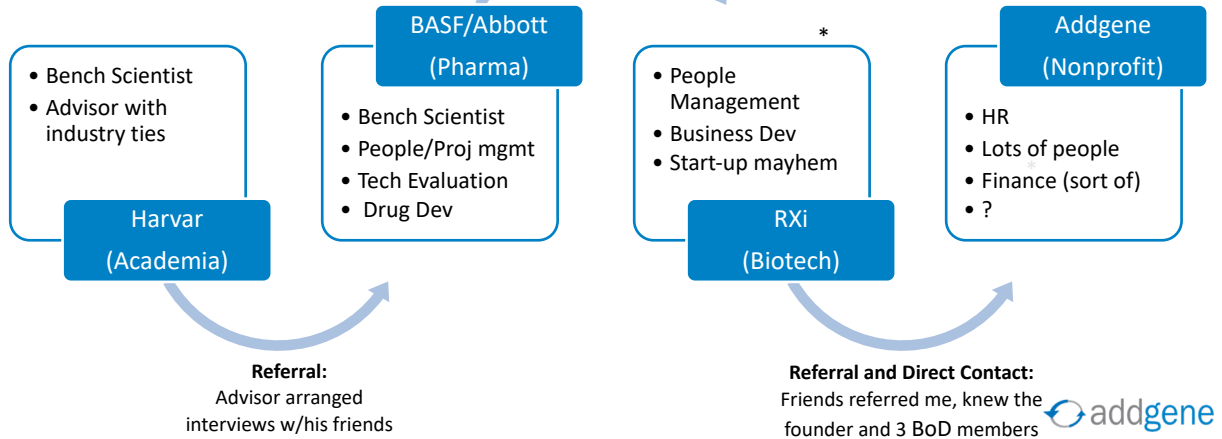
How I Got Here Take 1: Relationships



See my webinar at iBiology
Not Networking 101 – Building
Relationships for Success

Direct Contact:
Recruited by a long
time friend at lunch

** Note, these roles never advertised publicly*



But I Hate “Networking”...



• Make networking feel normal

- Become active in groups, professional and social
- Have lunch with another human twice every week!
- Don't leave an empty seat
- Figure out a way that works for you to interact with people at events



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How Can I Help?



- 4 powerful words!
- Successful networking is a two-way street
 - We all have something to offer
 - Don't keep score...what goes around comes around
- Listening - a much under-rated networking skill
 - "Good networkers have 2 ears and 1 mouth and use them proportionally"
 - Ask open-ended questions
- Think of ways in which you might be able to help
 - Ask for their resume, pass it on
 - Connect the contact to someone who might help them



Take-Away Messages...



- Don't wait until you need a job to build your professional network—Stay in touch with contacts even when you need nothing from them
- If it feels creepy...don't do it
- The secret of first impressions—be interested, be interesting
- Focus on people with whom you develop a rapport—you don't have to network with people you don't like

Many more networking tips at
blog.addgene.org,
 my Linked In blogs or watch
 "Not Networking 101" at iBiology







**KEEP
CALM
AND
RAISE
YOUR HAND**




Addgene's Nonprofit Mission



Accelerate research and discovery by improving access to useful research materials and information

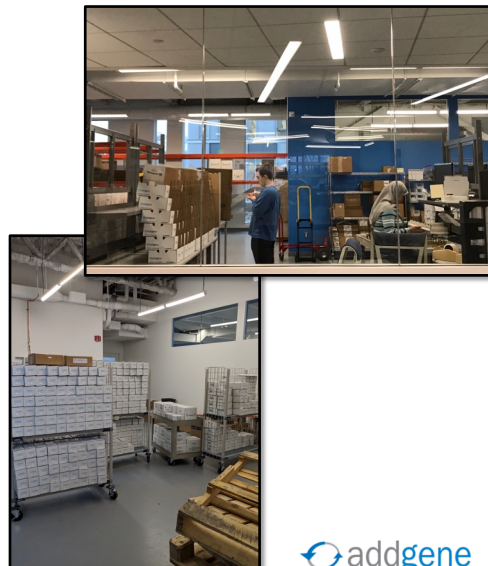
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graph LR; Author[Author] -- Plasmid Submission --> Published[Published Research]; Author -- Plasmid Submission --> Submission[Plasmid Submission]; Published -- Access to publication --> Researcher[Researcher]; Submission -- Access to research reagents --> Researcher;
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Addgene Over Since 2011



- 200 → >750 items distributed each day
- 15,000 → >70,000 plasmids stored
- 1,000 → >4,000 depositing labs
- >7,300 institutions, ~100 countries



Blog Launch in 2013

blog.addgene.org



Educational Resources Available through Addgene



The Addgene Blog reaches over **100,000** views a month with over **450** total posts

Written protocol pages have over **1.5 million** views with 30 protocols total and **~40 videos**



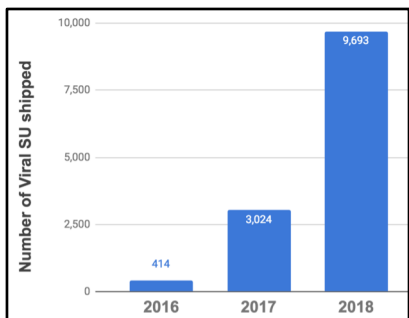
Plasmids 101, CRISPR 101, and Fluorescent Protein eBooks with over **40,000** downloads



Over **7,000** researcher inquiries answered in 2017

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Addgene Goes Viral in 2016



AAV

AAV are distributed as purified viral particles that are suitable for *in vivo* or *in vitro* use. We provide 100 μ L of purified AAV at titers of 2-5e12 vg/mL. Actual titers are reported with each shipment.

Current inventory:

- Chemogenetics (including DREADD) AAV
- Serotype Testing Control AAV
- Optogenetics AAV (*Coming soon!*)

[Find Available AAV](#)

Lentivirus

Lentiviruses are distributed as purified viral particles that are suitable for *in vitro* use. Minimum titers are listed on each item's material page and actual titers are reported with each shipment.

Current inventory:

- Pooled CRISPR Lentiviral Libraries
- Cas9 and CRISPR-activator Viruses
- gRNA Viruses
- Non-CRISPR Viruses (Cre-expression, GFP controls, scramble shRNA, reverse tet-transactivator, and more)

[Find Available Lentiviruses](#)



Full Plasmid Sequence Added 2017



Full Sequences from Addgene (1)

Based on next-generation sequencing (NGS) results where indicated (Addgene NGS Result), or assembled from reference sequences and/or Sanger results (Addgene Assembled Sequence).

Analyze Sequence

GenBank | SnapGene | File Help

```
> Addgene NGS Result
GACCGATCGGGATCTCCCGATCCCTATGGTGCCTCTCAGTACAATCTGCTGATCCCGGATAGTT
AAGCCAGTATCTGCTCCCTGCTTGGTGTGGAGTCTGCTGAGTGTGCGGAGCAAAATTAAGCTACA
ACAGGCGAAGGCTTGGCCGACAAATGGCAATGAGAAATCTGCTTAGGGTGGCTTTTGGCTGCTGGC
ATGTAGGGCCGAGTGTACCGTGTGACATGATATGTGACATGTTTATATAGTATGATATGAGGTTG
ATTAGTTCATAGCCCATATAGGATGTTCCGCTTACATATGCTTAGGAAATAGCCGCTGCTGACCG
CCCAAGACCCCGCCCATGTAGCTCAATAATGAGCTATGCTTCCCATAGTACGCAAGTATATATGCC
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CTCAGACTATATCAAGACATCTCTGATCTTATGATCTTCAAGATTTTTCGAAAGGAGGCTT
TTGGCTTCCAGTGGAGACATCTCAAGGATTTATGACAGATGAGACTGGAATGATGATGATGAGAC
TACCAGTAAATACCTTGCCTGCCAGGATGCCAAGTGGCTTCCACTATGAGGATGATGATGATGATG
```

- Full plasmid sequence for reproducible science
- Working with our partners at SeqWell and SnapGene
- More sequence analysis functionality is planned including BLAST on our database



Joining the Sharing Community



Depositing is Easy

Addgene PhDs help during the entire process

Start by depositing most requested plasmids

Addgene takes care of entire tech transfer process

Deposit before publication - when the paper comes out, plasmid numbers are in materials and methods

Depositor Benefits

Plasmids get used again, not lost in freezer ice

Save time on request fulfillment

International sharing is easy

Archiving of key reagents

Protection against losses due to lab turnover

Records of all requests

Increased exposure for your science

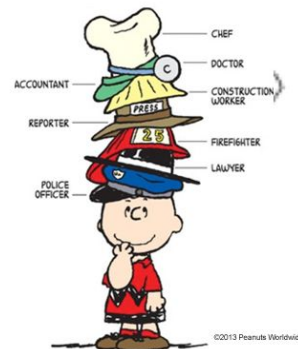


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PhD Roles at Addgene



- None of them academia or pharma and all of them interesting
 - Outreach
 - Marketing
 - Science Communication
 - Science Education
 - Technical Service
 - Business Development
 - Software Coding
 - Project Management
 - Operations
 - CEO
 - Research Bench Work (only recently)



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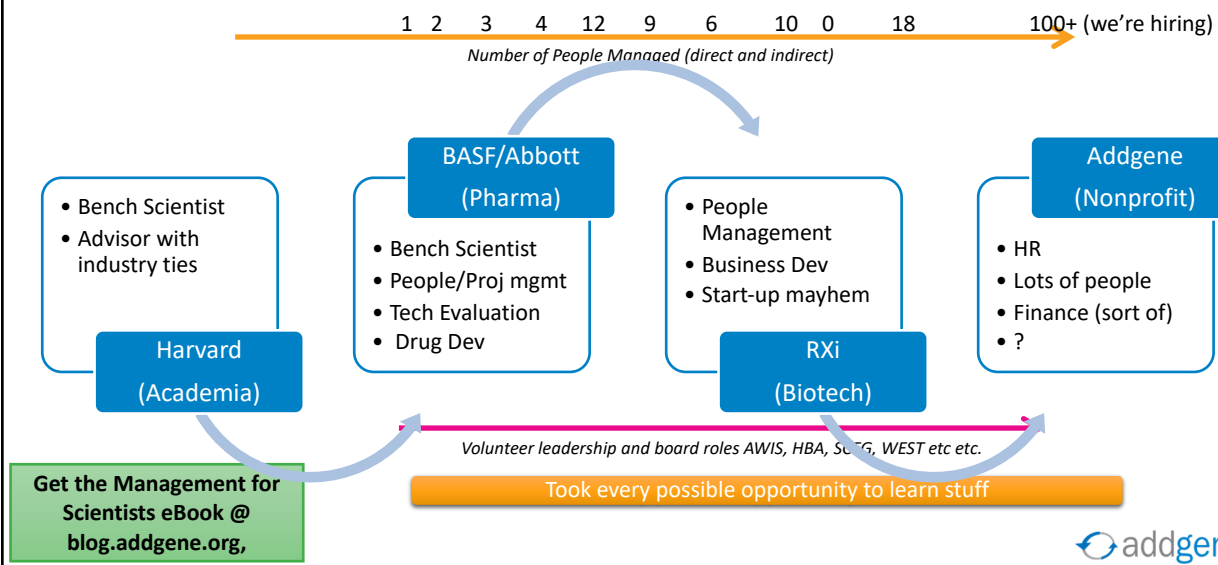
How Can We Help?



Twitter, Facebook, Instagram LinkedIn: Addgene
blog.addgene.org



How I Got Here Take 2: Professional Development



Professional Development



- Technical Knowledge
- Communication
- Management
- Initiative
- Teamwork



Where to find it

- You are a trainee at your university!
 - Business classes etc. – audit!
 - Career centers
 - Alumni database
- Professional organizations
 - e.g. Louisiana Bio www.louisianabio.org
 - Postdoc Assn, Grad Assn, AWIS
- Social Media
- Online courses, MOOCs



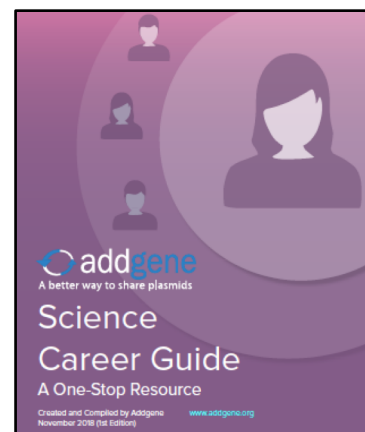
blog.addgene.org
for much more content on
non-bench skill development



What Can I Do to Get Ready?



- Technical Knowledge and Creativity
 - Become a “thought leader”, develop a technical “niche”, develop a useful new assay, master a new technique
 - Be a reviewer for publications
 - Maintain a content-useful website, start a Blog
 - Pursue speaking invitations by inviting others (speaker committee)



What Can I Do to Get Ready?



- Communication

- Teach classes
- Go to workshops on interviewing, resume writing, networking
- Practice your English if you need to, go to ESL classes
- Practice your presentation skills (as much as you can), form a peer mentoring group to get real feedback
- Write whenever you can, find supportive editors so 1st drafts are always excellent



What Can I Do to Get Ready?



- Management

- Supervise undergrads or less experienced grads
- Manage a project involving multiple scientists
- Be a mentor in a formal program
- Learn about budgets and purchasing

A Guide to Management for Scientists



Learn how to avoid common management pitfalls and lead a successful team of scientists. Find the posts, new worksheets, and additional resources in this handy eBook.

[DOWNLOAD NOW >>](#)

- Leadership = Management with initiative

- Start something (a journal, a science lunch club, a biotech club)
- Be the head of a group (like a grad student or post-doc association)
- Follow industry publications e.g. FierceBiotech to “learn the business of pharma”
- Attend events with local networking and trade organizations



What Can I Do to Get Ready?



- Collaboration and Teamwork

- Collaborate with another lab, in another field maybe, and publish
- Join a lab that has multiple collaborations, even with Industry labs
- Work on a big project that relies on a division of labor
- Serve on a committee and do something big like plan a conference
- Recruit many supporters and mentors that will speak for you (and you for them)

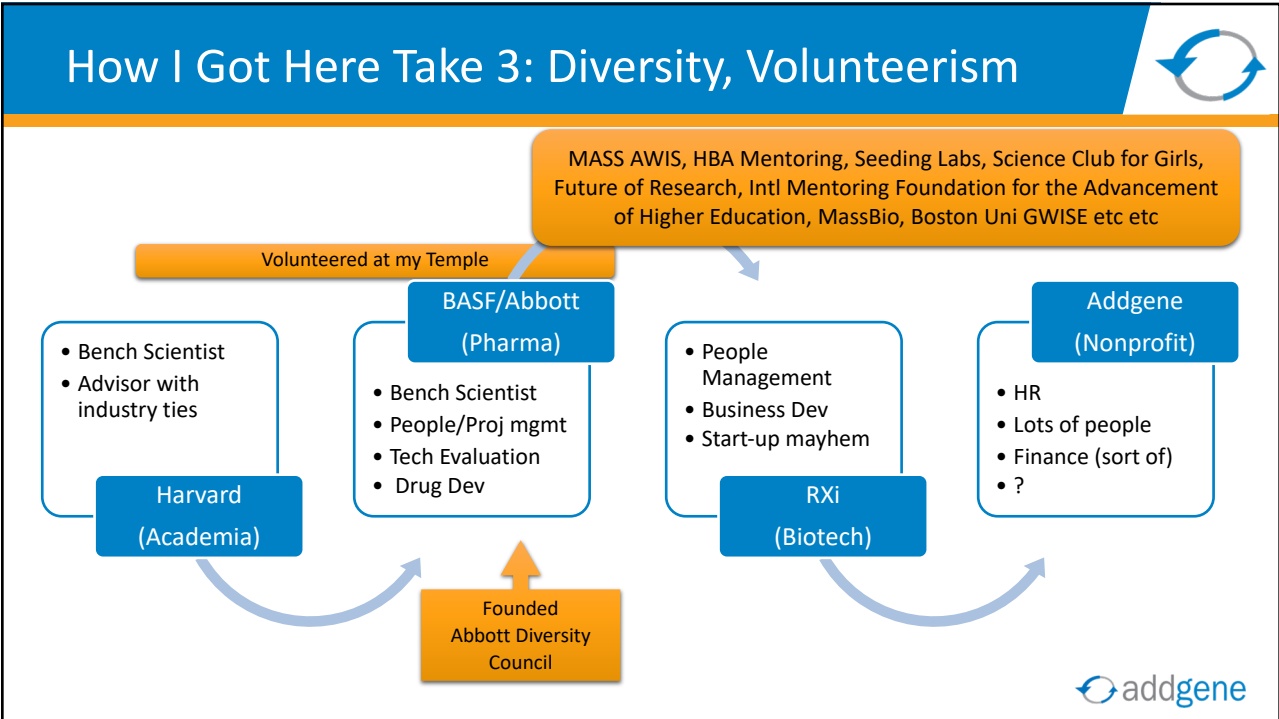
See blog.addgene.org for more content on "plus" career skills



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Harassment in the Workplace



“You fall in love with them. They fall in love with you. And when you criticise them they cry”

Sir Tim Hunt
On ‘girls’ in the laboratory

TODAY

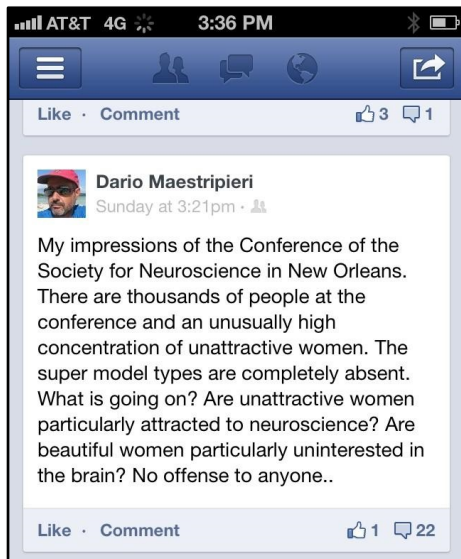


Sexual harassment in science is not rare. Last year, a [survey](#) of 666 scientists found that nearly two-thirds had experienced some form of verbal sexual harassment while doing field research, while 1 in 5 had experienced sexual assault. Overwhelmingly, those experiencing harassment were students or postdocs.

32 Here's How Geoff Marcy's Sexual Harassment Went On For Decades, Azeen Ghorayshi, Buzzfeed

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Less Overt, Still Damaging



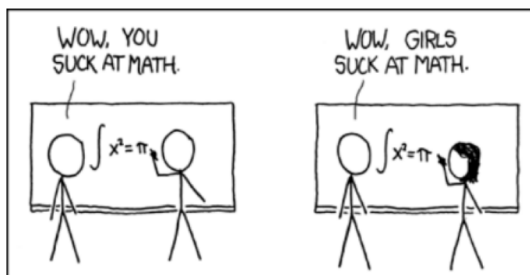
- Yes...still at University of Chicago
- Yes...still has a lab with 50% women
- Can we all please start voting with our feet?

33

What is Implicit Bias?



Implicit bias refers to the attitudes or stereotypes that affect our understanding, actions and decisions in an unconscious manner



Read my blog "Spot the Sexist in You" @ Naturejobs for much more on Implicit Bias, also blogs and webinars

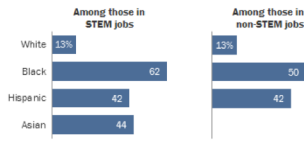
34

Racial Bias—Even Worse in STEM Fields



Black STEM workers are most likely to say they have experienced discrimination at work due to their race

Black STEM workers are most likely to say they have experienced discrimination at work due to their race
 % of employed adults who say they have experienced any of eight forms of discrimination in their workplace due to their race or ethnicity

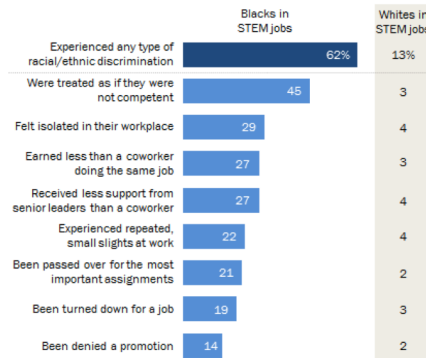


PEW Research Study - August, 2017
 n = 4,914 adults

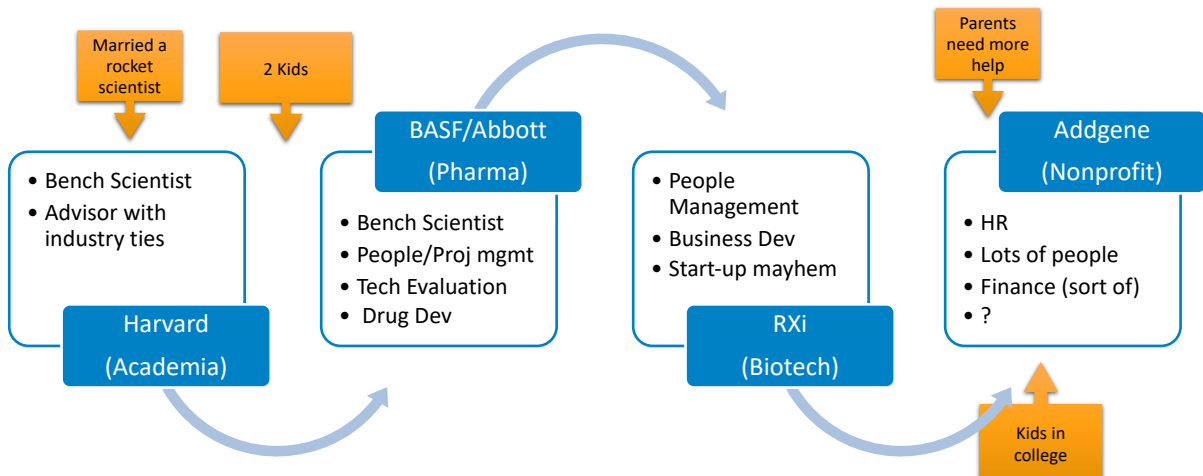
35

A majority of blacks in STEM jobs have experienced race-based discrimination at work

A majority of blacks in STEM jobs have experienced race-based discrimination at work
 % of those in science, technology, engineering and math jobs who say each of the following has ever happened to them at work because of their race or ethnicity



How I Got Here - Take 4: Life



Orthodox Jew-Sabbath observer, Love to read fiction, travel, must exercise



But My Advisor...



- Has group meeting Friday at 5. Expects me to be in the lab all weekend, every weekend. Won't write me a recommendation if I don't stay in academia. Will die if I tell him I'm pregnant. etc. etc. etc.
- Choose your labs carefully! Advocate for reasonable work conditions. Consider leaving if your needs can't be met.
- You must choose the right mentors!
 - It is actually something you CAN choose! Most people see the job as choosing them instead of them choosing the job. Most of us don't ask the right questions of ourselves, much less of potential employers. Choosing the right lab can make or break your future in science.

See my webinar at [BitesizeBio](#) or blogs on choosing the right lab



My 10 Commandments of Work/Life Negotiation



- Thou shalt find enjoyment in your work
- Thou shalt sometimes put work ahead of life
- Honor the work day and keep it wholly regular
- Thou shalt not bear the burden alone
- Thou shalt not sweat the small stuff
- Thou shalt throw money at the problem
- Thou shalt create community to help
- Thou shalt enthusiastically foster independence
- Thou shalt make a to-do list and a to-don't list
- Thou shalt also have fun

Blog.addgene.org
[10 commandments of Negotiating Work and Life: How to Find the Joy](#)



How You Can Feel—The “Zone”



- You are happy at work so that you lose track of time
- Things seem to frequently “fall into place”
- You feel confident in your abilities some of the time
- You have periods of intense concentration and focus



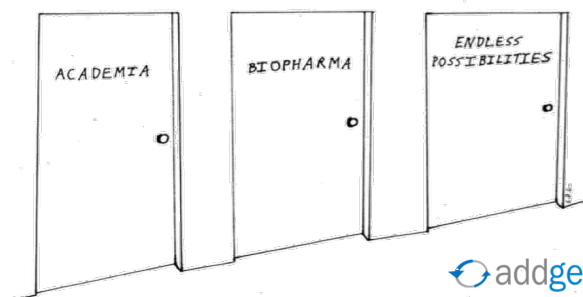
- ***“Sometimes it doesn’t even feel like work...”***
 - You won’t always be in the zone, but even brief stays there can make all the difference!

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Last Words



- Treat this like a research assignment: educate yourself, get data
- Whiney doesn’t usually cut it (it does sometimes in academia, so break the habit)
- Activate your network and nurture it



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Best of Luck on Your Career Journey!



- Questions?



@JKamens & @Addgene

Follow Addgene on Facebook and LinkedIn for career and science content



Warning Signs



- Future coworkers speak disrespectfully of supervisors and/or each other (unless you like that sort of thing)
- You aren't given time to talk to people alone
- People seem to be hiding their work and are not upfront in discussing or publishing data and results
- There is hesitation before answering your questions about culture or ethics
- Gut feeling that something isn't right

