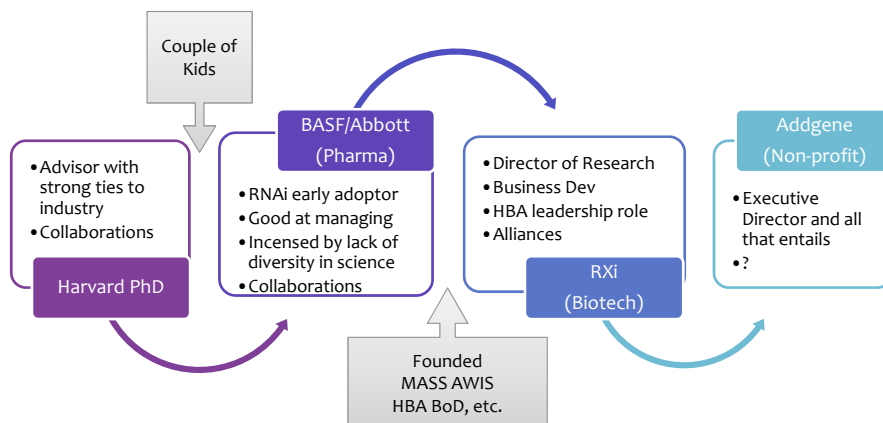# SMOOTH TRANSITIONS—
TOP 10 LIST: THINGS SCIENTISTS ASK ABOUT FINDING AN INDUSTRY JOB
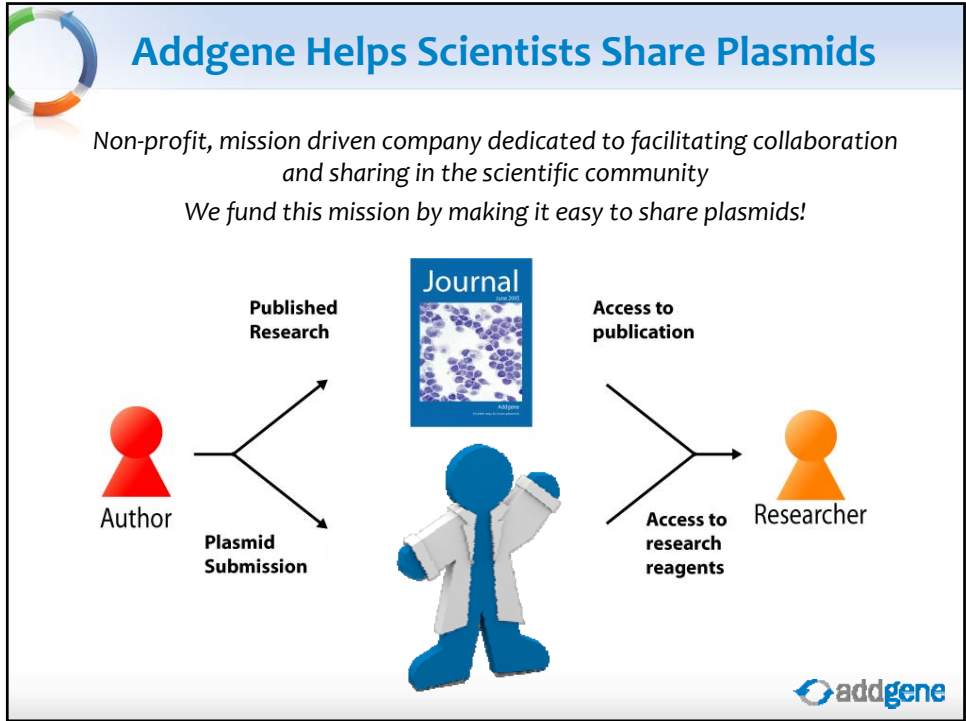
Joanne Kamens, Ph.D.
Executive Director, Addgene

@JKamens & @Addgene
www.linkedin.com/in/joannekamens

I'M AFRAID A QUALIFICATION FROM THE UNIVERSITY OF HARD KNOCKS DOESN'T GET YOU FAR IN THE BIOTECHNOLOGY BUSINESS THESE DAYS

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How I Got Here

Couple of Kids

- Advisor with strong ties to industry
- Collaborations

Harvard PhD

BASF/Abbott (Pharma)
- RNAi early adoptor
- Good at managing
- Incensed by lack of diversity in science
- Collaborations

Founded MASS AWIS HBA BoD, etc.

- Director of Research
- Business Dev
- HBA leadership role
- Alliances

RXi (Biotech)

Addgene (Non-profit)
- Executive Director and all that entails
- ?

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Addgene Helps Scientists Share Plasmids

Non-profit, mission driven company dedicated to facilitating collaboration and sharing in the scientific community
We fund this mission by making it easy to share plasmids!

Addgene Statistics

- **>25,000** plasmids stored
- From **>1,600** contributing labs, >300 institutions worldwide
- **>1,800** plasmids shipped each week
- **51%** shipped to scientists outside the United States
- Samples shipped within 2 business days of MTA approval

250000
Plasmids Shipped
Fall 2012
¼ Million Milestone

"I do science differently because I can use the Addgene library to find reagents"

Addgene's Collection

- Plasmids and collections for experiments in many organisms: human, mouse, rat, bacteria, yeast, worms, flies, fish, plants, etc.
- Plasmids for a wide variety of applications: gene expression, gene knockdown, tagging, empty backbones, etc.
  - Genome Engineering (e.g. TALENs, CRISPRs)
  - Viral expression & packaging
  - Fluorescent tags and biosensors
  - Stem Cell Factors
  - Reporters

5

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Addgene Resources

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Benefits of a Central Plasmid Repository

- Save time on request mailing
- Access all plasmids in one request
- No loss due to turnover of lab members
- New labs hear about your work, more citations
- Archive historical clones and standards, rigorous QC
- Get a list of who has your plasmids any time (for grants or Tech Transfer offices)
- Collaborate! Participate in our Community!

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Depositing in a Biological Resource Center Increases Citation Rates
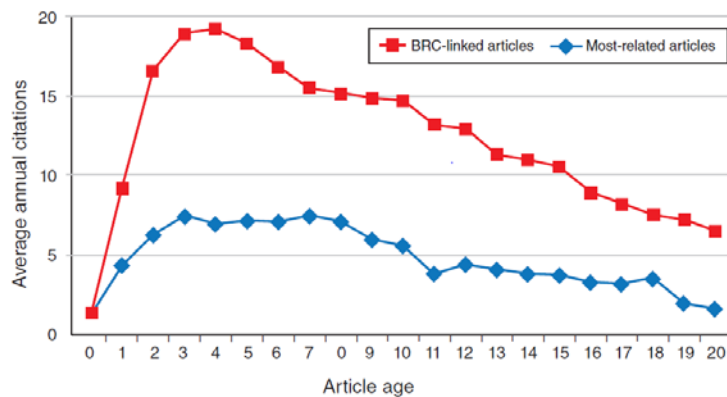
"Climbing Atop the Shoulders of Giants: The Impact of Institutions on Cumulative Research."
Jeffrey Furman and Scott Stern. American Economic Review 101.5 (2011): 1933–1963.

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SMOOTH TRANSITIONS—
TOP 10 LIST: THINGS SCIENTISTS ASK ABOUT FINDING AN INDUSTRY JOB

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Why Are We Talking About This?

2008 Post-training Workforce Snapshot*

Pie chart labels:
- 2%
- 18%
- 43%
- 18%
- 18%
- 6%

Legend:
- unemployed
- non-science related
- science-related non-research
- government research
- industry research
- academia

*Note: The source of the numbers in the pie chart is the National Science Foundation Survey of Doctorate Recipients, and therefore this snapshot only includes US doctorates, a total of about 130,000 individuals, which is an underestimate of the total biomedical research workforce.

NIH gets it…

The Broadening Experiences in Scientific Training (BEST) NIH grant program support the development of new and innovative methods for preparing graduate students for the full breadth of research and research-related careers in the biomedical sciences

Programs should introduce students and postdoctoral scientists to the wide array of biomedical careers early in their training, and provide them with experiences in the career they plan to pursue, in addition to their PhD studies and traditional postdoctoral training.

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#10 How is Industry Different from Academia?

- Usually several projects in parallel
- Must be ready to change projects frequently with little notice
- More opportunities to present
- Publish less, if at all
- Strict documentation often required
- Better resources available ($)—can plan cool experiments
- Always working on a team/in a matrix
- Other people will scrutinize your data—all the time
- Work concentrated to business hours—sort of
- Working under tight (impossible) timelines - others are usually waiting, the patient is always waiting
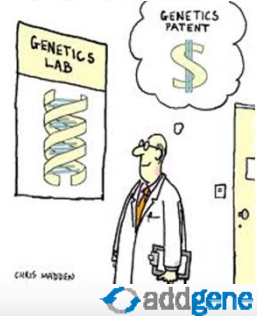
#9 How is Industry Not Different from Academia?

- Academic science is much like industry but the "product" is publications—pressure to produce is not different
- You can do quality science on interesting topics
- Must justify use of resources and pay attention to budget constraints
- Having strong "non-science skills" helps
- Get to interact with your own kind

#8 Biotech vs. Pharma?

Pharma	Biotech
Develop expertise areas quickly	Jack/Jane of all trades
More sources of training and resources within the company	Must find own sources of knowledge often externally
A bit less crazy	Crazy hours (really)
Specific requirements for hiring more common	Likelier to hire on general talent and not specific skills
Can have a long term career with advancement in one company, good performers in for the long haul	Limited movement in one company, likely will need to move around every 3-6 years— a short and exciting ride
Complicated matrix structures are common	Small integrated teams, little hierarchy
Real diversity and acceptance can be an issue in getting promoted (especially race and gender)	Interpersonal issues can create interpersonal issues (one bad apple can change entire culture)
Can move between the two (helps to know the right people)	

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#7 Why Would I Move to Industry?

- You are ready for more movement--projects end but good performers move around
- Don't mind moving jobs every 4-5 years
- You prefer a more structured approach to your time management
- Ready to focus on collaboration and working in a team
- Love science but not interested in bench work (in the short or long term)
- Want to be closer to the technology of treating patients & solving problems
- Want more money to play with and not willing to enter the grant writing fray
- Relocation requires it

Article worth reading:
http://chronicle.com/article/On-Leaving-Academe/133717/

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#6 Why Would I Stay in Academia?

- Prefer a greater sense of autonomy and are a confirmed "individualist"
- Want to focus on science for science's sake
- Love the intellectual atmosphere and "ferment"
- Would like to train and teach students
- Prefer collaborations be less "complicated" (but possibly less funded)
- Not because you think it is more rigorous
- Academic researchers must be extreme self-starters and good at self-promoting
  - No one is going to tell you to pick up the pace
  - Success in industry also requires these skills, but expectations are clearer and more defined—(many) more people watching
- Think about your own motivations and what you enjoy about your work—are you really ready?
  - It is still a little harder to go back to a traditional academic path after a stint in industry

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#5 When Should I Move to Industry?

- After 3-4 post-doc years
  - In can be a disadvantage to wait longer
- When you can easily describe your marketable skills and talents
- When you have a great job talk ready
- When you have a 1rst author publication in a good journal
- When you have some visibility in the community

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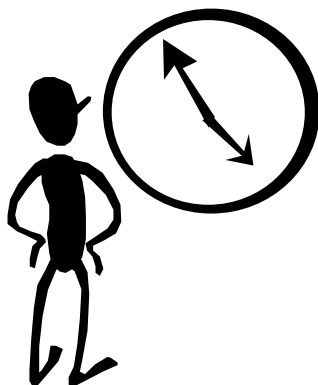
#4 What Can I Do to Get Ready?

- **Leadership and Management**
  - Supervise trainees to demonstrate management skills
  - Manage a project
  - Be a mentor
  - Start something new, be the head of a group
- **Collaboration**
  - Collaborate and publish
  - Do a project that relies on a division of labor
  - Serve on a committee, do something big
  - Help other people, show you can build/be on an effective team
- **Communication**
  - Go to workshops on interviewing, resume writing
  - Practice your English if you need it, go to ESL classes
  - Practice your presentation skills whenever possible
  - Write whenever you can, find supportive editors
- **Become a "thought leader", develop a "niche"**

*Start early
and practice often*

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What Can I Do to Get Ready? (cont'd)

- Do what you can to "learn the business"
  - Become familiar with the life science industry and how commercialization works in different models
  - Research the companies in that you might target
  - Consult to get experience in technology evaluation
- Consider this when choosing a training lab: Does the advisor support an industry career path? (if not too late)
  - Do ex-lab members go into both academia an industry?
  - Does the advisor have industry connections?
  - Is the work (field and technical aspects) applicable to industry (e.g. human disease models, drug properties, etc.)?
  - Does the publication record show evidence of industry collaboration?
  - ASK! If you know you want to consider this path, don't go somewhere that won't support it
- Identify other mentors who will help
  - You must be developing a list of excellent references

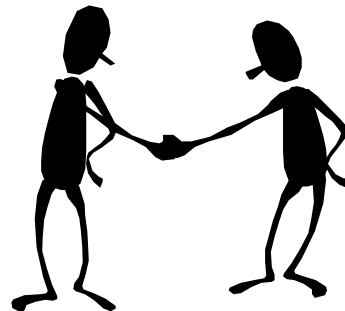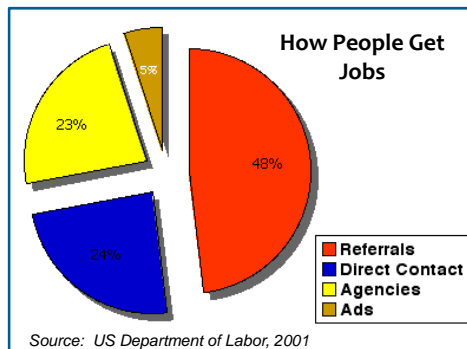addgene
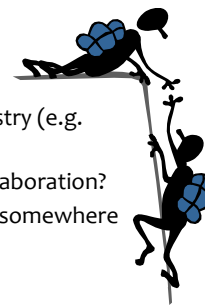
#3 How Do I Not Tank in the Interview?

- **Research the employer**
  - Visit the company website, read company press releases and news articles
  - REALLY read the job description, be ready to ask questions about the role
- **Write an excellent talk and practice it for others**
  - Don't just share data, present yourself as a thought leader. Don't just share what you know, share what you think and believe
- **Practice interviewing**
  - Do "informational interviews": Use your network to find people who worked or work at that company or in similar positions. Especially in the department you are heading for, meet them, talk to them ask questions
- **Be prepared with "stories"—really write them down and practice**
  - Prepare 10 stories that exemplify successful work outcomes – keep a running list
  - Make sure to say "I" and not "we" when appropriate
- **Dress professionally**
  - Be formal (yes, even for bench positions) but comfortable (no spike heels). Don't wear a brand new outfit. No short skirts, no low low tops. Men wear a tie.
- **Don't be late (duh)**

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#2 How Do I Meet People in Industry?

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

How People Get Jobs

48%

23%

24%

5%

- Referrals
- Direct Contact
- Agencies
- Ads

Source: US Department of Labor, 2001

ASCB/iBio networking webinar   http://www.youtube.com/watch?v=nxSI6KicDs4   addgene

Connect

- Become **active** in groups, both professional and social
- Invite and connect with guests speakers and visitors
- Get to know some recruiters
- Follow newsletters like "FierceBiotech"—learn the "lingo"
- Try having lunch with another human being twice every week!
- Be open to online networking opportunities (but don't rely on this impersonal method)
- Successful networking is a two-way street, and should be mutually beneficial
  - What can you offer?
  - Most people want to help people—do random acts of kindness
- **Connect with people you like**

Places to Meet People

- In your department
  - Be a speaker, symposia, conference organizer or session chair
- Local Trade Associations (PABio)
- National Post-doc Association
- HBA—Healthcare Business Women's Assn (hbanet.net)
- AWIS—Association for Women in Science (mass-awis.org)
- GWIS—Graduate Women in Science (gwis.org)
- Professional organizations
  - AAAS, ACS, AAI, AACR etc. student and post-doc volunteer/leader roles

#2a Do I Really Have to Be "Linked In"?

- Yes
- Make a professional Linked In profile (or maybe Viadeo)
- Linked In should look as good as/better than your resume
  - Take time to make a good profile—keep it current
  - Put up a professional, clear picture
- DO invite people you have really met and talked with
- DO use it to remind yourself details about people you will meet (especially for interviews!)
- NEVER use the generic Linked In invite text
- DO NOT ask people you don't know for connections or favors or recommendations

Linked **in**. linkedin.com/in/joannekamens

@JKamens
@Addgene

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The #1 question Joanne is asked about transitioning to industry.....

Drum Roll

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#1 Can You (Joanne) Get Me a Job?

- No, but here are my best additional tips:
  - Activate your network and nurture it
  - Be prepared to work at the bench first, that's what it looks like you know how to do
  - Whiney doesn't usually cut it in industry (it does sometimes in academia, so break the habit)
  - Try looking at small biotechs and…
  - Follow the money
  - Treat it like a research assignment: educate yourself, get data

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Suggested Resources—Books and Articles

- *From academic solos to industrial symphonies* (Nature Biotech article) Gwen Acton, Alicia Gómez-Yafal & Emily Walsh
- *There and Back Again* (Nature Bioentrepreneur article) John Boyle
- *A PhD Is Not Enough! A Guide to Survival in Science* Peter J. Feibelman
- *A Fair Deal for PhD Students and Postdocs* (eLife article 2013) Henry Bourne
- *The Hard Truth About Soft Skills—Workplace Lessons Smart People Wish They'd Learned Sooner* Peggy Klaus
- *So What Are You Going to Do With That?: Finding Careers Outside Academia* Susan Basalla & Maggie Debelius
- *Unlocking Your Brilliance: Smart Strategies for Women to Thrive in Science, Technology, Engineering, and Math* Karen Purcell

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Suggested Resources—Websites

- nationalpostdoc.org
- www.pcdi.nl
- phds.org/postdoc
- postdocjobs.com/resources
- biotechcareercenter.com
- vitae.ac.uk
- nature.com/naturejobs
- sciencecareers.sciencemag.org
- mendelspod.com *"Looking for a job is a full time job"*
- ASCB/iBio networking webinar
  youtube.com/watch?v=nxSI6KicDs4 *"Not Networking 101—Building Relationships for Success"*
- www.benchfly.com/blog/career-development-resources/

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Thanks for Listening

- Questions?

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