

DIVERSITY & INCLUSION IN STEM: HIRING & RETAINING

Document written by Axiel Yaël Birenbaum, compiling data from various guidelines, talks, and studies, as well as ideas gathered while interviewing people in professional settings. References when possible at the end. This is an informal and non-exhaustive list of possible solutions, already assuming the reader is convinced of the necessity for diversity in the workplace.

GENERAL NOTES ON DIVERSITY

*Fields where women are plentiful are fields where LGBTQ+ people are out [1]. I believe this extends to (to a certain degree): **attract women and you will attract other forms of diversity.***

Diversity can be visible (e.g. gender, race, disability), **and invisible** (e.g. sexual orientation or lack thereof, gender or lack thereof, disability.)

Progress can only be achieved if everybody is on board. Perhaps highlighting that diversity leads to better science and better financials is the key here.

I. ATTRACTING

Is our Lab/University/Institution as a whole, an attractive place for people of all gender, race and ethnicity, and sexual orientation to work at? What other forms of diversity are we targeting?

*Bringing diverse people into the Lab/University/Institution allows us to show off our attractive environment, whilst furthering its attractiveness and diversity. **To be renowned as a diverse place is self-fulfilling.***

A. IMPROVING THE ENVIRONMENT

When looking for work, people informally exchange information about the viability of working at the institution: it starts before the ad.

- Make clear what language and behaviors are tolerated and what are not, often and clearly. Set an example when writing emails and other documentation that circulates. (See II. B. for examples of non-discriminatory language.)
- Ask and listen to recommendations and complaints.
- Remember the burden should be shared, not just shouldered by those who are affected. Otherwise, the most discriminated against stay the most burdened, furthering the divide.
- Foster an environment where mental health is taken seriously.
- Have an Early-Career grant or a Postdoc Fellowship for underrepresented minorities.
- Having visible women is a sign of friendly environment [1].
- Training: GSD enjoyed training involving white men as allies [2].
- Can request a site visit by the APS who will do the following [7]
 - Provide an outside appraisal of the environment experienced by women and minorities within the department or lab

- Provide suggestions to leadership for interventions or changes that can address practices that might limit or reduce participation by underrepresented groups

B. ORGANIZING CONFERENCES

Making it viable for primary caregivers to attend will attract and benefit women.

- Make daycare available, and advertised for no later than when abstracts need to be submitted. It is useless when confirmed at the last minute e.g. Materials Research Society winter meeting 2018.
- A dedicated quiet room with a private section (like a curtain) benefits women who need to breastfeed/express their milk, people with sensory overload (e.g. autistic), etc. The American Physical Society (APS) and Microscopy & Microanalysis provide that for their annual meetings, we should too.
- Having desired pronouns on badges. Printing pronouns on all badges has the double advantage of allowing people to be called by their preferred pronouns whilst avoiding *othering* anyone.
- Equal access to bathrooms.

C. VISIBILITY

Ends feelings of being an ice-breaker and of isolation: nobody wants to be the first, nor alone.

- Invite diverse people to give talks. Set quotas, e.g. 50% women, 30% underrepresented racial minorities, etc. 500womenscientist.com has a “request a scientist” feature. APS has a Minorities Speakers List you can browse too.
- Highlight work done by our scientists, setting quotas too. Highlighting their diversity too allows for invisible minorities to become visible.
- Organizing *scientific events* for Black History Month, Pride Month, Women’s History Month, etc. Highlighting diversity at the lab allows for invisible minorities to become visible in volume.

II. HIRING

A diverse authorship leads to more citations in the first five years of the paper [6].

A. TARGETING CANDIDATES

- Ask general professional organizations such as the APS, or specifically diverse ones such as the National Society of Black Engineers, National Organization of Gay and Lesbian Scientists and Technical Professionals, etc.
- Recruiting diverse talent from universities that have a large number of minorities in their PhD programs (e.g. historically black universities). See AIP for these statistics [3].
- Targeting women early in their careers for more permanent jobs is controversial, but one of the way to fix one of the leaks in the pipeline: stability when starting a family is necessary. Offering that stability to women of 35 years old or more is too late. Unless there is a partner than can share half (or more) of the load, who starts a family and relocate every 2 years?

B. ADVERTISING: HOW TO WRITE AN AD THAT ATTRACTS EVERYONE

The language used, the arrangement of the ad, and what is made explicit: all affect who will apply.

- Gender-neutral language: e.g. “the applicant is expected to have finished *their* PhD within the last five years”, “pursue *their* own research”. They/their/them is preferred over “his or her”.
- Separate what is absolutely required from what is desired. Women often feel they need to fulfill 100% of criteria, or have more experience, whereas men will apply with only 50% of criteria covered.
- Do not say “the award is highly selective”. Aren’t they all? Communicate the odds to the successful candidate, no need to alienate people before they even apply.
- Include an explicit paragraph on how the Lab/University/Institution sees diversity as valuable.
- Explicitly list what you do not discriminate against: gender and *gender expression*, sexual orientation *or lack thereof*, race and ethnicities, etc. For a good list see references, see [3] f and [5].
- Ask for a diversity statement: is the candidate committed to furthering diversity at the Lab/University/Institution? This is increasingly a common ask in university faculty application packages, so is good practice for postdocs. It also allows someone to voluntarily declare a belonging to a underrepresented group, visible or not.

C. PRE-SELECTION: HR

Is everyone committed to hiring diverse?

- Seeing diversity as a plus rather than a bother: if two CV’s are identical, but one candidate climbed a steeper field than the other, who do you think is going to be the most perseverant, an important trait in a researcher?
- Affirmative action and setting quotas is unpopular but work. It helps to broaden what “best candidate” means.
- Does HR go through training? If so, what kind? Does it cover being proactive in seeking diversity and opening one’s mind, or only sensitivity training once something is reported? See training in I. A. [2].
- Do not make assumptions about the candidate, let them chose if they want to move, if they think they will fit in or not, etc.

D. FINAL SELECTION: HIRING PANEL

- At the interview: introduce women, with emphasis on accomplishments and credentials, in order to counter the double standard faced.
- Have a diverse panel in gender and race, just as you normally would in experience and perspectives.
- If the panel does not include even one person that looks like the potential hire, think again. Also make sure that it is not always the same people, see burden note in I. A.
- Once again, traning.

III. RETAINING

A. GENERAL

- See section I. A. for “Improving the environment”
- Career-development conferences encourage networking and helps finding mentors. They should include professional societies’ diversity meetings if they exist, or separate groups. For example, Women In HPC, Lesbians Who Tech, those listed in I. D., see [5].

- Allow flexibility with counting hours when working from home, especially for new parents
- Mentoring helps with leveling the playing field. Small one-time affairs already make a difference.

B. MEETINGS

- Hold meetings during school hours.
- Hold meetings only at work or via BlueJeans/Skype. Meetings at the bar are going to exclude a few.
- Look out for and call out when someone is bullying a speaker through questions.
- Look out for and call out when someone appropriates an idea that was raised before by, for example, a woman.
- Invite minorities to speak up. This helps spread the burden.
- More at [4] e.

REFERENCES & FURTHER READING

- [1] Jeremy B. Yoder & Allison Mattheis, *Queer in STEM: Workplace Experiences Reported in a National Survey of LGBTQA Individuals in Science, Technology, Engineering, and Mathematics Careers*, *Journal of Homosexuality* **63**, 1–27 (2016). DOI: 10.1080/00918369.2015.1078632
- [2] Training example: White Men As Full Diversity Partners <https://www.wmfdp.com/diversity-consultants>
- [3] AIP statistics <http://aip.org/statistics>
- [4] American Physical Society's *Effective Practices for Recruiting and Retaining Women in Physics* <https://www.aps.org/programs/women/reports/cswppractices>
- [Effective Practices for Retention of Undergraduate Students](#)
 - [Effective Practices for Postdoctoral Researchers](#)
 - [Effective Practices for Recruitment and Retention of Graduate Women](#)
 - [Effective Practices for Faculty Recruitment and Retention](#)
 - [Effective Meetings Practices](#)
 - [Tips for Hiring and Recruiting Minorities](#)
- [5] LGBT+ Inclusivity in Physics and Astronomy: A Best Practice Guide (85 pages covering many topics touched upon here) <https://arxiv.org/abs/1804.08406>
- [6] *Nature News Feature*, 6th June 2018, DOI: 10.1038/d41586-018-05316-5
- [7] APS Site Visit <https://www.aps.org/programs/women/sitevisits>