

■ **SHORT COURSE 3:**  
**Recognizing and Addressing Power  
Dynamics in Science and Academia**



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**2018**

## Short Course 3

Recognizing and Addressing Power Dynamics  
in Science and Academia

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## SHORT COURSE 3

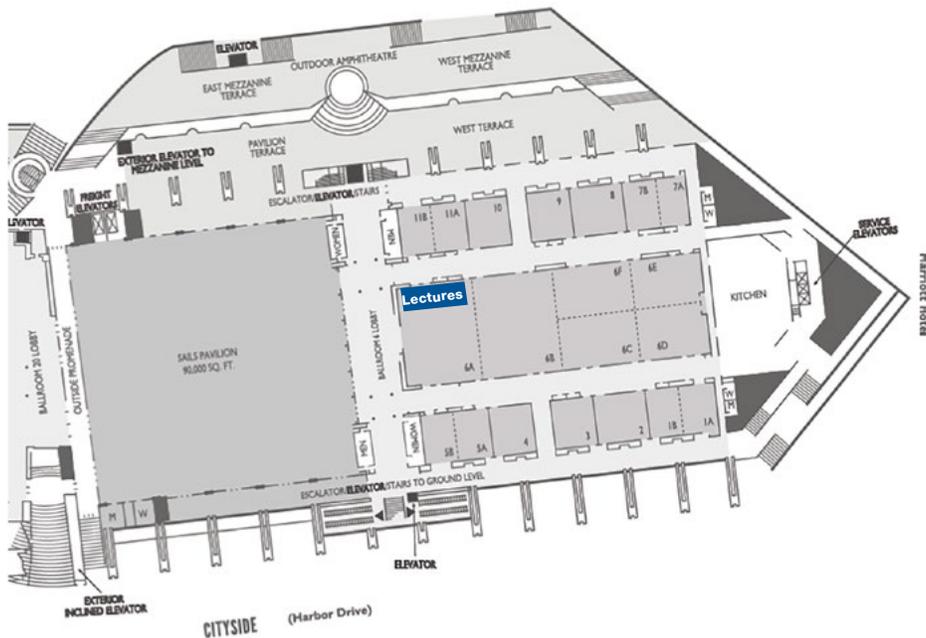
Recognizing and Addressing Power Dynamics in Science and Academia

Faculty: Keith Trujillo, PhD, moderator; Andrea Giuffrida, PhD; Erika Marín-Spiotta, PhD; Jean King, PhD  
 Friday, November 2, 2018

1–5:30 p.m.

Location: San Diego Convention Center • Room: 11

TIME	TOPIC	SPEAKER
12:30–1 p.m.	CHECK-IN	
1–1:10 p.m.	Opening Remarks	Keith Trujillo, PhD • California State University, San Marcos
1:10–1:40 p.m.	Kinds of power dynamics and ownership of ideas	Andrea Giuffrida, PhD • UT Health, San Antonio
1:40–2:10 p.m.	Intersectionality and power dynamics	Jean King, PhD • Worcester Polytechnic Institute
2:10–2:20 p.m.	BREAK	
2:20–2:50 p.m.	Sexual harassment: consequences and solutions	Erika Marín-Spiotta, PhD • University of Wisconsin–Madison
2:50–3:30 p.m.	Panel Discussion	All faculty
3:30–4:15 p.m.	Case Study Discussion	
4:15–4:25 p.m.	BREAK	
4:25–5 p.m.	Report Out	
5–5:30 p.m.	Q & A/Final Thoughts	All faculty



# Table of Contents

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Ownership of Ideas and Power Dynamics in Academia <i>Andrea Giuffrida, PhD, and Jodie Gray, MS</i> .....	5
Changing Academic Culture: Responding to Sexual Harassment <i>Erika Marín-Spiotta, PhD, Sumita M. Nandihalli, MSc, and Megan Murphy, BS</i> .....	9
Hidden Forces: Intersectionality, Power Dynamics, and Strategies for Change in the Scientific Professions <i>Jean A. King, PhD, and Kristin Waters, PhD</i> .....	17
Case Studies .....	25

# Ownership of Ideas and Power Dynamics in Academia

Andrea Giuffrida, PhD,<sup>1,2</sup> and Jodie Gray, MS<sup>3</sup>

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<sup>1</sup>Department of Pharmacology

<sup>2</sup>Office of the Vice President for Research

<sup>3</sup>Department of Radiological Sciences  
University of Texas Health San Antonio  
San Antonio, Texas

## Introduction

With the growing emphasis on team-based collaborations in scientific research, the concepts of idea protection and data ownership are rapidly evolving. During the past decades, the digital age and the availability of new technologies for data sharing have significantly affected the way we approach and handle scientific ideas. Can ideas be “owned” in similar ways as physical property? What should we consider when building on the ideas of others? Should we own or distribute ideas? Is the sharing of ideas intellectual theft or an inherent part of teaching and learning? These questions become even more challenging in academia, where power dynamics in collaborative settings (e.g., mentor–mentee relationships, senior faculty mentoring junior faculty) may add another layer of complexity. This chapter provides some discussion points and case studies that illustrate how the mishandling of data and the misappropriation of ideas can lead to research misconduct.

## Idea Protection and Sharing

The protection of intellectual property employs different mechanisms, such as trademarks, copyright, and patents. In simple terms, trademarks protect names and images used to label goods and services, whereas copyright protects original ideas expressed as literature, music, or software in a recorded or printed format (Quinn, 2014). On the other hand, patents protect new inventions and exclude others from using, making, or selling them for a specific time frame (U.S. Patent and Trademark Office, 2015). Copyright law in the United States originated at a time when the efforts to record music or print and distribute publications were significantly more expensive and time consuming than they are today. Over time, advances in technology and digital communication have reduced production costs, expedited the publication process, and enabled the distribution of large datasets, making the protection of ideas more challenging. In addition, increased competitiveness in the academic environment has contributed to a race to protect ideas and data and file more patents (Thompson and Kuhn, 2017), often with the sole intent of advancing scientific careers rather than commercializing the actual invention (Kanter, 2005). In the case of unprotected data, it is not rare to witness disputes among colleagues, faculty, and trainees about stealing ideas that have not been published. Also, claims to have discovered a specific phenomenon or developed a certain methodology before others are very common in the scientific literature (Stainburn, 2008). Although from a legal standpoint it is not possible to protect unpatented ideas, disputes about idea ownership, if left unsolved, often lead to research misconduct.

## Conflicting Perspectives

Conflicting perspectives on idea ownership are at the root of heated discussions and quarrels in academia. Often, these perspectives are heavily influenced by the career stage of an individual. For example, a senior researcher may feel “empowered” to discount the contribution of a trainee to a manuscript to maximize his own visibility and success, or to retaliate in response to a difficult interpersonal relationship.

Another scenario is a graduate student viewing the open sharing of ideas as a necessary part of the learning process while a tenure-seeking faculty member focused on his or her career may view idea sharing as a “risk” leading eventually to intellectual theft. These diverging opinions pose a subtle but important question: If an idea is published and shared among the scientific community, who should claim its ownership and be credited with its success? (Hart, 2002). Should ownership be given to the original producer of the idea, the entire team that tested the idea, or the journal that reviewed the validity of the idea and disseminated the data? In the case of clinical trials, are data owned by the principal investigator(s), the patients who were enrolled, or the researchers who analyzed the data to determine the compound’s overall effects? (Montgomery, 2017).

It is not surprising that differing perspectives on ideas/data as valuable “commodities” that scientists are obligated to share for “the greater good” may contribute to conflicts that are not easy to solve.

## Contributions to Research Misconduct

### Authorship “gifting” or “ghosting”

Idea and data ownership in academia often have implications for the authorship of published materials. Although many scientific laboratories develop procedures for determining the order of authors and which contributions are required to attain authorship, practices like authorship “gifting” or “ghosting” pose significant problems when considering the specific contribution of an individual to a given work. For example, a graduate student may choose to list a prominent subject matter expert as a contributing author, even if the latter did not participate in any of the experiments or provided only advice on what methodology to use. This attempt at boosting the work’s credibility by “gifting” authorship to an uninvolved party is misleading and promotes the erroneous attribution of ideas to individuals who may not even be aware they are the coauthor of a manuscript. On the opposite side

of the spectrum, a principal investigator may claim full ownership of a work by intentionally excluding (“ghosting”) contributors from authorship.

### Data mismanagement or misrepresentation

Mismanagement or misrepresentation of data also may contribute to cases of research misconduct. Data hoarding to promote a group or individual interests (by either controlling the release of data for publication or withholding data to hinder the success of others) is a growing problem in the research community. Data hoarding can manifest in many flavors: a research team concealing data from another group for personal gain, faculty members omitting negative findings in order to publish in a high-profile journal, or a student withholding data from fellow trainees to feed his or her competitive ambitions. Data falsification, fabrication, and plagiarism—the representation of another’s idea(s) as one’s own (Helgesson and Eriksson, 2015)—often accompany these actions to support a weak idea in a deceptive way.

Data mishandling and plagiarism should be addressed and quickly corrected by supervisors or university leadership because they adversely impact scientific progress and can have negative consequences for the reputation and career of a scientist. Unfortunately, junior lab members witnessing research misconduct often waver when it comes to reporting these cases to the appropriate authority as they fear retaliation from their supervisors, who might threaten to ruin their careers given their sphere of influence.

### Final Considerations

Today’s competitive environment in scientific research calls for more team-based approaches and powerful technologies for sharing ideas rapidly and effectively. Scientific progress inherently requires data dissemination and peer review to advance knowledge and address the complex problems

afflicting modern society. Well-established legal mechanisms such as patents and copyrights offer the highest level of protection for ideas generated by researchers and represent the necessary first step to translate an invention into a commercially viable product. Nevertheless, intentionally or unintentionally, many research ideas are not patented and are shared in the public domain via publications or other forms of dissemination. In this case, shifting the emphasis from “owning” to acknowledging credit for contributions to any given work should be at the center of the ethics codes of scientists. Along these lines, the National Institutes of Health (NIH) has been pushing academia to develop and implement formal instruction in the responsible conduct of research (National Institutes of Health, 2018). The NIH seeks to hold the entire scientific community to exemplary standards of intellectual honesty and ethical conduct in research practices, and to increase awareness of regulations, policies, and guidelines that govern federally funded research.

Despite these efforts, the incidence of research misconduct cases continues to increase. Numerous resources at academic institutions are available to researchers, students, and faculty who may witness or need to resolve not only disputes about data ownership, but any other type of research misconduct. Depending on the nature of each case, supervisors, department chairs, or deans may serve as “middlemen” to address research-related conflicts. These individuals are well versed in the dynamics of mentor–trainee relationships and the nuances of team-based power dynamics. Institutional offices of technology commercialization can offer advice to resolve any quarrels involving patents. Complex or escalating cases can be handled by an office of research integrity under the leadership of the chief research officer or the vice president for research, who would then apply federal research misconduct policies and handle investigations that may result in disciplinary actions.

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## NOTES

# **Changing Academic Culture: Responding to Sexual Harassment**

Erika Marín-Spiotta, PhD, Sunita M. Nandihalli, MSc,  
and Megan Murphy, BS

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University of Wisconsin–Madison  
Madison, Wisconsin

## Introduction

The recent #MeToo movement has raised awareness of the prevalence of sexual harassment and assault in the film, media, and service industries. (The popular #MeToo movement builds on an earlier campaign founded by Black activist Tarana Burke in support of survivors of sexual abuse and assault.) Academia is not immune to these behaviors. In a recent national survey, almost 48% of 150,000 students reported experiencing sexual harassment (Cantor et al., 2015). Graduate and professional students were more likely than undergraduates to identify the offender as a teacher or advisor. More recently, in a survey by the National Postdoctoral Association, 28% of respondents reported being sexually harassed; offenders were predominantly faculty or staff ([https://www.nationalpostdoc.org/general/custom.asp?page=postdocket\\_03181](https://www.nationalpostdoc.org/general/custom.asp?page=postdocket_03181)). A 2018 report from the U.S. National Academies of Sciences, Engineering, and Medicine (NASEM) revealed that 50% of women faculty and staff reported being sexually harassed by their colleagues (NASEM, 2018).

In this chapter, we provide a brief context for the problem of sexual harassment in academia and in the biological sciences, specifically. We discuss factors that contribute to its prevalence and provide strategies to transform the workplace climate and reduce tolerance for harassment. We draw from our work with ADVANCEGeo, a U.S. National Science Foundation–funded partnership among the Earth Science Women’s Network, the Association for Women Geoscientists, and the American Geophysical Union (AGU) (<https://serc.carleton.edu/advancegeo/index.html>). This consortium is developing training for disciplinary-relevant responses to sexual and other types of harassment in different research environments.

## Sexual Harassment in Science, Technology, Engineering, and Mathematics

High-profile news stories have raised public awareness about a permissive culture of harassment and bullying in academic STEM (science, technology, engineering, and mathematics) (Ghorayshi, 2016). The prevalence of sexual harassment in an institution or discipline is influenced by characteristics such as gendered perceptions about the profession, diversity (or lack thereof), and perceived tolerance

of inappropriate and discriminatory behaviors (Fitzgerald et al., 1988; Topa Cantisano et al., 2008). In fact, organizational climate has been identified as the strongest predictor of sexual harassment and one of the most important factors for reducing its prevalence (NASEM, 2018). Climate is the atmosphere of an organization, as perceived by its members, and is reflected in its structures, policies, and practices; the demographics of its membership; the attitudes and values of its members and leaders; and the quality of personal interactions. Four factors that shape organizational climate and, in particular, the occurrence of sexual harassment are (1) male-dominated environments; (2) real and perceived power imbalances; (3) ineffective institutional policies against misconduct; and (4) uninformed or unresponsive leadership. Other factors contribute to the potential for abuse—in particular, entrenched hierarchical structures in academia, especially the master–apprentice model of advisor–student relationships in many scientific fields.

Women represent 50% of the U.S. working-age population but only 30% of the STEM workforce (National Science Foundation, 2017). In the physical sciences, women make up less than 20% of tenure-track faculty (National Science Foundation, 2015). Women of color are disproportionately underrepresented, making up 5% of recipients of bachelor’s degrees and 7% of faculty (National Science Foundation, 2015). These low numbers can lead to professional isolation and increased vulnerability to discrimination. The biological sciences are the STEM field with the greatest representation of women, yet harassment and bullying continue to be prevalent there.

Harassment is recognized in the United States as a form of employment discrimination and is unlawful when the conduct is severe or pervasive enough that it creates an intimidating or hostile workplace and/or when enduring the offensive conduct is a condition of continued employment (U.S. Equal Employment Opportunity Commission, n.d.). A related behavior that is not consistently covered by the law is bullying, or the use of threat or coercion to abuse, intimidate, or aggressively dominate others in the professional environment. Beyond the chilling effect of gender bias on job satisfaction and advancement of women in STEM (Vaccaro, 2010), these types of behaviors result in hostile learning and work environments, which can lead to long-term physiological and emotional health effects akin to trauma (Davis et al., 2015).

## Harassment of Sexual and Other Minorities

Hostile climates are not felt the same by everybody. In a survey of lesbian, gay, bisexual, and transgender (LGBT) physicists, women experienced more exclusionary behavior than men. The number doubled for those identifying as transgender or nongender conforming compared with cisgender (a person whose gender identity aligns with his or her biological sex) (Gibney, 2016). More women than men astronomers reported skipping professional events because they felt unsafe; for women of color, the share of avoidance was 18% compared with 12% of white women (Clancy et al., 2017).

Intersectionality provides a useful framework for understanding how multiple levels of discrimination and social injustice interact at the cross-section of different identities (e.g., race, gender, ability, and immigration status). The term “intersectionality” has been attributed to legal scholar Kimberlé Crenshaw, who demonstrated how experiencing multiple forms of social oppression disproportionately affected women of color (Crenshaw, 1989).

## The Context for Neuroscience

Women earn half or more of bachelor’s and doctoral degrees in the biological sciences in the United States (National Science Foundation, 2017). For the first time in history, the number of women enrolling in U.S. medical schools (50.7%) is exceeding that of men (Association of American Medical Colleges, 2017). However, 66% of female academic medical faculty surveyed in 2016 reported being left out of opportunities for professional advancement because of their gender, and more than 30% reported experiencing sexual harassment from a colleague or superior (Jagsi et al., 2016).

The biological sciences are just as prone to hostile work climates as other STEM fields where women are grossly underrepresented. One reason for this is that within the biological sciences, some fields and specialties continue to have low numbers of women. The proportion of women entering medicine has nearly doubled since 1980, yet only 33% of neurologists are women (McDermott et al., 2018). Another reason is the lack of women in visible leadership positions. In 2016–2017, the majority (56%) of applicants to U.S. neuroscience PhD programs were women, but women represented only 30% of the faculty (Society for Neuroscience, 2017). In major U.S. academic medical institutions, women become less visible in more advanced positions, making up only 14.7% of full professors and even

fewer in leadership positions such as department chairs (9.2%) and deans (9.3%) (Epstein, 2017).

The lack of diversity in neuroscience is not limited to gender. Only 10% of faculty in U.S. PhD programs did not identify as white or Caucasian. For postdoctoral trainees, the numbers are dire, with approximately 3% being African American, 8% Hispanic, and 3% Native American for the 2016–2017 academic year (Society for Neuroscience, 2017). When students from marginalized groups go into a field that (1) lacks people who share similar experiences with them and (2) promotes a culture that actively isolates people from marginalized groups, these obstacles can cause people to ultimately leave that field. More women than men (56% vs 44%) left a neuroscience PhD program early, and trainees from historically underrepresented racial and ethnic groups left PhD programs in the same proportion that they entered (Sved, 2011).

## What Qualifies as Sexual Harassment, Anyway?

Most people recognize sexual harassment as unwanted sexual attention that can be verbal, nonverbal, or physical. Psychologists use a tripartite model to identify sexual harassment behaviors (Fitzgerald et al., 1988). At the top of the pyramid is sexual coercion: the type of behavior allegedly conducted by Harvey Weinstein with his subordinates in the film industry. Coercion includes threats, bribes, and extortion of sexual cooperation in return for job-related benefits; these are the least common incidents but the most reported by the news due to their egregiousness. Lower in severity is unwanted sexual attention, such as repeated, nonreciprocal requests for a date or sex, unwanted advances or touching, or sharing of unsolicited material of a sexual nature. At the bottom of the pyramid, gender harassment is the least recognized but most commonly experienced form of sexual harassment in the workplace. It includes verbal or physical conduct that denigrates or shows hostility or aversion to a worker based on gender.

Harassment can leave individuals feeling uncomfortable, dismissed, disrespected, fearful, and/or objectified. Sexual harassment is correlated with an increase in symptoms of depression, anxiety, and posttraumatic stress disorder. Anyone can experience sexual harassment, yet women are more likely to suffer negative professional consequences, according to research (Lampman, 2015). Harassment can have devastating effects beyond the individuals being targeted, with breakdowns of trust and civility at the departmental and institutional levels, as

demonstrated by a recent case from the Brain and Cognitive Sciences department at the University of Rochester (Mangan, 2018).

## Characteristics of Academic Climates That Contribute to Harassment

Sexual harassment has been presented as an issue of women's rights, workplace safety, or civil rights. However, when sexual harassment contributes to women leaving STEM altogether, it becomes a science problem (NASEM, 2011). Some fundamental aspects of academia allow sexual harassment to have especially deleterious effects.

Contributing to the prevalence of harassment in academia are its built-in power imbalances. Power is the degree to which an individual or group of people has control over resources. In academia, these resources can be material, financial, human, or intellectual. Power can result from established hierarchies; for example, a department chair would have greater decision-making ability than a graduate student. Power also can arise from historic systems of oppression and affect perceived and real power, for example, of a Native female faculty member in a mostly white and male department. Power dynamics constitute how different people with different levels of power interact with each other in a group setting.

The clearest power imbalance in academia is that between graduate student and faculty advisor. Today's training structures are built on an archaic master-apprenticeship model in which one person wields extraordinary power over a trainee's career. This power is especially acute in lab-based fields, where trainees cannot conduct their own research without funding and access to lab facilities, equipment, and data. In few other career tracks does one's work and success depend so much on one other person. A falling out between student and advisor may result in the student having to switch research directions or fields altogether. These power dynamics place the student or trainee in a vulnerable position. Thus, when abuse occurs, fear of retaliation, loss of funding, and career disruption leads to low reporting rates. These fears are well founded, as retaliation is the most common response to reporting (NASEM, 2018).

When incidents are reported, and reports result in an investigation, the majority are conducted in secret and the accused is often reassigned to another unit or resigns before a finding is made, only to be

hired elsewhere. Clearly, reporting and investigative processes in U.S. academic institutions need overhauling (NASEM, 2018).

Power dynamics in academia are exacerbated by the cult of the celebrity researcher. Repeat offenders are allowed to persist when institutions place more value on their reputation and funding than on trainees' well-being. Academic institutions, which are meant to foster innovation and the advancement of knowledge, are also traditional bureaucracies loathe to cultural change and to open themselves up to scrutiny if an investigation were to be leaked to the press.

Other characteristics of academic sciences that contribute to misconduct are the "publish-or-perish" drive among both faculty and students and the intense competition for resources and ideas. These factors contribute to noncollaborative environments where people are taught to mind their own business and prioritize data over anything else, including even mental health and wellness. Further, there is an internal, unspoken expectation that grad school is for the tough of character, and that putting up with abuse is part of the process.

Expectations from outside of science also contribute to a permissive culture for harassment. The trope of the eccentric genius or socially awkward scientist encourages the tolerance of inappropriate behavior that would not be acceptable elsewhere.

These multiple factors indicate that a culture change is necessary to ensure sexual harassment and other types of misconduct are not allowed to thrive.

## Strategies for Reducing Harassment

In addition to advocating for major institutional transformations to dismantle existing structures that act as barriers for the advancement of historically underrepresented groups in STEM, multiple actions can be taken to create inclusive, equitable, and safe climates that foster personal growth, strengthen communities, and enhance research productivity. At the departmental level, acknowledging existing hierarchical structures and building in safeguards to protect trainees from abuses of power is critical. Some recommendations include moving away from the single mentor-mentee model to that of a team of mentors as well as directing trainee funding to the department rather than the principal investigator. Doing so would diffuse power dynamics. The NASEM report offers concrete recommendations for such institutional change (NASEM, 2018).

Beyond the departmental and institutional level, actions can be taken at the research group/lab and individual levels. Given the power dynamics in academia, the responsibilities of graduate students and postdoc trainees differ from those of faculty and administrators. Yet trainees can influence academic culture beyond the lab.

### Codes of conduct

One effective way to influence academic culture is by serving within the leadership of professional societies (Marín-Spiotta and Schneider, 2018). Most have opportunities for early-career members to help guide the direction of the society. In a member-driven initiative, the AGU revised their society's code of conduct to define harassment, bullying, and discrimination as scientific misconduct, thereby becoming a role model for other organizations (Kuo, 2017). The AGU already had a code of conduct for meetings, but their new policy covers members regardless of whether they are at an AGU event or not. Any society members can demand that their society articulate antiharassment and antidiscrimination policies that cover behavior beyond meetings. Effective policies should lay out a process for reporting and investigating allegations as well as for sanctioning violations (Marín-Spiotta et al., 2016). Vanderbilt neuroscientist Dr. Beth McLaughlin has garnered public support from scientists nationwide to petition the National Academies and the American Association for the Advancement of Science to remove from their prestigious membership individuals who have been found guilty of harassment and other scientific misconduct (Oldach, 2018; Wadman, 2018).

Material prepared for the 2013 Society for Neuroscience meetings directed toward trainees featured a special section for women on how to avoid potential harassment (Fischer and Zigmond, 2013), yet research on preventing sexual harassment and assault emphasizes that men need to be part of the solution. Men and gender-nonconforming individuals also experience harassment, and intersectionality plays an important role in students' experiences at scientific meetings. Therefore, advice for students is most effective when presented in the context of existing power dynamics and when the responsibility for respectful and inclusive behavior falls to all community members.

### Bystander intervention training

At the individual level, bystander intervention strategies can be used to address harassment and discrimination both directly and indirectly. A goal

of ADVANCEGeo is to develop and disseminate trainings to provide academic leaders and their communities with the knowledge and tools to reduce hostile behaviors. This approach differs from standard antiharassment training required by some universities for their staff because it focuses on personal relationships rather than legal compliance and employs interactive case-study scenarios that are relevant to the scientific discipline.

Here we briefly outline five strategies developed by the organization Hollaback!, which can be applied to incidents of sexual and other types of harassment, microaggressions, and bias. In academia, existing power dynamics may call for different strategies, depending on the situation. Some of these can be used if you observe someone being harassed, are being harassed yourself, or hear about an incident.

#### *Confront directly*

A direct response can include verbally addressing the behavior ("That is not an appropriate thing to say."), questioning the intent ("I'm not sure you meant to imply that."), or making a simple request ("Can you repeat that?"). The direct confrontation strategy can be risky, and therefore it is important to assess the safety of the situation first and acknowledge potential repercussions to you and the person being targeted by the harassment.

#### *Distract or deflect*

Distracting or deflecting from the harassment is a more subtle way to intervene directly, and is based on interrupting the situation in an effort to defuse it. For example, you could physically insert yourself between the harasser and the person being targeted or interrupt a conversation with an unrelated topic or question to deflect attention away from the person being targeted.

#### *Delegate*

Delegating is an indirect tactic and involves asking a third party for assistance. Ideally, this person is someone in a position with power to do something about the incident or at least provide the necessary support, such as a supervisor, department chair, lab manager, program director, more senior student, or trusted individual. This person could also be a security guard or the police, but always ask the person who was targeted if they feel comfortable going to the police before doing so, unless there is a medical emergency.

#### *Document*

This refers to documenting (video recording) an incident as it occurs, as well as writing down evidence of harassment to support future investigations. If

you are a bystander, always ask the person who was being harassed what they want to do with the documentation. If you are being harassed, document all interactions, and keep a record of all verbal, physical, and written encounters to help build a case, if you decide to file a report.

### Delay

After every incident, check in with the person who was being harassed. Ask if he or she is okay, acknowledge that the harassing behavior was not appropriate, let the person know you are sorry this happened, offer to help find resources, ask whether he or she would like to report the incident, and respect the person's wishes if the answer is no. These steps are very important, as the lack of support can be as distressing as the harassment itself. Even a simple acknowledgement that the incident occurred and asking, "Are you okay?" can go a long way.

Think about which of these strategies you would feel comfortable using in different scenarios and which would be most effective when you may have been the target of harassment.

## Tapping into the Positive Power of Individuals

Beyond intervention, individuals can do a great deal to work toward creating an inclusive climate. Here are a few ideas:

- (1) Be aware of your own biases and how they may affect your work relationships and expectations;
- (2) Educate yourself on the history of sexism and racism in science;
- (3) Hold yourself and your colleagues accountable for the type of language and jokes you use and how you treat different people;
- (4) Raise awareness and foster public dialogue about problems (and solutions!) in academia;
- (5) Request that the leadership of your lab, department, and institution commit to ethical behavior and establish and uphold policies that protect those with less power; and
- (6) Ask to include conversations about sexual and other types of harassment in discussions about mentoring and lab safety.

As the future leaders, researchers, and educators in your field, you can wield immense power in shaping the scientific working and learning places of tomorrow by interrogating current institutional cultures, breaking down barriers to the advancement of a diverse community, and demanding a climate of respect. Be a role model in the way you interact with everyone around you, and seek out opportunities to mentor less privileged students. Sexual harassment is a serious problem, though by no means an unsurmountable one, that demands a transformation of our current academic practices.

## Additional Resources

- The ADVANCEGeo Partnership project website includes resources on how to improve workplace climate: [serc.carleton.edu/advancegeo](http://serc.carleton.edu/advancegeo). Follow us on Twitter @ADVANCEGeo
- AGU resources: [stopharassment.agu.org](http://stopharassment.agu.org)
- The SAFE EVOLUTION program from the Council of Evolution Societies: <https://www.evolutionmeetings.org/safe-evolution.html>
- Geoethics and Professionalism: The Responsible Conduct of Scientists: [serc.carleton.edu/geoethics/professionalism.html](http://serc.carleton.edu/geoethics/professionalism.html)
- Hollaback! How to Respond to Harassment: <http://www.ihollaback.org/responding-to-harassers/>
- American Geosciences Institute Guidelines for Ethical Professional Conduct: <https://www.americangeosciences.org/community/agi-guidelines-ethical-professional-conduct>
- Know Your IX: Empowering Students to Stop Sexual Violence: <https://www.knowyourix.org>
- American Association of University Women: Know Your Rights at Work, Sexual Harassment: <http://www.aauw.org/what-we-do/legal-resources/know-your-rights-at-work/workplace-sexual-harassment>
- The National Postdoctoral Association: <https://www.nationalpostdoc.org/>

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# **Hidden Forces: Intersectionality, Power Dynamics, and Strategies for Change in the Scientific Professions**

Jean A. King, PhD,<sup>1</sup> and Kristin Waters, PhD<sup>2</sup>

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<sup>1</sup>Worcester Polytechnic Institute  
University of Massachusetts Medical School  
Worcester, Massachusetts

<sup>2</sup>Worcester State University  
Worcester, Massachusetts  
Women's Studies Research Center  
Brandeis University  
Waltham, Massachusetts

## Introduction

The persistent low representation of minorities in academic professions has focused debate in recent years on societal, cultural, and economic factors that maintain the status quo. As researchers and practitioners explore the complexities of the problem, a novel body of literature has emerged that addresses the effect of multiple minority identities, or “intersectionality,” on social advancement and well-being. In this chapter, we will consider the impact of power dynamics on low minority participation in science in general, and the ways in which multiple social identities can affect privilege and marginalization. We draw on the work of many renowned social scientists whose scholarship specifically explores the intersection of multiple identities, as well as providing our insights from many years of experience as women faculty in leadership roles in various disciplines.

## The Problem

The career prospects for minorities and women in higher education, postgraduate education, the professions, and the professoriate steadily improved until the latter part of the twentieth century (Sullivan, 2004; Connolly et al., 2015). At that point, progress stalled, leaving large disparities and limited opportunities for advancement. At present, institutional structures and practices still impede the progress of minorities and women in academic disciplines, especially at postgraduate levels and in academic leadership positions.

According to a recent report from the Pew Research Center, underrepresentation of black and Hispanic workers continues in the STEM fields (science, technology, engineering, and mathematics). Although 11% of the U.S. workforce overall is African American, only 9% of STEM workers are black. Hispanics account for 16% of the U.S. workforce, but they represent only 7% in STEM professions; blacks comprise 7% and Hispanics 6% of the STEM workforce among those with higher education degrees (Landivar, 2013; Funk and Parker, 2018). This paucity of minorities in STEM mirrors their overall presence in academia. A recent study of more than 400,000 professors at 1500 colleges reported that 75% of full-time faculty members at four-year colleges are white, 5% are black, and even fewer are Hispanic (Myers, 2016).

This disparity reflects broader findings on academic diversity, which show that African Americans and other minorities tend to be underrepresented not just at the faculty level but also in graduate

school, medical school, in medical professions at the upper levels, and in faculty and administrative positions relative to their proportion of the general population. Similarly, work by Palepu and colleagues (1998) revealed, through a stratified random sample of 3013 full-time faculty at 24 U.S. medical schools, the presence of racial and ethnic disparities in faculty promotions and found that minority faculty members received tenure at significantly lower rates compared with white faculty. African American faculty were found to be the least likely of the underrepresented minority (URM) groups to hold senior faculty rank compared with white faculty. These findings held true even when controlling for factors that typically influence promotions, such as years as a faculty member or measures of academic productivity.

At the National Institutes of Health (NIH), research grant funding rates were lower for women than men in 2016—a regression from a decade earlier, when rates were virtually identical for both sexes. Funding rates for URMs are significantly lower than for majority applicants, with no substantial progress made during the past 15 years. However, this gap is much smaller for Latino applicants. Research into these trends indicates that there is potential for increasing diversity in the research community through the support of early-stage and new investigators, as these groups are significantly more diverse than those of experienced investigators. However, the backsliding regression of funding rates for women and lack of progress by URMs took place during 2009–2017, when the NIH was aggressively targeting early and new investigators, suggesting that simply increasing funding for these groups is not enough to increase diversity in research (Nikaj et al., 2018).

These prevalence rates and trends are critical to forming power dynamics, since numerical underrepresentation has historically acted as a substrate for negative stereotypes, noninclusive environments, and social isolation. Indeed, recent work by Associate Professor Isis Settles (2014) indicates that the low prevalence of female faculty has contributed to negative environments for women in STEM. She contends the following: “Negative gender-based experiences, such as sexual harassment, are more likely to occur in male-dominated settings like the sciences (Antecol and Cobb-Clark, 2001; Willness et al., 2007), and men are far more likely to direct sex-based mistreatment toward women in male-dominated careers (e.g., science) as a means of penalizing them for violating gender-role norms and stereotypes (Dovidio et al., 2000). Further, Kanter’s (1977) classic theory of proportional representation suggests that women who are a numerical minority

in an organizational setting are expected to represent 'women' as a group. Women may also experience social isolation because they are perceived as outsiders by men in the organization. Finally, perceptions of individual women are filtered through stereotypes about their gender. For example, compared to men, women are stereotyped as less intelligent and less competent in mathematics and science (Shih et al., 1999; Lane et al., 2012)" (Settles, 2014).

### **Impact of Low Diversity in Academia on Individual Power Dynamics and Health Care Outcomes**

Our research focuses on identifying solutions to obstacles facing URM students in order to level the playing field and stimulate significant improvements in national health care outcomes. There are numerous compelling reasons for increasing the representation of women and minorities in the health care professions. In 2006, a broad-based commission of public and private interests conducted a study of minorities in health professions and published the Sullivan Report, which noted the following: "In 2003, the Institute of Medicine (IOM) warned of the 'unequal treatment' minorities face when encountering the health system. The data in that report are compelling and alarming. Cultural differences, a lack of access to health care, combined with high rates of poverty and unemployment, contribute to the substantial ethnic and racial disparities in health status and health outcomes. Health services research has shown that minority health professionals are more likely to serve minority and medically underserved populations. Despite this fact, there is a severe underrepresentation of minorities in our health professions. The IOM recommends increasing the number of minority health professionals as a key strategy to eliminating health disparities" (Sullivan, 2004).

In the interest of fairness, but also of improving health outcomes, we are investigating the nature of impediments faced by underrepresented groups as well as strategies for overcoming those obstacles and attaining success.

During early career stages, STEM professions may not appear to be inviting or welcoming to minorities. While overt discrimination still occurs, recent studies suggest that legal changes and diversity initiatives have reduced the incidence of blatant discrimination (Lieschutz et al., 2006; Sue et al., 2007). However, these developments do not prevent the more insidious forms of racism and their accompanying

adverse effects. Students at both the graduate and postgraduate levels may have their enthusiasm for a STEM career dampened by "microaggressions" (indirect, subtle, or unintentional discrimination) (Sue et al., 2007). People of color may have fewer role models, less mentoring, and fewer positive social connections to encourage, guide, and assist them with career advancement. Furthermore, potential graduate and postgraduate trainees may have internalized discriminatory social messages, leading to diminished confidence in their own abilities, lower self-esteem, and increased anxiety about their potential to successfully represent themselves in a situation with challenging power dynamics.

Power disparities represent potentially challenging barriers to success for minority students entering careers in academic medicine and science. Although these disparities are less overt than in years past, they are no less challenging. Evaluating the findings from his review of the literature on minorities in medicine, Marc A. Nivet asserts that, "The accumulated disadvantaged position in which minority faculty members find themselves compared with whites has developed through years of systematic segregation, discrimination, tradition, culture, and elitism in academic medicine" (Nivet, 2010). This confluence of factors amplifies difficulties at every stage of educational progress from the entry level through professional advancement to securing senior-level positions.

For example, the work of Settles (2014) supports the premise that women faculty members in STEM experience more frequent negative structural and interpersonal experiences than either female social science faculty or male STEM faculty members. This gives credence to the theory that specific behaviors expressed by the majority group are a way of penalizing women for working in male-dominated fields and to communicate that they are not welcome in such environments. Taken together, these reports of the adverse effects of low diversity in academia, along with research on the experiences of minorities and women, do not bode well for diminishing the historical barriers to advancement and altering the power dynamics that minorities in academia face.

### **Specific Challenges Related to Intersectionality**

Although much of what we have discussed relates to minority status in science and academia, another often more insidious and precarious path awaits those at the intersection of more than one minority identity.

The concept of “intersectionality” was first introduced by Kimberlé Crenshaw in the context of automobile workers in 1989. This concept was brought to the forefront in the case of *DeGraffenreid v. General Motors Assembly Division* (1976), which asserted that black women would have to choose between their race and gender identities when filing discrimination claims, tearing asunder the multiple components of their identities. Incensed by the decision, Crenshaw established the definitive argument for acknowledging the reality of intersecting factors that make us who we are, how we are seen, and how we experience the world: race, gender, age, sexuality, ability, class, and more, asking us to “embrace the complexities of compoundedness” (Crenshaw, 1989, 1991). In a recent academic discourse, Professors Leeva Chung and Laura Rendón (2018) presented both the theory and the experience of operating from multiple identities in academia. Building on the groundbreaking work of Crenshaw, and earlier contributions by Cherríe Moraga (1981) and Gloria Anzaldúa (1987), Rendón posited that “[I]ntersectionality explains what happens when an individual with multiple, intersecting social identities (e.g. race/ethnicity, indigeneity, ancestry, gender, class, sexuality, geography, age, disability/ability, immigration status, religion, political affiliation, and worldview) interacts with overlapping systems of power and privilege in society” (Chung and Rendón, 2018).

### The impact of intersectionality on power dynamics

Rendón speculated that, as a political tool, intersectionality asks us to consider the question: By what political, social, and economic conditions can an individual holding diverse social identities be advantaged or disadvantaged? Chung responded as follows: “Living in the intersection has created a dialectical tension ... like the yin/yang principle in which two contrasting elements coexist as inseparable and complementary units. For ethnic identity, the dialectical tension between group belonging and individual needs may create challenges for an individual—in terms of seeking belonging and avoiding rejection and/or marginality—but dialectical tensions can be managed with flexibility, patience, and adaptability” (Chung and Rendón, 2018).

Both individuals and institutions of higher education have a choice: either experience intersecting identities as always problematic or embrace them as potential sources of power, enrichment, and knowledge.

### Embracing or compartmentalizing multiple identities

The many challenges of multiple minority identities can be burdensome as one focuses on whether to consider them individually or as a composite. It is clear from scholars in this domain, such as Wendy Smooth (2016), that our identities, although intricately interconnected, can mediate both privileged and marginalized experiences as a composite. The complexities of identity also underscore the heterogeneity that exists even within specific groups. Smooth (2016) posits that, “at the societal level, intersectionality seeks to make visible the systems of oppression that maintain power hierarchies that organize society while also providing a means to theorize experience at the individual level.”

How we use our multiple identities when faced with academic power dynamics depends on several factors: (1) how we experience or explore our multiple identities, (2) the competencies we possess to navigate power dynamics, and (3) the support system available to be successful. Living at the intersection may be experienced as living at the margins of society, so there are clear approaches that individuals can adopt by recognizing intersectional patterns. For instance, one can assume a compound identity in which two (or more) social membership categories (e.g., gender, race, sexual orientation, socioeconomic status, physical disability) are combined to form a compound identity, one can assume a singular social identity, or one can compartmentalize: adopting one social identity category as the primary basis of identification in one setting and shifting to another in a different context. For example, in studies looking at scientists through the lens of their personal and professional identities, Settles (2014) found that women who placed more importance on their gender identity versus their scientific identity experienced more “identity interference.” Identity interference (or identity conflict) refers to the pressure or expectations of one identity conflicting with the performance of another identity. Indeed, the women scientists manifesting the most interference also reported diminished academic performance, self-esteem, and life satisfaction. Other researchers express caution about the inadequacies of organizing around one of many identities—a particular concern in situations involving substantial power disparities. Smooth contends that for women of color in academia, their experiences cannot be conceptualized as originating from a singular “ism”

(e.g., racism, sexism) but are the product of multiple “isms.” Therefore, an approach that fully explores intersectionality “allows us to understand that while race, gender, and class are leading determinants of power and marginality, actually determining which group identities are privileged or marginalized at any given time, in any given location, is a matter of understanding the context” (Smooth, 2016).

A necessary competency for individuals at the margins—particularly those facing a challenging situation where power and influence are critical to the interaction—is the ability to recognize that we are composites of our intersecting identities. Therefore, we need to be flexible and cognizant of which one of our identities may imbue privilege and marginalization in that composite context, as well as consider other domains of power, such as rank, field of study, and the university conferring the degree. However, learning how to operate in these pluralistic spaces with success, and being poised to traverse the complexities of academia from the margins, requires more than simply embracing or compartmentalizing one’s multiple identities. It is apparent that we need to transition from merely understanding the historical, social, political, and cultural contexts from which individuals with intersectional identities in the academy operate to crafting valuable strategies and interventions to support excellence, success, and wellness. Below we provide several recommendations and approaches that we believe have immense value as systems for the support, validation, and advancement of intersectional groups, in spite of the multiplicity of power dynamics in which privilege and marginalization are often tightly interwoven.

## Support Systems: Creating Microcommunities

Political, cultural, and geographic contexts make some sites more suitable than others for supporting intersectional frameworks designed to foster advancement and well-being for those whose intersectional identities may put them at a disadvantage. Among the critical factors for success are commitment from institutional leadership, deep understanding of the nature of the problems faced, and a willingness to devote time and energy to creating change. A constellation of programs in New England are making the effort.

A 2012 study conducted as part of the requirements for the Executive Leadership in Academic Medicine (ELAM) program at University of Massachusetts Medical School assessed specific challenges that could

impact their faculty cohort. It was apparent from the analysis of historical data that the number of black/African Americans in any hiring pool never exceeded 4% at any point in the school’s history (1975–2012), and the highest percentage (3.7%) occurred in the late 1970s; thereafter, the percentage of faculty across all ranks in this ethnic group decreased. With these data as a backdrop, we undertook a qualitative study consisting of face-to-face surveys with faculty members ( $N = 30$ ). We selected faculty from each of the following groups: black/African American; Hispanics/Latinos, and whites, and interviews were conducted by a researcher (independent consultant) of the same ethnic group as the faculty member. The semistructured interviews compiled from the faculty (majority and minority) identified specific barriers in both social and professional realms. Minority faculty identified severe isolation and lack of access to resources and support systems at all levels, and specifically mentoring, as the most critical challenges they encountered compared with their majority colleagues. These data aligned with the extant literature that overwhelmingly demonstrates that minority faculty often experience academia as an unsupportive environment, suffer from isolation, and perceive their contributions as undervalued (Thomas and Hollenshead 2001; Turner, 2002; Constantine et al., 2008). As a result of this study, the concept of “microcommunity” was introduced as an innovative mentoring model aimed at minimizing barriers to and promoting career development of minority faculty.

The overarching goal of the microcommunity is to create a customized model of academic support for individual faculty members (scholars) as well as a cohort or group of minority faculty, including those with multiple minority identities. The microcommunity is designed to provide an academic/social fabric for scholars’ development that consists of a mentoring circle of senior academic mentors and professional and diversity-informed peers. The microcommunity allows each faculty member to flourish in an atmosphere where differences are appreciated, nurtured, and supported. Briefly, each minority faculty should have a group of mentors from both majority and minority groups (or microcommunity) that includes at minimum a senior faculty member, content-area-specific mentor, minority faculty member, and peer mentor. An even more innovative approach would also include a sponsor (a unique mentoring role to promote the mentee for awards and leadership, e.g., positions as department head, dean, or provost) and mentors in areas that are particularly challenging to the mentee.

This proposed model has been highlighted in many minority contexts, including the Summer Program in Neuroscience, Excellence and Success (SPINES) program at Woods Hole Marine Biological Laboratory and the Mentoring Institute for Neuroscience Diversity Scientists (MINDS), as well as piloted at the University of Massachusetts. As we await formal results of the microcommunity pilot program, anecdotal evidence supports decreased feelings of isolation, increased awareness of resources, and the formation of an engaged community. However, the formation of a rather insular microcommunity is only the beginning of the establishment of an effective minority support system. With the microcommunity operating as a central command center, the next step is establishing a larger supportive community. After all, a microcommunity will have only limited effectiveness if it is surrounded by an oppressive larger community.

### **Building Supportive Institutional Academic Communities**

As in every power dynamic, the number of individuals in the group is a significant factor because it often mediates critical participation in the conversation and a perception of inclusion. This was noted in a report by Settles et al. (2007), who found that the perception that female STEM faculty had a voice (the sense that they could influence their organization) mediated the relationship between job satisfaction and the perception of a hostile (noninclusive) environment. Therefore, if a critical mass of supportive individuals can be found in one's institution or institutions within a reasonable geographic area, forming deliberate links with others can help alleviate isolation and provide support for different levels of community formation.

Another strategy for building larger communities is participating in groups that support identity constructs in your discipline or linked disciplines. For example, in addition to major national groups like the Association of Women in Science (AWIS), there are subgroups such as Women in Neuroscience within the Society for Neuroscience. Other groups have a more global focus, like Women in World Neuroscience (WWN), which is an international group of women (and men) interested in promoting,

mentoring, and networking with women doing research on neuroscience, particularly in emerging economies. In other words, one needs to actively identify or create one's own tapestry of individuals and groups linked to the academic journey. However, this is not just the obligation of the already burdened intersectional individual. Institutions should become partners in the success of their faculty. This critical role of the institution is articulated by Smooth (2016), specifically for women of color in the academy. She notes that "strategies and interventions require department heads, deans, and other senior university leaders to act as allies supporting the career-sustaining decisions women of color make that may deviate from the norm."

One of the more recent robust indications of institutional support was launched by Columbia University in New York City. The university president announced in October 2017 that they would dedicate \$100 million over the next five fiscal years to support faculty recruitment, career development, and a pipeline for potential professors and postdoctoral students from underrepresented groups (Eversley, 2017). This type of initiative can enlarge the pipeline of diversity and solidly place a major part of the responsibility for the success of intersectional groups on the institution.

### **Conclusion**

It is clear that, during the past several decades, little progress has been made toward increasing diversity in academia. Evidence now shows that those possessing multiple minority identities (intersectionality) face particularly profound challenges to success, advancement, and well-being. Intersectional challenges require unique, comprehensive, and integrated support interventions. These may include the thoughtful construction of microcommunities that thoroughly address the disadvantages associated with individual and combined minority status as well as substantial institutional commitment and support to provide an environment where these microcommunities can be effective. Together, these interventions can allow minority faculty to not just survive but thrive.

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## NOTES

# Case Studies

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## Case Study 1: Poster Session Postscript

A student is presenting a poster at a scientific conference. A professor listens intently to the poster discussion and then, after some chatting with the presenter, comments, “You realize that people are interested in you, not your science?”

### Discussion questions:

- (1) Is this an appropriate remark? Why or why not?
- (2) How would you feel if this happened to you? What would you do?
- (3) What could you do if you observed/overheard this interaction at the poster session?
- (4) What could you do if the student shared this incident with you after the fact?
- (5) Which of the bystander intervention strategies would you feel comfortable using?
- (6) What gender did you imagine the student to be? The professor? How would substituting their genders change your response?
- (7) Would any of your answers change if you knew that the student was presenting for the first time at a conference? If the student was an undergraduate or a graduate student?
- (8) Would any of your answers change if you knew that the student was part of the diversity mentoring program at the conference? If he or she was the first in the family to attend college?

## Case Study 2: Lab Meeting Encounter

A student arrives to a lab meeting to present her project update for the week as scheduled. She arrives in professional attire and early to set up. A lab tech also arrives early and comments on her appearance right when he walks in the room. He tells her she is “too beautiful to waste her life in research.”

### Discussion questions:

- (1) Is this an appropriate remark? Why or why not?
- (2) How would you feel if this happened to you? What would you do?
- (3) What could you do if you overheard this remark as you walked into the room for the lab meeting?
- (4) What could you do if the student shared this incident with you after the fact?
- (5) Which of the bystander intervention strategies would you feel comfortable using?
- (6) What could you do as a senior student, postdoc, or lab manager to avoid this type of behavior from occurring in the first place?
- (7) Would any of your answers above change if you knew the student was presenting at a meeting for the first time? If the student was an undergraduate or a graduate student?
- (8) Would any of your answers change if you knew that the student was part of the diversity mentoring program? If he or she was the first in the family to attend college?

### Case Study 3: Data Hoarding

Dr. Glidden is the principal investigator of a research project involving an animal model for a new stem-cell therapy for the treatment of Parkinson's disease. Dr. Glidden's research progress has been slow owing to his difficult relationships with his lab team. Several graduate students and postdoctoral researchers had made small contributions before ultimately leaving Dr. Glidden's lab. Because a large number of contributors cycled through his lab, Dr. Glidden decides not to publish the data for this project until he takes a faculty position at another institution, where he hopes to find a new collaborator to write a manuscript. He also intends to drop the names of some graduate students at his old institution from the author list. Dr. Glidden is not sure when he will be able to publish these data; however, he is eager to receive credit for his promising findings in his role at the new institution.

#### Discussion questions:

- (1) What is Dr. Glidden's responsibility for sharing the results of his study?
- (2) Do the contributors to the project have any authorship rights after Dr. Glidden moves to another institution?
- (3) What role might the department chair, dean, or senior leadership at Dr. Glidden's previous institution play in regard to the study?
- (4) If Dr. Glidden does not publish his findings, how should the data collected throughout the course of the project be handled?

### Case Study 4: Patenting and Graduation

Dr. Nadine is a pioneer in computational neuroscience research. As a newly appointed faculty member, she does not have extensive experience in mentoring graduate students but is eager to collaborate with her trainees. Dr. Nadine's most promising graduate student, Jordan, has worked extensively on Dr. Nadine's new idea for a particular data-processing algorithm. Thanks to his efforts, a working algorithm has been produced, and Jordan has begun to use it to process his own datasets. When Jordan is ready to publish his results, Dr. Nadine wants to halt the publication to obtain a patent on the original algorithm and some software copyrights, all in her name. The timeline for Jordan's publication weighs heavily on his ability to graduate and move into a postdoctoral position; however, Dr. Nadine does not wish to publish the data-processing methods until they are properly protected.

#### Discussion questions:

- (1) What are Dr. Nadine's responsibilities for upholding Jordan's contributions to the research project?
- (2) What can Jordan do if Dr. Nadine's decides to delay his publication and graduation?
- (3) Who should claim ownership of the algorithm?
- (4) Should Jordan publish his results without disclosing the algorithm that was developed for his analysis?

## Case Study 5: Questionable Authorship

This case study was adapted from the U.S. Department of Health and Human Services (n.d.). The previous mentor (PM) of a faculty member (Dr. Thompson) would like to be an author on an upcoming publication of his mentee. Although the PM collaborated with Dr. Thompson in the past, he has not directly contributed to this new research project. Nevertheless, the PM feels that Dr. Thompson's project is an offshoot of his work. Even Dr. Thompson states in his manuscript that the PM inspired the current project, although his ideas have moved beyond the initial work done in the old laboratory. Dr. Thompson knows that the inclusion of his well-known former mentor as a coauthor may boost the credibility of his publication but is also eager to establish himself as an independent researcher. However, he does not want to disrupt his positive relationship with the PM by excluding him.

### Discussion questions:

- (1) What considerations should be taken into account when determining authorship?
- (2) What qualifies someone to be an author?
- (3) Can the journal editor stop Dr. Thompson from including the PM?
- (4) What might Dr. Thompson gain by including, or not including, his PM?

## Case Study 6: Changing Labs

This vignette was adapted from the National Institutes of Health Office of Intramural Research (2011). Sarah is a graduate student who worked in the lab of Dr. Jones for one year studying a novel transmembrane protein expressed in tumor cells. Sarah isolated the protein and then used a contract laboratory to develop a sensitive rabbit antibody that recognizes the extracellular domain of the protein. Her dissertation project was going to involve the use of this antibody (along with other methods) to study the role of this protein in tumor progression and metastasis. Unfortunately, despite her progress, she did not get along with Dr. Jones and decided to move to Dr. Smith's lab to begin a new project.

A few months later, Sarah finds out that her former advisor is preparing a paper on a different project conducted by a new graduate student using the antibody Sarah developed. Sarah believes that she should be a coauthor and brings this to Dr. Jones's attention. The former advisor explains that the new data being published were obtained solely by the new graduate student and that raising an antibody is merely a technicality that does not justify coauthorship. Sarah argues that the isolation of the protein and the decision about what peptide to select as antigen constitute original scientific thinking. Dr. Jones disagrees, arguing that the literature contains numerous examples of this type of work. Sarah gives up because she is afraid that Dr. Jones might retaliate since he is still a member of her dissertation committee.

### Discussion questions:

- (1) Should Sarah be a coauthor on the paper?
- (2) Sarah brings her complaint to the chair of the department. She argues that the new student's research could not have been done without her antibody. How should the department chair respond to this situation?
- (3) Would your answers be any different if Sarah had remained in Dr. Jones's lab although working on a new project?
- (4) Would your answers be any different if Sarah were a technician instead of a graduate student?

### Case Study 7: African American Female Faculty at the Margins

Dr. Tyra Banks is a junior African American faculty member at Wisconsin State University. Although the faculty members are collegial, she feels extremely isolated, both professionally and personally. She has never been invited to dinner at the homes of any of the other faculty members and does not feel that she has been welcomed as a fellow team member. While other faculty members' accomplishments are frequently recognized in public, hers are overlooked. On the rare occasion that the department chair mentions her accomplishments, it is always in a private setting (generally in the hallway while Tyra is on her way to class). When she mentions this observation to her only mentor on campus (a majority male), he advises Tyra to mention it herself at her next meeting with the chair.

- (1) Do you think being undervalued by your department chair can represent an active power dynamic? Explain how you conceptualize the power dynamic in this instance.
- (2) Should she take the advice of her mentor? If so, why? If not, why not?
- (3) What steps can she take to make the environment more inclusive?
- (4) Is there a role for the institution? If so, what is it, and how can it be implemented?
- (5) What could you do if Dr. Banks shared this scenario with you?
- (6) Which of the bystander intervention strategies would you feel comfortable using?

### Case Study 8: A Latina Postdoc Fellow

Dr. Penelope Cruz is a postdoctoral fellow in a rather large lab at The Ohio State University. Other postdoc candidates appear to get substantial help and resources for obtaining their first faculty position. She does not have a good plan for transitioning to her next position. She considers her thesis advisor (the PI) as her only mentor but, so far, he has not been helpful. Penelope wants to ask others for advice and assistance, but she is worried that seeking support from other mentors will anger him. She hears there is a great job at a neighboring university with an expanding Latino population, but she is worried she is not "good enough" to be considered a viable candidate.

- (1) Do you think her intersectional identity will affect her efforts toward getting her own faculty position? How could marginalization and privilege impact her interactions with the search committees?
- (2) Are there benefits to hiring Penelope, and should she mention them in her interview?
- (3) If the interview progresses to a negotiation, how would you advise her to prepare?
- (4) Whom should she consult to guide her through the next steps in the process and instruct her on how to empower herself to successfully negotiate?

### Case Study 9: A Transgendered Male Aspirant

Dr. Michael Quinn is a transgendered white male from a low-income family. He (his preferred pronoun) is the first in his family to go to college and is experiencing his first year living as a transgendered male. Dr. Quinn is preparing to submit his applications for his first faculty position and exploring potential issues of privilege and marginalization.

- (1) Do you think his intersectional identity will affect his faculty application process? How might marginalization and privilege mediate his interactions with the search committee?
- (2) Are there benefits to hiring Michael?
- (3) If the interview moves to a negotiation, would you expect him to be a strong negotiator? Why? How would you advise him to prepare?
- (4) Whom should he consult to guide him through the next steps in the process and instruct him on how to empower himself to successfully negotiate?

### Case Study 10: A Native American Female Negotiator

Dr. Melissa Kaufman is a Native American junior faculty who has just read an article noting that negotiation is a process of compromise between two or more parties seeking to discover common ground. She is ready to put that definition to use. This is Melissa's second visit to campus in applying for a faculty position, and she will be meeting with the department chair and dean. She is experiencing significant difficulty trying to determine her approach to this power dynamic. In her online search, Melissa is reassured to see that the dean is a Latina from San Jose, California, where she has relatives.

- (1) How would marginalization and privilege affect her interactions with the members of the search committee, department chair, and dean?
- (2) What would you consider "common ground" in a negotiation?
- (3) Are there benefits to hiring Melissa?
- (4) How should she approach getting appropriate mentors if she secures the position?