



## Gender Equality in Engineering Advocacy Tips

### A National Imperative by Roger Green

The next time you're having coffee with colleagues, ask them what they consider as the top areas of critical national importance, particularly when taken from the perspective of science, technology, engineering, and mathematics (STEM). I'll lay odds that you'll hear many predictable responses from categories such as energy, sustainability, climate change, population, health care, education and the like. I'll also lay odds that few responses, if any, will relate to gender equality and the status of women, particularly when asked of your male colleagues. That gender equality can remain unmentioned as an issue of crucial national importance is, to put it mildly, curious. Who wouldn't agree, for example, that it is more difficult to solve complex problems if using only about 60 percent of the available resources and talent? Yet this is precisely the situation that occurs day in and day out when only 20 percent of our engineers are women. Despite an abundance of research literature, seminars and training by renowned experts, and the focused attention of national organizations and initiatives such as ASEE WIED and NSF ADVANCE, gender equity still fails to rise to our collective and day-to-day national consciousness.

While progress toward gender equality has been and continues to be made, it seems to follow a sporadic and frustratingly slow pace. More often than not, advancement comes, if at all, through the efforts of women rather than the men who constitute the gender majorities typical of STEM institutions. Gender inequality disadvantages women, certainly, but it also hurts men, reduces the effectiveness and competitiveness of businesses and organizations, and diminishes our nation's capability to address and solve global challenges. Quite simply, this makes gender equality a national imperative of primary importance.

Particularly in the male-dominated fields of STEM, gender equality requires the cooperation, commitment, and active participation of men. This focus on men has been the cornerstone of North Dakota State University (NDSU) Advocates and Allies program, initiated through a National Science Foundation (NSF) ADVANCE Institutional Transformation grant (HRD-0811239). From its inception in 2009, I have served with other NDSU FORWARD Advocates to: learn about gender equality (or lack thereof); inform men about, among other topics, gender discrimination, implicit bias, and male privilege, and then equip those men with skills and individual actions to help promote gender equity; and effectively advocate on behalf of my female colleagues. In the coming months, I shall share a series of tips from the NDSU FORWARD Advocates group to help promote gender equity. I hope you will read and share these tips, particularly with your male colleagues. In the meantime, I encourage you to take your colleagues to coffee, find what they view as the top areas of critical national importance, and then ask them if they think a 60 percent increase in our resource and talent capability to tackle those challenges is worth a little personal commitment and future effort. If so, invite them to join us as we work together towards the goal of gender equality.

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### Check Out the Following Tips for Fostering Gender Equality in Engineering by Roger Green

#### Advocacy Tip # 1

Many men, particularly those in STEM, lack knowledge of gender equality issues, research, and literature. Furthermore, lack of knowledge is a key force that undermines men's engagement as gender equality allies (Prime and Moss-Racusin, 2009). Our first tip, therefore, is to encourage men to do some reading. The web-available report "Engaging Men in Gender Initiatives: What Change Agents Need to Know" by Jeanine Prime and Corinne Moss-Racusin is a good place to start. The [\*"Advocates and Allies: References & Recommended Reading"\*](#) recommends many other relevant and interesting reading items. Knowledge is the foundation for engagement and action.

#### Advocacy Tip # 2

In addition to a lack of knowledge (see Tip #1 above), apathy and fear are also key forces that undermine men's engagement as gender equality allies (Prime and Moss-Racusin, 2009). While tricky to overcome, apathy can be reduced when an individual discovers that a topic is personally relevant. As our second tip, we encourage everyone to take one or more implicit association tests (AIT), particularly the Gender-Science and Gender-Career AITs, all of which are available at <https://implicit.harvard.edu/implicit/>. Taken in a private setting, these enlightening tests can help individuals recognize personal biases, often unconscious, that may contribute to gender and other inequalities. Recognition is an important step to reducing or eliminating bias.

### Advocacy Tip # 3

Previously (see Tip#2 above), we introduced the implicit association test (AIT) as a way to help make gender equality personally relevant. To competently serve as a gender equality ally, it is equally important to establish institutional context and relevance. As our third tip, we suggest that individuals investigate gender representation within their own department or program. What percentage of employees or faculty are women? What percentage of clients or students are women? Are there differences in retention between men and women? One can gain valuable insight and context by comparing institution or department data to the national data using, for example, Brian Yoder's "Engineering by the Numbers", available from the American Society for Engineering Education (ASEE) at [www.asee.org/papers-and-publications/publications/11-47.pdf](http://www.asee.org/papers-and-publications/publications/11-47.pdf). It is easier to plan a path forward when you know where you are currently at.

### Advocacy Tip # 4

Even with the progress being made, women remain underrepresented in many departments, especially those in STEM (see Tip #3 above). To improve the gender balance within such departments, it is crucial to both recruit and retain women. As our fourth tip, we encourage men to volunteer to serve on departmental and university committees, particularly search and promotion and tenure committees, with the specific purpose of being an ally for gender equality. Men can be uniquely effective in voicing gender-related concerns during committee discussions since they are less likely to be perceived as acting in their own self-interest. Through intentional committee service and effort, men can be positively impact the recruitment and retention of women.

### Advocacy Tip # 5

When men serve on committees with the purpose of being an ally for gender equality (see Tip #4 above), they will likely encounter various forms of resistance, whether intentional or not. Attempts to incorporate diversity as a position requirement, for example, may be challenged when committee members erroneously assume that diversity means lower standards. Well-intentioned faculty who view themselves as unbiased may not recognize unconscious bias and its impact on committee discussions and outcomes. Despite much evidence to the contrary, some still view bias and bigotry as a thing of the past. Homogeneous groups may use a "good fit" criterion during candidate deliberations, not recognizing that such a criterion is likely to keep the group homogeneous. As our fifth tip, we recommend men learn to recognize common forms of resistance and plan effective ways to respond. JoAnn Moody's book "**Faculty Diversity: Removing the Barriers**" provides an excellent discussion of resistance and offers practical advice on how to effectively handle resistance and push back.

### Advocacy Tip # 6

While it is important to know when to speak up on behalf of women (see Tip #4 and #5 above), it is just as important to know when to sit back and listen. Men are more likely to interrupt women when they speak compared to other men. Further, the work of Dale Spender and others suggests that women are perceived as talking more than men when they talk only 30 percent of the time. As our sixth tip, we recommend men attentively listen to women when they speak. Make sure that women faculty members have equal space to speak in departmental meetings. Work hard not to interrupt women when they speak and encourage others to do the same. If you notice that someone is being interrupted, redirect the conversation to the person who was originally speaking. When listening, give your full attention, including eye contact and head nods, and avoid distractions, such as checking messages on your smart phone or browsing the internet on your laptop.

### Advocacy Tip # 7

When men listen to their female colleagues (see Tip #6 above), many learn that workplace climate is worse for women than it is for men. Climate – which Wylie (see Tip #1) defines as informal practices and implicit policies that, while not intending harm, systematically disadvantage women or others – is a primary predictor of attrition for women and men, as noted by Piercy et al. (*Innovative Higher Education, Vol. 30, No. 1, 2005, pp. 53–66*). As our seventh tip, we encourage men to recognize the importance of climate and work to improve it. Even modest effort and action will help. Climate improves when individuals are institutionally supported, when there is a sense of community, independence, and intellectual challenge, and when all contributions are valued, all voices are heard, and all members can serve in leadership roles. While poor climate may disproportionately affect women, a healthy climate benefits everyone, women as well as men. Given the complexity of workplace climate and its crucial role in achieving gender equality, several future advocacy tips will focus on specific components of and targeted actions to improve workplace climate.

### Advocacy Tip # 8

Last time (see Tip #7 above), we discussed the importance of climate to the recruitment, retention, and job satisfaction of both women and men. Inclusivity is an important component to climate that deserves particular attention. Underrepresented groups, such as women in engineering, can find themselves excluded, both intentionally and unintentionally, from a variety of activities, usually with substantial negative consequences. As our eighth tip, we encourage men to establish and maintain an inclusive workplace. Actively include women

faculty members in all departmental business. Invite female colleagues to informal gatherings, such as lunches, coffee times, and other social activities, where work-related discussions may occur. Share information equally with female and male colleagues. Men often receive more information than women that is key to success in academia through informal mechanisms. Conduct business in locations and at times that are available to all faculty.

### **Advocacy Tip # 9**

Even with the best intentions and efforts, inclusivity (see Tip #8 above) is difficult to achieve when workplaces fail to promote a healthy work/life balance. Unfair as it is, women generally have disproportionate responsibilities for child and elderly parent care, household management, and other domestic duties. While men can support their partners and close friends by sharing household and childcare responsibilities, such direct help is generally impractical for female professional colleagues. Still, there is much men can do to value and support work/life balance. As our ninth tip, we encourage men to promote work/life balance within the workplace. Recognize and accommodate the outside responsibilities of female colleagues. Do not schedule meetings early in the morning or late in the afternoon. Work to establish departmental and institutional policies, available to women and men, that provide opportunities for modified duties for childbirth or parent care, that allow flextime, that support dual career couples, and that automatically grant tenure clock extensions to faculty for the birth or adoption of a child. Such practices and policies benefit everyone in the workplace, but can offer particular impact to women.

### **Advocacy Tip # 10**

Just as there is positive benefit to healthy work-life (see Tip #9 above), healthy workplace communication is also important. As our tenth tip, we encourage men to avoid gendered workplace language and communication. Women are much more likely than men to be described using gendered adjectives or qualifiers, a practice that can be reduced or eliminated with conscientious effort. In professional settings, consistently address colleagues using Dr. or Prof., not Mr., Mrs., Miss, or first name. Unless gender is directly relevant, avoid using gendered descriptions such as “female faculty” or “woman researcher”. It should go without saying that comments on appearance or sexual remarks have no place in the workplace. As detailed by Toni Schmader in 2007 (see Tip #1), letters of recommendation often exhibit gender bias: letters for women tend to be shorter and contain less detail about their specific skills as researchers, and women tend to be described in relational terms (e.g., caring) while men are more often described in superlatives (e.g., outstanding scholar). Actively avoid these gender pitfalls in workplace communication, both written and spoken.

### **Advocacy Tip # 11**

As seen in Tip #10, gender impacts the ways in which we communicate with and about women. Gender also has a substantial impact in the way we support, value, and recognize the research and accomplishments of our female colleagues. Men are less likely to ask women faculty about their research activities than they are to ask men faculty, women are less likely to receive effective mentorship, and women are less likely than men to be nominated for awards, prizes, and leadership positions. As our eleventh tip, we encourage men to recognize, support, and value the research and professional contributions of their female colleagues. Talk with women faculty about their research, and attend their research presentations. Seek opportunities for research collaboration with your female colleagues. Provide mentorship and professional development opportunities. Nominate and support women for awards, prizes, invited lectures, and leadership positions at the local, national, and international levels. Publicly recognize and promote the achievements and excellence of your female colleagues.

### **Advocacy Tip # 12**

Just as it is important to publicly recognize the contributions and talents of women (see Tip #11 above), it is likewise important that men publically promote gender equality. Men should not leave the work of improving equality and increasing diversity to women. As our twelfth tip, we encourage men to be active and public leaders of gender equality. Tell colleagues, especially other men, about your role as a gender equality ally. Share your knowledge of gender bias to help raise the consciousness of other men. Have the courage to take corrective action when you notice gender inequities and bias – demand accountability in yourself as well as others. Apologize when (not if!) you make a gender faux pas. If you are a supervisor, ensure that workload and resources are distributed equitably, include diversity efforts as a component of appraisals, insist on diverse applicant pools in searches, and financially support diversity efforts. Finally, do not expect recognition or reward for your efforts – do the right thing because it is right.

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