Event Summary

Opening Doors in Glass Walls for Women in STEM

April 13, 2018

On April 13, 2018 the Wilson Center's Science & Technology Innovation Program and Global Women's Leadership Initiative hosted a virtual panel entitled "Opening Doors in Glass Walls for Women in STEM." The program was introduced and moderated by **Dr. Elizabeth Newbury**, Director of the Serious Games Initiative. Panelists included **Eleanor Haller-Jorden,** President and CEO of the Paradigm Forum, GmbH; **Mayra N. Montrose**, Program Executive for Earth Science Flight Missions in the Science Mission Directorate (SMD) of NASA; and **Carol O'Donnell**, Director of the Smithsonian Science Education Center.

After *Newbury* welcomed the audience and panelists, she briefly introduced each panelist and asked each of them to elaborate on **how they started in the STEM field**.

O'Donnell stated that her interest in STEM started when she was young with her interest in solving problems. She would study the flora and fauna in her backyard through exploration and experimentation. "I think my parents thought I would grow up to be an engineer, but I really loved teaching." She would later use that passion to become a teacher that engaged her students in science and math.

Montrose started her career in STEM in Puerto Rico with a degree in chemical engineering. She would later earn degrees in computer engineering from the University of South Florida in Tampa. There she found a community of female engineers and foreign students that made her feel welcome and engaged in her field. However, she stated that her time at the University "was the peak of women holding engineering positions in America." For the past few years Montrose has worked in different positions at NASA, where they strive to have gender parity at all levels.

Haller-Jordan says her passion for STEM stemmed from her sense of social justice, which started in high school. She became the coordinator for a women's rights advocacy platform that gave her an interest in the tools needed to drive change. From there, she strived to find non-adversarial ways to sway public opinion through research and bottom line impact. "I became extremely interested in the power of research and the power of somehow integrating fundamental social justice principals with the pragmatism of bottom-line impact."

Newbury asked the panelists about the **metaphors used to describe the concerns around women in STEM** and what analogies can be used to describe the problem. Montrose proposed seeing it as a highway mixing bowl: With how versatile some of the degrees and jobs are in STEM, a person is able to get off of the ramp and work in different fields but get back on the mixing bowl with the field they studied in. For this, she said "it requires one to stay engaged and maintain a lot of networks and contacts."

Haller-Jordan argued we are "drowning in metaphors." While there are terms like "leaky pipeline" to describe what happens to women as they try to pursue STEM careers, these terms do not

galvanize action. She saw it more as “moving deck chairs on the Titanic” and thought researchers and policymakers should work less in the abstract and instead get into the specific problems for the industry. “We must be more targeted in what the issues are.”

O’Donnell agreed with Haller-Jordan in that she doesn’t want to see people using pipeline as a metaphor and move more towards pathways. She offered the idea of a web where, as someone moves along in their career, they can learn more about potential actions. O’Donnell ended by saying that women should “not be afraid to ask for support and not be afraid to say ‘I can do this.’”

When asked about **mentorship when it comes to women in STEM**, all of the panelists agreed that it was crucial. When O’Donnell did research into why African American girls didn’t pursue STEM studies despite interest, she said they told her “I don’t think I’m good enough. I don’t see others who look like me doing those roles.” O’Donnell talked about the importance of professionals, particularly black women in STEM, to chart their career path so that girls could see the many ways to a STEM career.

Montrose highlighted the need for mentors at a young age – a key role model for her growing up was a high school chemistry teacher. She emphasized the need to reach out to boys and girls, which all of the panel agreed on. “It’s important for boys to know that women are capable of doing this kind of work.” As a mentor, Montrose wanted Spanish kids to know that while being in STEM can be difficult, they can do it, too.

Haller-Jordan said mentorship starts with family support. She talked about how women who wanted to work on oil rigs and in the petroleum field were discouraged by their family because “that was no place for a girl.” She implored women who want to get into STEM to practice intelligent disobedience and that there is a community around women’s ambition that must be cultivated. She also acknowledged that parents are often ill-informed about STEM fields, but are trying to learn.

When asked about **the workplace**, O’Donnell opened by saying that women may be avoiding STEM fields because the fields themselves are perceived as un-communal, they don’t help others, and that they are more about power and money. “We need to educate [women] that this is not the case. Part of our job is to teach people what science can do for our communities.”

Heller-Jordan agreed, saying that while not all work environments are meritocratic, women still leave companies because the culture isolates people. She talked about how one of the bits of feedback she gives her clients that are losing women in STEM at a high percentage is why people are staying and people are going and to look at the data surrounding it. They found that those who leave didn’t feel listened to or their needs attended to. “Many women are voting with their feet at this point and they are seeing opportunities in the entrepreneurial sector.” She noted that communities have popped up to nurture women in STEM and they are backed by funding, but not at a high enough rate. O’Donnell agreed: “No matter what we do during education, if we don’t have an environment where women feel welcome in the workforce.

Montrose noted that while NASA has been successful moving toward gender parity, but it took years for it to happen. The fact that NASA is a government organization also meant that laws were

in place to maintain diversity. “This led the leadership to make a point to have a diverse, inclusive workforce. But these weren’t practices that suddenly happened. It’s taken 15 years to see the difference.” This lead to a discussion of how we can bring these policies to the private sector for the sake of diversity. Heller-Jordan spoke to the fact that private sector companies would seek diversity in their data to either inform policy or improve corporate culture. “So there is a huge appetite for collecting and actually disaggregating data on women. We need to overlay that with other key diversifiers.” O’Donnell noted a proposed law that gets rid of looking at the salary history of a woman to determine her current salary. “The problem was we were using salary history to determine current salary, well that’s a self-perpetuating problem. And so this policy bill was to allow private companies to able to say ‘No more.’”

In their closing remarks, the panelists gave quick advice to the audience: Montrose stated that “hard skills will get you in the door but soft skills will keep you there.” She told girls that they must learn how to deal with cases of bias and discrimination, and to speak up and be professional and gracious.

O’Donnell signed off saying “I am inspired by the next generation. Be there and support each other and embrace the entire community.”

Heller-Jordan closed with a quote from Grace Hopper: “It is better to ask for forgiveness than permission.” She told women and girls to stretch their imagination and see how far they can push boundaries.

For further insight, please view the video recap at: https://www.wilsoncenter.org/event/opening-doors-glass-walls-for-women-stem

Summary written by Brittany Williams (Serious Games Initiative Intern)