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REFLECTIONS IN DIVERSITY

# Being the CEO of Your Career

OPN talked with **Jie Qiao** about the importance of women in science taking an entrepreneurial approach to advancing their careers.

**J**ie Qiao is an associate professor at the Rochester Institute of Technology, N.Y., USA, and the founder and president of WiSTEE Connect (Women in Science, Technology, Engineering, and Entrepreneurship)—a group she started in 2012 while working as a laser scientist for the Laboratory for Laser Energetics at the University of Rochester. OPN caught up with her to learn more about the project and her vision for its future.

**Q.** What inspired you to found WiSTEE?

After I had worked at the University of Rochester's Laser Lab for almost seven years, I suddenly realized that among close to 60 scientists at the lab, there were only three women. I talked with a dozen women faculty

members at the university, and they all felt the same way—isolated. So I wanted to create a group to get women in junior-faculty and mid-career positions together.

That was my intention. Then, at the first event, a group of students came in—including undergraduates, graduates and postdocs—and I quickly realized that having a pipeline of women at different career stages is actually really beneficial. But WiSTEE's focus is still on junior and mid-career women.

**Q.** Why that career stage in particular?

Because there's already so much effort to bring girls into science up to the K-12 level. So many schools have reached 50-50 in their student populations, but if you look at their

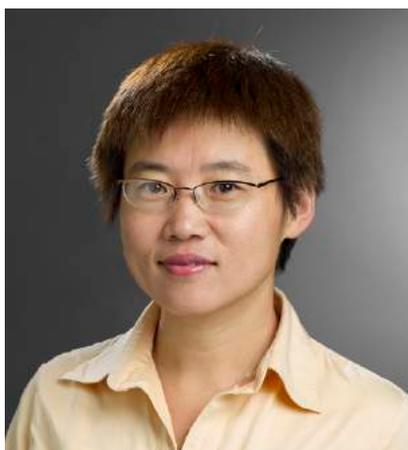
faculty portfolio, it's 1 woman for every 20 men. We put so much effort into bringing women into a science career, but once they're there, many are forced out in mid-career, or not promoted.

I want to have a group for mid-career and junior-faculty professionals, so they have a sense of belonging and they can exchange their thoughts and support each other. I think for women to be successful, they need to have supporters, collaborators and sponsors. There are many reasons why women drop out of STEM, but I think the deepest reason is the lack of role models who they can talk to and aspire to become. And this is so essential.

**Q.** At last fall's Frontiers in Optics meeting, WiSTEE organized a "Global Women of Light" symposium. At that event you brought up the importance of having women be entrepreneurs in their own careers. What does that mean?

I learned this concept when I was in business school, pursuing my MBA, when I was learning finance, marketing and strategy. One day, I thought that for women faculty—not only for women, for everyone—when you think about your career, you have this productive element: you're researching, writing papers and training students. But you also have a financial side: the most important thing for a new faculty member is not to run out of cash. You have a marketing side: you present your paper and you do workshops. And you also have a strategy side. How do you balance those factors?

In those ways, a new faculty position is like a startup company. So it's really a good comparison



**“ It's really a good comparison between a woman faculty member and an entrepreneur or owner of a new startup. ”**

—Jie Qiao

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**Q.** That seems like a valuable perspective for anyone, though. Why is it particularly important for women?

I'm focusing on women entrepreneurs in science because many women, like men, also aspire to become entrepreneurs or technology leaders. But women entrepreneurs, like women faculty members, are more isolated. In reality, men probably get more opportunities, and they naturally have a team already—the whole department, which tends to be heavily male.

Entrepreneurs need to raise money, and there is statistical data that if you're a female entrepreneur

pitching to a venture capitalist, the chance for a female entrepreneur to get funding is much smaller than for a male entrepreneur. This is also true for women PIs in academia. If you look at proposal or paper reviews, there is subtle bias there, too.

So for women, there are really a lot of very subtle barriers.

**Q.** Looking ahead, how do you see WiSTEE growing?

In part, it's the network effect. If one woman makes six contacts at a WiSTEE event, and there are close to 80 women attending, then WiSTEE can grow exponentially. That's because it has established a trustworthy, organic connectivity that, in my view, can't be replaced by other organizations.

Right now, in structure, there are corporate members of WiSTEE through which individuals can become involved, there are national labs that want to have a branch, and there are students, academic faculty members, scientists, engineers, entrepreneurs and business leaders. Looking ahead, I want to grow WiSTEE as a global organization. And while I think optics can be a base, we would like to expand that into other areas of physics—astronomy, for example. Optics has never been an isolated profession; it's always embedded into different applications.

And that's my vision—collectively we are stronger working together. **OPN**

*Looking to the future, WiSTEE Connect is organizing a third Global Women of Light Symposium, to occur in conjunction with the 2018 Frontiers in Optics conference in September. For more information on WiSTEE and its activities to promote women's leadership in science, visit [www.wisteeconnect.org](http://www.wisteeconnect.org).*