TECHNOLOGY NETWORKS

WOMEN IN SCIENCE

Contents

Foreword

Welcome to our latest eBook, Women in Science, a celebration of the exceptional contributions today's female researchers make to the world of science. Throughout history, women have played key roles in ground breaking science, from Marie Curie's discoveries of radium and polonium, to the unearthing of HIV by Françoise Barré-Sinoussi. Despite these successes, women have, and continue to be underrepresented in STEM fields. Hurdles at all stages of education, and the struggles of juggling a family and career can limit the number of women choosing and maintaining a role within STEM.

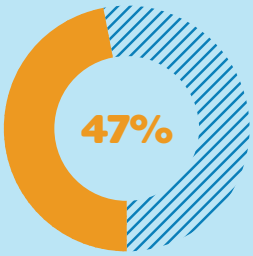
This eBook includes thought-provoking interviews from prominent female scientists, in which they share their greatest professional achievements, personal inspirations, as well as some advice for women looking to embark on their own STEM journey.

WOMEN IN STEM

While women continue to make gains across the broader U.S. economy, they remain underrepresented in STEM (science, technology, engineering and mathematics) jobs and among STEM degree holders.

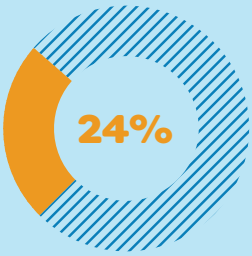
Here we take a look at some of the key stats.

In 2015 women filled



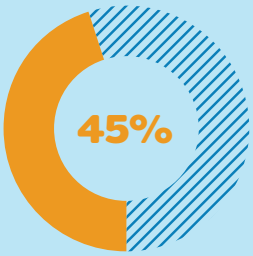
of all U.S. jobs

...but held only



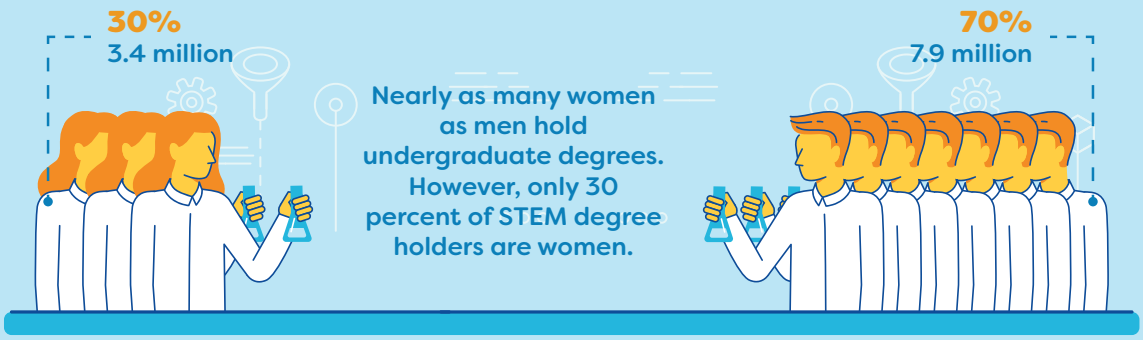
of STEM jobs.

However, women held



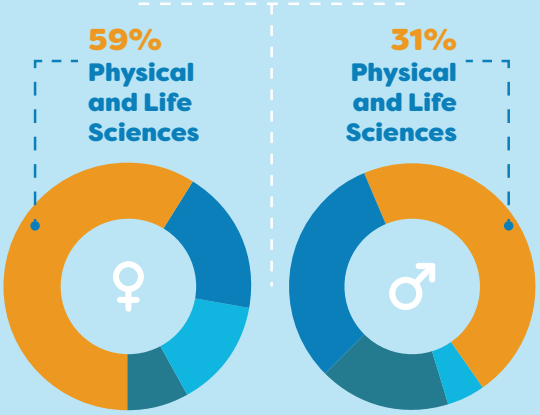
of U.S. jobs in the physical and life sciences.

Women Men

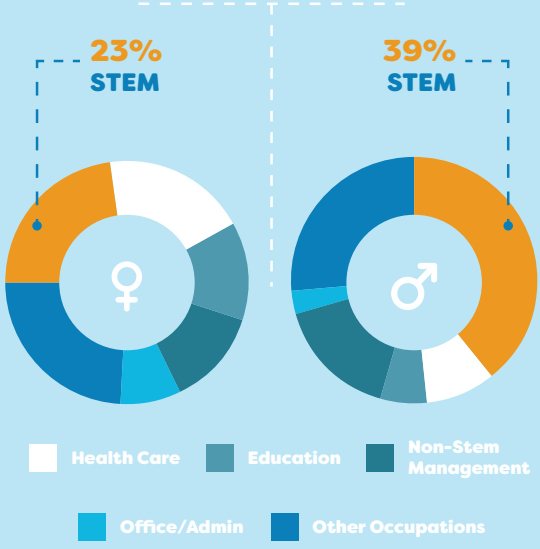


Nearly as many women as men hold undergraduate degrees. However, only 30 percent of STEM degree holders are women.

Nearly 6 in 10 women who major in STEM fields choose a degree in the physical and life sciences, compared to less than one-third of men.



Women with STEM majors are much less likely to choose a job in STEM compared to their male counterparts.



Source: Women in STEM: 2017 Update
U.S. Department of Commerce Economics and Statistics Administration Office of the Chief Economist

Darlene Solomon, PhD

Senior Vice President and Chief Technology Officer for Agilent Technologies

by Ash Board

Joining Agilent when the company was formed in 1999, having been with Hewlett Packard prior to the spin-off, Darlene Solomon Ph.D. holds the position of senior vice president and chief technology officer. In a role that sees her lead Agilent Labs, Darlene helps define Agilent's technology strategy and R&D priorities.

With a bachelor's degree in chemistry from Stanford University and a doctorate in bioinorganic chemistry from the MIT, Darlene's path to her leadership role came via the laboratory.

Q: What made you decide to study science?

A: Going way back as far as I can remember, since early elementary school, I always loved math and numbers. A good numerical problem or immersing myself in prime numbers was weekend fun. As a kid, I did well in school in all subjects, but math was really my favorite class all along, followed by science. As a freshman at Stanford, I took mostly math courses and some in science. It was really in these classes that I began to think more about what I would actually do in life with a degree in mathematics. Looking back now, it's a really narrow perception, but my feeling was that I could probably become a professor of mathematics, but I really wasn't all that into teaching. Computing was also a possibility, however unlike my friends in those computer courses I didn't get into staying up all night trying to debug a computer program. So, I figured maybe that wasn't the career match either. It was clear that science was next in line.

The next couple of quarters I took a number of science classes, in chemistry, physics, and biology. But it was the chemistry problems that were the most exciting and satisfying to me. For chemistry and science, it came more down to understanding why the world is the way it is and that's really what resonated.

"I don't think there has ever been a better time to be a scientist or engineer. Our world is led by technology wherever you look around, so I say go for it."
- Darlene Solomon, PhD

Q: What was it that precipitated your move away from the lab?

A: Following my Ph.D. I went straight to Hewlett-Packard Laboratories to be part of an interdisciplinary team that was advancing sensor technology for in vivo medical products. I spent five years as a scientist "in the lab" as you say. Then there was an opportunity to try out management, I like being in the lab but project management positions, especially ones that were aligned with my technical area, don't come around very often.

I had a lot of leadership experience through the various extracurricular things that I did. But I knew I was good at being a research scientist and if management didn't work out then I would go back to the lab. But management did work out, and worked out quite well.

Q: What does your role at Agilent involve?

A: I have been in my current role as Senior Vice President and Chief Technology Officer, for about 12 years now, and it is multifaceted. There are a series of things that are in the category of more strategic leadership, technology leadership and then quite a bit of what I do is very external facing. On the strategic leadership side, I work very closely with our President and CEO Mike McMullen, as part of the executive staff more broadly leading the company. I work with Mike and with the other business leaders to help define the company's technology strategy and our R&D priorities.

I also lead the CTO office, which includes responsibility for many of our longer-range technology investments. Internally, that includes Agilent Research Laboratories, which is our centralized and more far-reaching research organization. The CTO office also includes programs in university relations and external research, and a program that's aimed at partnerships with emerging startup companies. Then, of course, I have my team and staff that I work closely with and offer help where I can on their day-to-day needs, moving things forward, helping to support their personal development and success.

Externally, I represent Agilent on a number of different academic, government and industry boards and review committees. There are often keynote presentations at conferences that are especially relevant to Agilent's areas of contribution. I spend a lot of time with customers in our field organization, especially on the academic front. I can help provide that broader view of Agilent and insight into our strategic directions with university research faculty and top administration.

Q: Considering your time at Agilent, what are some of the achievements you are most proud of?

A: I think there are two major themes that speak to what all the contributions add up to. The first is Agilent's transformation from a leading electronics company to a leading life sciences and diagnostics company. The other theme, related to this transformation, is the continued value and contribution of Agilent Research Labs as a centralized corporate research lab. Especially as many companies have not found the "secret sauce" to make such investments so worthwhile. Needless to say, Agilent Research labs have played a big role in laying the groundwork for the transformation.

Q: If you had one piece of advice for someone looking to get into a career in science what would it be?

A: I don't think there has ever been a better time to be a scientist or engineer. Our world is led by technology wherever you look around, so I say go for it. Focus on the areas you enjoy most but also try to include some biology and some data science or information science. They are going to be important and many of the advancements in capability and understanding continue in these areas.