

Women Who Led the Way!

Notable Picture Book Biographies

Laurie Wallmark

When I was a child, I loved math and science, and I wanted to learn more about the people working in these fields. Were they like me? What were their interests as kids? Did they have an *a-ha* moment in making their discoveries or did it take years of hard work?

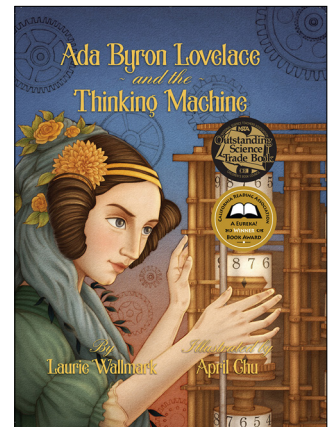
Off I went to my public library to find biographies about the life and accomplishments of these amazing people. One problem—there was only one kids' book about a woman scientist—Marie Curie. As an eight-year-old, I thought, “Did this mean that girls couldn't grow up to be scientists?”

Like many students, I wrote my first biography in fourth grade. It never occurred to me to write about a woman because as I'd learned from my library experience, except for Marie Curie, women couldn't be scientists. I chose to write about George Washington Carver, an African American scientist who discovered hundreds of uses for the peanut and peanut oil.

As an adult, I still love math and science. And I still want to learn about people working in those fields. I don't want today's children to experience what I did—that feeling that maybe I couldn't—or, even worse, shouldn't—be a mathematician or scientist. Children need to see themselves reflected in the books they read about people in STEM. This is especially true for those underrepresented in the field due to their gender, race, nationality, or other marginalizing factor. Children today should understand that STEM discoveries and inventions happen when ideas come from people of different backgrounds.

Because of my experience as a child, when I began to write for children, I chose to concentrate on picture book biographies

about women in STEM. Even in 2015, when my first book, *Ada Byron Lovelace and the Thinking Machine* (Creston Books, 2015; illustrated by April Chu), was published, books for kids about women in STEM were few and far between. The situation is improving, but we have a way to go to catch up. The progress is even slower for books about other underrepresented minorities in these fields.



So how do I choose which women to spotlight? First, I want to highlight the achievements of unsung women—women mathematicians and scientists who aren't familiar to most people. I'm not saying there couldn't be another great book about Marie Curie; I'm just not going to write it.

All the books I've published so far have been about historical women. If I write about a contemporary scientist, I run



Laurie Wallmark is the author of several award-winning STEM picture books about women. This New Jersey writer is a former software engineer and computer science professor.

Recommended STEM Picture Book Biographies

Queen of Physics: How Wu Chien Shiung Helped Unlock the Secrets of the Atom (Sterling, 2019) by Teresa Robeson and Rebecca Huang deservedly won the 2020 Asian/Pacific American Award for Literature Picture Book. As a nuclear physicist, Wu's work on beta decay helped other scientists develop their theories, yet she was bypassed for the Nobel Prize in favor of her male colleagues. This book highlights how she persevered despite the sexism and racism she experienced.

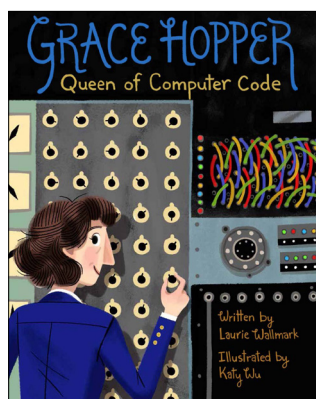
It's hard to explain a mathematician's work in a picture book. I wrote a biography of Emmy Noether, but couldn't find a way to make the math accessible to young readers. Eventually, I put that manuscript aside. Luckily, Helaine Becker figured out how to do it in her book, *Emmy Noether: The Most Important Mathematician You've Never Heard Of* (Kids Can Press, 2020; illustrated by Kari Rust).

Classified: The Secret Career of Mary Golda Ross, Cherokee Aerospace Engineer by Traci Sorell and Natasha Donovan (Sterling Kids, 2019) describes the life and the work of the first Native American woman engineer in the United States. In addition to speaking about her work, the book shows how she modeled Cherokee values such as education, working cooperatively, remaining humble, and helping ensure equal opportunity and education for all.

Margaret and the Moon: How Margaret Hamilton Saved the First Lunar Landing by Dean Robbins and Lucy Knisley (Knopf BFYR, 2017) is aimed at younger children. Computer scientist Margaret Hamilton's foresight saved the Apollo 11 astronauts from crash landing on the Moon. Children reading this story will feel the tension of the event and cheer when the lunar module lands safely. They'll also learn, like Hamilton did, the importance of always having a backup plan.

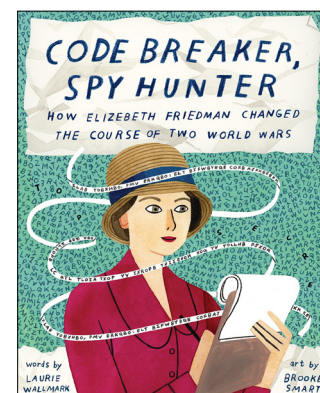
the risk that her greatest achievement could happen after my book is published. I'd hate for a child to read my book and not know, for example, that the subject recently won a Nobel Prize.

I also prefer to write about women who are the first person—not just the first woman—to discover or invent something. In my book, *Grace Hopper: Queen of Computer Code* (Sterling Kids, 2017; illustrated by Katy Wu), I tell how she's the first person, not the first woman, to use words in computer programs instead of ones and zeros.



I think about other questions before choosing my subjects—would children find this person's story interesting? Am I able to explain the science or math in a way that children can understand? Will I be able to find trustworthy source materials?

Picture book biographies are an ideal format for so many different age levels. My earlier books were geared for younger children, but with *Code Breaker, Spy Hunter: How Elizebeth Friedman Changed the Course of Two World Wars* (Abrams Kids, 2021; illustrated by Brooke Smart) I've moved to a longer, more detailed book for kids ready for a greater challenge. *Code Breaker, Spy Hunter* tells the story of the life and achievements of one of the foremost cryptanalysts of the twentieth century.



We all know Rudine Sims Bishop's iconic saying about books serving as windows, mirrors, and sliding doors. We certainly want to encourage children who are underrepresented in STEM, like girls and children of color, by using "mirrors." We also need to show other children, through "windows," that these fields are for anyone. All children can then use their imaginations to go through those "sliding doors" and envision a future where STEM is diverse and inclusive. &