

# 2013 AAAS SCIENCE AND ENGINEERING MASS MEDIA FELLOW

## ANNA HAENSCH

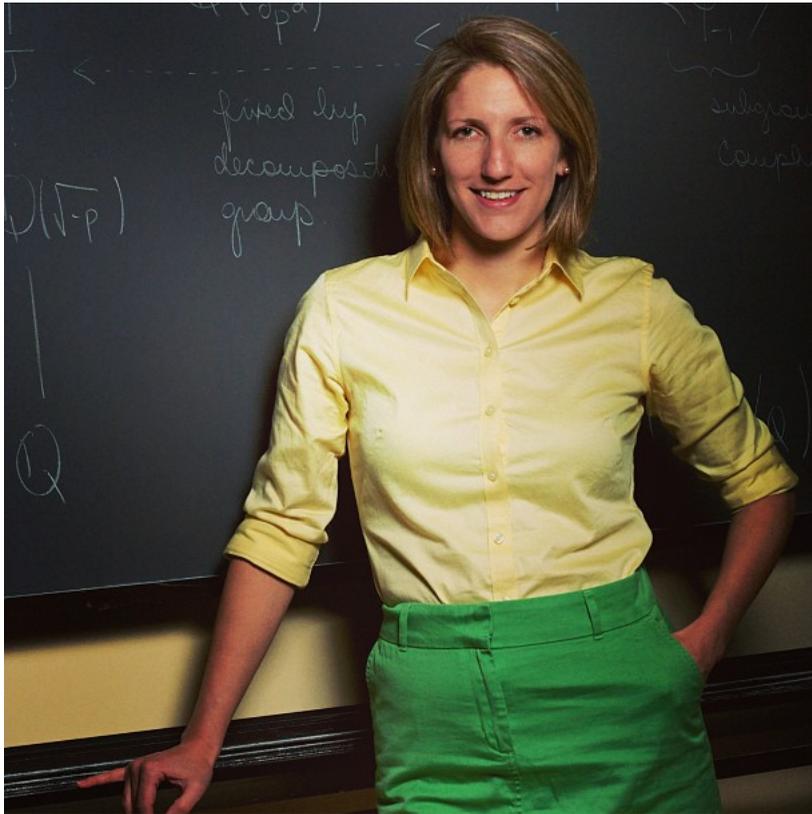
**DEGREE:** PHD, MATHEMATICS  
**SCHOOL:** WESLEYAN UNIVERSITY  
**SPONSOR:** AMERICAN MATHEMATICAL SOCIETY  
**MEDIA SITE:** NATIONAL PUBLIC RADIO

**Research Focus:** Number Theory, particularly representation problems for integral quadratic forms

**Translation:** My primary objects of interest are quadratic polynomials, for example, polynomials of the form  $f(x,y)=x^2+y^2$  or perhaps  $f(x,y,z)=x^2+xy+z^2$ . Given an integer  $a$ , I attempt to determine when the equation  $f(x,y)=a$  has a solution, requiring that  $x$  and  $y$  be integers. This is a very old problem which has been widely studied, and has led to the development of a very rich field within number theory called the theory of integral quadratic lattices.

### What are your goals for the summer?

My goal for the summer is to become a clearer communicator. Particularly, I would like to develop my ability to communicate dense technical information to a lay audience in an exciting way while maintaining a sufficient level of technical rigor.



### What are you most excited about?

I'm really excited about working with the folks at NPR. I think that they will be coming from such diverse backgrounds, and I will have the opportunity to learn so much from them.

### Why are you passionate about science communication?

As a mathematician, I know how difficult it can be to convince people that what I'm doing is worthwhile or interesting. Partly because many people grow up being taught to dislike math, and also because there is not enough emphasis in mainstream media on the beauty of the mathematics which surrounds us every day.

### Who is your favorite science communicator?

I read a blog called Mathbabe.org written by Cathy O'neil, her tagline is "Exploring and venting about quantitative issues." She talks about a lot of social and public policy issues, but from a quantitative standpoint. I really appreciate her political agenda, but I think it is her presentation that is so captivating -- she effectively uses quantitative arguments to discuss pertinent and exciting social issues.

### Do you have a link to an article you'd like to share?

Here is a blog entry that I

"...THERE IS NOT ENOUGH EMPHASIS IN MAINSTREAM MEDIA ON THE BEAUTY OF THE MATHEMATICS WHICH SURROUNDS US EVERY DAY."

wrote about the tenure process around the world: <http://extremeoutfitfri.days.blogspot.com/search?q=publish+or+perish>.

### Describe your dream job.

My dream job is to be a professor of mathematics. More specifically, I would

like to help people find their own love of math. I think that this is a particularly important role to play for young women, who often find themselves left behind in math. My primary goal is to be an effective instructor who leads an inclusive classroom, and my secondary goal is to be a good mathematical role model.

### Tell us about something you do outside of the lab.

I love to run! I'm not currently training for anything major, but I have been running half marathons for the past several years, and I think it may be time for me to set my sights on a full marathon.

### Anything else you'd like to share?

My favorite Doritos are Nacho Cheese. After surviving my first year of graduate school on Nacho Cheese Doritos and Dunkin Donuts Iced Coffee, I always said that if I ever finished my defense would be sponsored by Frito-Lay. I finished the PhD, and although it's covered with tell-tale orange fingerprints, I was never able to get an official endorsement.