# Katie Van Aken

## *Materials scientist, budding entrepreneur, and outreach enthusiast*

By **Humaira Taz**

Katie Van Aken has always been interested in outreach programs for children, but she said it peaked during her PhD years. "Being in the lab all the time can be a little bit monotonous and boring. In contrast, outreach activities are very rewarding when you see all the kids getting excited about science."

Although Katie completed her PhD degree in materials science from Drexel University, with a research focus on materials for energy storage, she did not pursue the traditional route of staying in academia. She is currently working as the lead engineer at Dragon Spectral, a startup company out of the Electrical Engineering Department at Drexel. They are trying to develop and commercialize their technology—an optical filter for imaging devices. "This work is very different from my PhD. Most of the time, I am creating demos for potential investors and customers. There is research involved, but it is not for publication purposes. Rather we are trying to develop a product for the market," explained Katie. She added that eventually she would love to start her own company, so in that regard, this position is allowing her to learn the basics of entrepreneurship.

During her time as a doctoral student, Katie did not follow the stereotypical lifestyle of a graduate student. While the majority of graduate students spend their days, nights, and weekends at the lab, Katie involved herself in several outreach and leadership activities at Drexel and beyond. As the president of the Materials Research Society (MRS) Drexel University Chapter, she organized seminars, worked with the executive board, managed funds for conferences, and planned annual events at MRS meetings in Boston. She founded the "Science Saturdays Program," where high school students could come to Drexel on certain Saturdays to attend lectures and demos on science given by graduate students in the Materials Science Department. In addition, she was a math and science tutor for local high schools, and she participated as a judge in research competitions and science fairs held at Drexel University and local high schools.

Her favorite activity, however, has been *Philly Materials Day* where she was a special demonstration leader. "This is an all-day event sponsored by the National Science Foundation and devoted to materials science. It's open to kids of all ages, and there are usually panelists and demos on various materials-related topics. Each year, this event draws more than 2000 people," explained Katie. The event also has some hands-on workshops for kids to learn about scientific concepts. One of the big hits was a demo she did where she created a cloud as big as a room. "Kids loved it! You could see them taking out their phones to Snapchat. The best part was the excitement on their faces when you explained the phenomenon to them." Katie also mentioned that she loved talking to the parents. "Parents come to these events to accompany their kids, but they end up learning new things too. It's a very rewarding feeling when they realize oh, so this is how a TV screen works!"

Katie's experience with outreach events has come in handy in her current position at the startup. "It teaches you to explain concepts in a simple manner, and that in turn helps your customers and potential investors understand the product better." Another manifestation of her explanation skills occurred during the *MRS Hackathon*, a programming event targeted toward the materials genome project hosted by MRS. Participants were given 24 hours to develop 30-second pitches of their ideas for materials-related software, form teams around those ideas, and bring those concepts to life with working code. "I don't know the first thing about coding, but I went up there, pitched my idea to a complete group of strangers, and actually managed to get a team together to work on my idea. It was a fun experience!"

She ended by saying that outreach events are an important learning experience for her as well. When kids get excited about science, they throw out crazy ideas. "You never know, we might get inspired by one of those ideas someday, and it could lead to a revolutionary technology." □

Humaira Taz is a Bredesen Center Research Fellow at The University of Tennessee, Knoxville.


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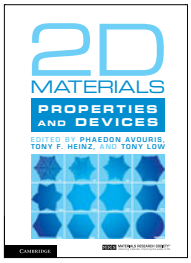


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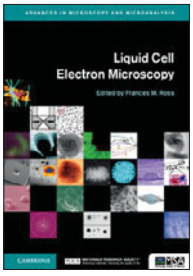


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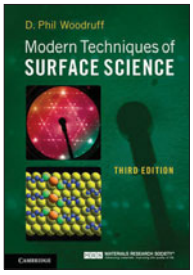


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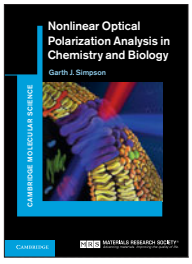


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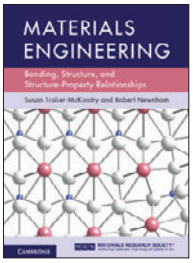


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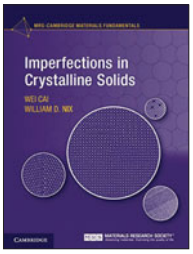


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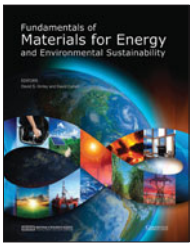


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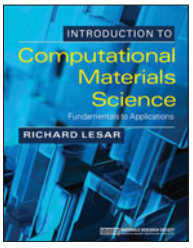


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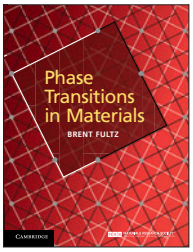


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