Women and Diversity Interview

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2013 G. Jeanette Thorbecke Award Winner

Have you always been interested in scientific research?

Yes, I have always been interested scientific research, even from an early age. I can remember sitting in the school gymnasium as a student in the fifth grade. It was career day and we were about to hear a few people talk about their jobs in a plethora of fields. A man starts talking to us about his job at Penn State University. He first describes himself as a scientist. He explained what it was that he and a group of people working with him did. I can no longer remember what it was, but it was enough to capture my interest. It was at that point that I knew I wanted to work in science. I recall asking how he got to do what he did and he explained about going to school and becoming a doctor, but not the kind of doctor most children think of, but he was still a doctor all the same. It was on that day that I knew I would go to school and get my Ph.D. I did not know exactly which field of science I would pursue as it changed throughout my primary education. It was not until I attended college that I began to narrow down what areas of the biological sciences were most appealing to me. It was my first introduction into the field of immunology as a college senior that made me realize I wanted to continue in that field.

Can you give us a brief description of your current research and what most excites you about it now?

My research focuses on the ability of two respiratory pathogens, Respiratory Syncytial Virus (RSV) and influenza, to modulate the host's innate immune response by altering macrophage differentiation. This macrophage "reprogramming" can either be beneficial or detrimental to either the pathogen or the host. I continue to work on dissecting the role of alternatively activated macrophages in response to these pathogens and develop new treatment strategies based on manipulation of the host response against these pathogens. Another aspect of my research looks at the contribution of viral-induced alternatively activated macrophages to enhance responsiveness to a subsequent allergen exposure.

During your graduate and post-doc years did you have mentor(s) that helped guide you along the way?

I have been quite fortunate to have several wonderful mentors that have been and continue to be extremely helpful to me in my budding scientific career. First and foremost is Dr. Stefanie Vogel at University of Maryland, Baltimore. She took me under her wing as a post-doctoral fellow and has taught me so much. Stefanie has become both a mentor and a friend to me. She is always willing to share her experience and knowledge. I have certainly learned much more from her knowledge and experiences than I have when taking workshops on the same topics. She has helped expose me to various professional resources, opportunities, and networks as well. Additionally, she has provided both emotional and moral support and encouragement through the many ups and downs of science. Dr.

Jorge Blanco (Sigmovir Biosystems, Inc.) is a wonderful collaborator and great supporter as well. He was a former post-doc with Dr. Vogel too, and has gone on to start his own company. He is always so enthusiastic with our studies and infuses that energy in all the work we do together. Dr. Blanco's never give up attitude is inspiring. Dr. Achsah Keegan (University of Maryland, Baltimore) has also been a great source for guidance and encouragement. She has helped me to effortlessly expand my research beyond innate immunology. She is always very encouraging to not give up and try again and try new things.

What was (were) the biggest challenge(s) you faced in pursuing your career?

I think we all question ourselves at some point and ask why we chose this route for ourselves. The important thing to remember is to stay positive and not give up on what you enjoy. Early on, before graduate school, I had several people remark that I did not have what it would take to pursue a career in the sciences. These instances were not only shocking, but also hurtful because the people making these comments were some of my instructors/professors. However, I am happy to say that I had not requested them as letters of recommendation, and more importantly, I turned these experiences around into something positive. The doubt these people had in me only drove me to try harder and buckle down more to get my Ph.D.

I feel the biggest challenge I face currently is something all academic scientists are facing, funding and the lack of obtaining it. With fewer and fewer grants being funded, this is a difficult time for not only junior faculty, but also for the more experienced senior faculty. The funding climate not only affects the ability for us to do research, but it can also make it more difficult to find available academic positions. Many bigger research institutes only want to recruit PIs with funding, so new investigators/junior faculty who are struggling just as much as more senior investigators may be deterred from staying in academics due to the lack of funding and job opportunities for those without funding. I feel we may lose some really bright people in the academic arena due to this problem.

Do you feel that being a woman in science came with advantages or disadvantages? What were they?

I do not want to say either yes or no here. I think it really comes down to who you are as a person and how much you are willing to work for what you want to achieve. I have never felt that science is a "9 to 5" job. I usually joke and say that it is a "9 to 5" job, but that it is 9 AM Monday morning to 5 AM the following Monday morning. Science doesn't stop just because it is the weekend or a holiday. My opinion is that you cannot expect to work 40 hours a week and think all will fall into place and you will continue to move forward in your career without putting the effort in. You have to work for those goals and achievements regardless of your gender. With that in mind, yes, women may have different priorities than men when it comes to life decisions such as starting a family and how that may change their home life *vs*. work life. However, I have met successful women in the academic field that somehow make it work.

If I had to find one disadvantage of being a female in science, it would be that there are fewer women in senior positions in academics, government, and industry positions. This may make those positions seem less obtainable if you are a female, but the women I know in those positions would always encourage you to work hard and not be afraid to try for more. I have been fortunate to have two really wonderful female role models as mentors who have had very successful careers. They are always very inspiring, helpful, and encouraging. My advice to other women in science is to find a great female mentor and pick her brain for helpful advice.

What strategies do you use to maintain balance in your life?

I am still working on this balancing act myself, so I may not have sound advice. I am learning to prioritize and delegate. I think this can be a difficult adjustment when as a postdoc and/or research associate, you are used to doing everything yourself. Learning to let go and delegate some of the tasks in the lab can alleviate some of the pressure. I do not know where I would be without my "girl Friday", Wendy Lai. She steps up and takes on any assignment I ask of her in the lab, and she does it with a cheery disposition. My family and friends are good at keeping me grounded. They often remind me to take time out for myself so I do not run myself into the ground.

What advice would you give to female graduate students that are interested in a career as an academic scientist?

My advice is simple. Don't give up. There are many challenges ahead. You will face rejections many times. Laugh it off and try again. I love what I do. Science and my job are my passion. It is sometimes difficult to make people understand that you love what you do for a living when many people outside of the science world think, "I hate my job!" often. I have often commented that they should tell graduate students up front the realities of science and the academic world. Many students come in thinking I am going to get my Ph.D. and I am going to change the world. The reality is that science is hard, but if you love it and enjoy it, then it will ease some of the pain. I liken science and my job to a line graph with peaks and valleys. Most days are in the valleys when the paper got rejected, the grant was not funded, that data makes no sense and doesn't fit the hypothesis! But you live for the peaks. The paper was accepted for publication, the data was good, etc. Though the peaks may be fewer than the valleys; they make it worth it in the end. So, don't give up. Keep trying and keep moving forward.