

Issue 2  
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## Metals Specialty Section (MSS) “Member Highlight”



*Dr. Bruce Stanton is a Microbiology and Immunology Professor at the Dartmouth University.*

*He currently serves as The Director of the Lung Biology Center and the Director of the Dartmouth Toxic Metals Superfund Research Program.*

### What originally got you interested in pursuing research as a career?

When I was in middle school I read *Silent Spring* by Rachel Carson. I was intrigued and disturbed by Carson's message that the indiscriminate use of pesticides, including DDT, has adverse effects on the environment and human health. Carson's work led to a ban on DDT and played a very significant role in the establishment of the EPA. Every time I catch a glimpse of the bald eagles and ospreys who inhabit Frenchman Bay where I do environmental research in the summer, I silently renew my gratitude to Carson- who has become over time, my own personal Super Hero. Rachel Carson understood the importance of facts and I began to see scientific research as an opportunity to separate fact from fiction, raise my own consciousness, and if need be, challenge the status quo. During college, I spent four summers in Woods Hole working at the National Marine Fisheries Service and taking courses at the Marine Biological Laboratory (MBL). Each summer I spent several weeks at sea on the Albatross IV and the Russian stern trawler Belogorsk assessing fish stocks and studying food chain dynamics. I met several faculty at MBL who encouraged me to attend graduate school at Yale, where I learned how to be a scientist under the guidance of Gerhard Giebisch.

### What has been the biggest obstacle for you or your lab?

I have been fortunate to work with smart, creative, “think outside the box” colleagues at Yale, Dartmouth, MDI Biological Laboratory as well as colleagues in other labs around the world. Although my laboratory has been well-funded, the biggest obstacle to our research, and to research in general, is the grant review process that tends to shy away from innovate, high risk projects that may lead to truly novel insights. Our challenge has been to identify means to conduct innovative research that is supported by the NIH.

### Where do you see the field of toxicology in 20 years?

A former trainee of the Dartmouth Superfund Program, Joe Shaw now at Indiana University, and his colleagues have developed a novel proposal to map the



*Dr. Stanton enjoys sailing on his boat when he is not in lab and often races in Maine during the summer months.*

*University of North Carolina at Chapel Hill*



*Cassandra Meakin is a graduate student in Dr. Rebecca's Fry lab investigating the mechanisms by which arsenic modulates the epigenome.*

chemosphere, a project that will utilize 21<sup>st</sup> century technologies to identify all the chemicals prevalent in our environment, how we are exposed to them, how they affect our health, and how to reduce exposure. One essential goal of this project is to work with industry to provide innovative, sustainable solutions for the safe use of chemicals. I think Rachel Carson would approve.

## **If you could give one piece of advice to students pursuing a degree in research, what would it be?**

Find a true mentor. Gerhard Giebisch was my mentor and he made an enormous difference in my career. He took the time to focus on my professional development as well as my personal well-being. He taught me the art of critical thinking and taught me how to write grants. Perhaps most important, he led by example. He is a man of enormous integrity and honesty- two qualities that are essential in a scientist.

## **Tell us one thing most people may not know about you...**

I am passionate about sailing. I spent six weeks after my PhD qualify exam sailing in Europe. I love ocean races to Bermuda. I race up and down the coast of Maine every summer on a friends' 42-foot sailboat (see below), and this year we won the Gulf of Maine Ocean Racing Association Series.

## **Referenced papers and important links:**

- ❖ The Center For Lung Biology <http://www.dartmouth.edu/~lbcobre/>
- ❖ Dartmouth Toxic Metals Superfund Research Program: <http://www.dartmouth.edu/~toxmetal/about/research-team/faculty/bruce.html>

