

## ***Meet the Scientist***

### ***Introduction***

This month we're featuring several of ORD's weather and climate scientists.

Peter Beedlow works in the Western Ecology Division of the National Health and Environmental Effects Laboratory in Corvallis, OR.

Alice Gilliland and Tanya Otte work in the Atmospheric Modeling and Analysis Division of the National Exposure Research Laboratory in Research Triangle Park, NC.

Frank Princiotta is the Director of the Air Pollution Prevention and Control Division of the National Risk Management Research Laboratory in Research Triangle Park, NC.

Jordan West works with the Global Change Research Program of the National Center for Environmental Assessment in Arlington, VA.

## **Peter Beedlow**

### ***What is your area of focus?***

Here in Corvallis, Oregon, we are conducting research on the effects of global climate change on water resources in relation to the surrounding uplands. We are also conducting research on the environmental effects of greenhouse gas mitigation technologies, specifically carbon off-set forestry. I believe that it is important for science leaders to stay well-grounded in research, even though much of their day may be spent in meetings and dealing administrative issues. My specific interest, as an ecologist, is how plant communities may respond to global climate change. Outside of the humid tropics, plant communities are subjected to distinct changes in seasons throughout the year. Global climate change may markedly affect the nature of seasons without substantially changing the average annual temperature and precipitation. As plant growth has a strong seasonal component, often controlled genetically, changes in seasonality may have profound effects on ecosystems and the services they provide to humans.

### ***What do you like most about doing your science?***

The process of discovery, particularly within the context of scientific teams, is what keeps me interested in research. And that's what research at EPA is all about--working in teams of scientists with an array of disciplines. The ability of EPA to bring many perspectives to a problem is a major strength of our science. I often tell my colleagues that we have the greatest jobs in the world because we get to do interesting things with interesting people, save the world, and get paid for it.

### ***What do you do when not in your lab?***

My favorite activity is walking in the woods with my dog. As a botanist I am always looking for different plant species and trying to figure out why they are where they are. An extension of walking in the woods is backpacking, which I try to do several times a year--again the botanical perspective prevails. I also enjoy gardening, bicycling, and sea kayaking.

### ***How would you describe yourself in 3 words?***

opportunistic team player

## Alice Gilliland

### *What is your area of focus?*

Regional modeling of air quality and climate, evaluation of emission estimates and policy-related trends

### *What do you like most about doing your science?*

It is very rewarding to provide the Agency with scientific findings and tools that can help protect health and the environment. I have had the fortune to work in several areas of atmospheric modeling and collaborate with amazing scientists within and outside the Agency. I also just really enjoy working with models to test ideas, pursue a better understanding of stressors and impacts, and refine modeling tools.

### *What do you do when not in your lab?*

I spend most of my time with my two wonderful daughters who love art projects, reading, and any outside activity. We also enjoy music and spending time with friends.

### *How would you describe yourself in 3 words?*

mother, scientist, artist

## Tanya Otte

### *What is your area of focus?*

Development, application, and evaluation of numerical meteorological and climate models to better understand atmospheric processes and address environmental concerns across a spectrum of spatial and temporal scales.

### *What do you like most about doing your science?*

I love the opportunities to continue to learn and grow as a scientist. Weather and climate are fascinating research areas, and there is so much more to learn in each. There are so many interdisciplinary applications that can be explored and are affected by weather and climate. I have been privileged to work with some wonderful colleagues over the years, and interaction with these professionals is often inspiring. As long as the models are not perfect, I'll have a job. There will always be more to learn.

### *What do you do when not in your lab?*

I love to spend time with my husband and children. I also have a mountain of craft supplies (cross-stitching, needlepoint, scrapbooking, quilting) that I try to use when I have time. I am also a big fan of NHL hockey.

### *How do you describe yourself in three words?*

learning every day

# Frank Princiotta

## *What is your area of focus?*

I believe a research manager needs to stay scientifically active, and I have opted to make contributions on the climate change issue. I have focused on the role that existing and evolving technologies will need to play if we are to avoid catastrophic climate change. My analysis concludes that in order to constrain warming the current annual 3% CO<sub>2</sub> global emission growth rate must transform rapidly to an annual decrease rate of from 1 to 3% for decades. New technologies will have to be developed and deployed at a rapid rate, especially for the key power generation and transportation sectors. Current energy technology research, development, demonstration and deployment programs fall far short of what is required, although recent funding initiatives by the US Administration are closing the gap.

## *What do you like most about doing your science?*

Those of us who work for ORD should appreciate that we have a unique opportunity to make a difference in protecting our environment. Those of us who work for NRMRL have the additional privilege of the opportunity to contribute directly to the solution of these environmental problems. We have the opportunity to help protect our species and our home planet, as mankind continues to move away from a sustainable relationship with the land. We are proud of our past accomplishments, that include developing flue gas cleaning and low NO<sub>x</sub> technology used worldwide, radon mitigation technology used in hundreds of thousands of buildings, synthesizing some of the first practical CFC substitutes which are protecting our stratosphere and supporting important air pollution regulations. We look forward to making future contributions.

## *What do you do when not in your lab?*

Although somewhat of a workaholic (as well as an earthaholic), my other passion is music. I sing, play the guitar and write songs, over 200 of them. I then use state of the art software to turn these songs into fully instrumented, high fidelity finished recordings. Some of you may be interested in songs I have recorded with environmental themes. They include: Trees: A child learns of trees in history class, Our Mother and our Home: planet Earth, Creatures: The day creatures revolt, The Day the Mountain Cried, the savagery of mountaintop removal, and So Far Away, a trans-galactic astronaut dreams of beautiful Earth.

## *How would you describe yourself in 3 words?*

perceptive, earthaholic, engineer

# Jordan West

## *What is your area of focus?*

I study the effects of climate change-related stressors and stressor interactions on aquatic ecosystems such as coral reefs and wetlands. I participate in projects that assess the vulnerabilities of species and communities to climate change, with an eye toward developing management adaptation strategies in response.

## *What do you like most about doing your science?*

The complexity of striving to understand potential ecosystem responses to the uncertainty of climate change makes every project an intriguing puzzle. I also enjoy the multi-disciplinary and stakeholder-inclusive aspects of the work, which taken together with the science, make for challenging and satisfying research collaborations.

## *What do you do when not in your lab?*

Read, hike, camp, and play with my 6 year old son

## **How would you describe yourself in 3 words?**

enthusiastic, determined, humorous