

2009 MEDALS & AWARDS

2008 BIGGS AWARD FOR EXCELLENCE IN EARTH SCIENCE TEACHING

Presented to **Laura Guertin**



Laura A. Guertin
Penn State–Brandywine

Citation by Heather Macdonald

Today we honor Laura Guertin, the 2009 recipient of the Biggs Award for Excellence in Earth Science Education, for her outstanding teaching, service, and community leadership. Dr. Guertin, an Associate Professor of Earth Science at Penn State Brandywine, received a B.A. from Bucknell University and a Ph.D. from the University of Miami. Tim Bralower, Head of the Department of Geosciences at Pennsylvania State University writes that “Professor Guertin is a truly brilliant educator at the undergraduate level.”

At Penn State Brandywine, Laura has taught an impressive array of courses: *Planet Earth, The Sea Around Us, Biodiversity and Earth History, Dinosaur Extinctions and Other Controversies, Environment Earth, Environments of Africa, Natural Disasters: Hollywood vs. Reality, Earth System Science for Teachers, World Food Problems, The Role of Knowledge in Society, Critical Issues in Science, Technology, & Society, Civic and Community Engagement, and various First Year Seminars (Careers in Science; Diamonds, Man-Eating Lions of Tsavo, and Environmental Sustainability and Community Service)*. In the classroom, she uses a variety of teaching strategies including collaborative learning approaches, field work utilizing shopping malls and cemeteries, Just-in-Time Teaching (JiTT), and incorporating

technology in the classroom (from Google Earth to handheld technology to online videos and audio files). She has been invited to lead workshops and give presentations on her work with JiTT and wrote a chapter in a new book, *Just-in-Time Teaching (JiTT) Across Disciplines*. In her scholarly endeavors with students, she also uses Twitter and Flickr! Her students write about “her passion for science, enthusiasm for teaching, and her innovative teaching style”, “her willingness to work with [students] outside her classes”, and “her ability to encourage her students to go great things”. In writing about students who transfer to the Penn State University Park campus, Tanya Furman writes that “They all remain in touch with their beloved “Dr. G.”

Laura incorporates creative approaches to service learning such as involving her students in working with Girl Scouts on merit badges, having students make dinosaur-themed educational/toy boxes for children in hospitals, and taking her students to lead science-based activities for Brownie troops. Although she is the only earth science faculty member on her campus, she quickly became a campus leader in part because of her involvement in service learning in her classes and various campus volunteer efforts. She is currently the coordinator of the Jane E. Cooper and Schreyer Honors Programs at Penn State Brandywine and co-chair of an intercollege minor on civic and community engagement for Penn State University. In 2008, she received a Congressional Citation for her efforts in engaging a community of volunteers.

She has a passion for mentoring undergraduate students in their first two years on inquiry-based projects and independent research. She has mentored 28 Penn State undergraduate students on research and honors projects and was instrumental in initiating a campus undergraduate research exposition (EURECA). She is the Chair of the Geosciences Division of the Council on Undergraduate research (the first faculty member from a primarily two-year college to hold this position) and co-leads workshops on various aspects of undergraduate research program. She is currently working on an NSF-funded project, Developing Undergraduate Research at Community Colleges: Tapping the Potential of All Students, with Brent Cejda, University of Nebraska-Lincoln and others.

Laura has developed web resources for *Starting Point*, developed a workshop for teachers in Earth System Science with Tanya Furman, and so much more. She is a Councilor-at-Large in the National

Association of Geoscience Teachers and a member of Project Kaleidoscope’s Faculty for the 21st Century Network (PKAL-F21). She has received many awards. From Penn State Brandywine, these include the Student Government Association Outstanding Service Award, the Student Government Association Most Involved on Campus Award, Club Advisor of the Year, and the Undergraduate Research Mentor Award. In addition, she has received a college-wide Award for Teaching Excellence and the George W. Atherton Award for Excellence in Teaching, Pennsylvania State University (a university-wide teaching award). Today we are delighted to recognize her outstanding contributions with the Biggs Earth Science Teaching Award.

Response by Laura Guertin

I am deeply humbled to be selected as this year’s Biggs Earth Science Teaching Award recipient. It is overwhelming when I think about the significance of this honor. I feel as if the seal has just been broken on an envelope at the Academy Awards, and my name has been announced as the winner. So, in the spirit of the Academy Awards, I have a few people I would like to thank in my acceptance speech. I must begin by thanking Miss Sommerfelt, my fifth grade teacher at Wheeler Elementary School in Plainville, Connecticut. It is in her class I recall engaging in my first science experiment. The class took some radish seeds. The seeds were placed on dry and wet paper towels in Ziplock bags, with some of the bags covered with aluminum foil and some in placed in natural light. I will never forget the amazement I felt when Miss Sommerfelt unwrapped foil-covered Ziplock bag with the radish seeds on the wet paper towels – wow, did those seeds grow! Thank you, Miss Sommerfelt. In eighth grade physical science, Mr. Laskarzewski had us design our own experiments, and a fellow student and I looked at one type of plant and how it grew with various fertilizers in different amounts of light. Thank you, Mr. Laskarzewski, for my first memory of a group project modeled as an independent study. Plainville High School was filled with some dynamite teachers, inspiring me with hands-on experiences and discipline-based fieldtrips. Mrs. DeThomas, thank you for your excitement and passion for chemistry and allowing our class to do creative projects with the periodic table of elements. Miss Ludwig, who would have known that the cemetery explorations we did in your anthropology course would lay the foundation for the

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cemetery work I continue to do with my students today. I thank you for getting me outdoors for my first field project.

I completed my undergraduate education at Bucknell University in Lewisburg, Pennsylvania. Jack Allen, Ed Cotter, and Richard Nickelsen — no one could have asked for a more dynamic group of faculty committed to getting all students in the Valley and Ridge Province for some intense fieldwork. Dr. Cotter, thank you for letting me serve as your teaching assistant in my senior year — another great experience that laid the foundation for where I am today. Dr. Nick, I am honored to have had you in your last semester of teaching at Bucknell before retiring — I'll never forget your passion for explaining structural geology, including the time you stood up on the chair in front of the room and proceeded to act out the motion that occurs at a subduction zone.

When I was accepted to graduate school at the University of Miami's Rosenstiel School of Marine & Atmospheric Science, I was offered a teaching assistantship with the undergraduate geology program. I will now admit publicly that at that time, teaching was the last career path on my mind. I was terrified of getting up in front of people to speak. I seem to have come over that fear, and I thank UM for offering me the opportunity to develop my teaching skills — which, by the way, were enhanced significantly by the

wonderful geosciences education workshops held at GSA meetings over the years and the current On the Cutting Edge workshop series. I don't know where I would be without such fantastic mentors and role models such as Heather Macdonald, Tanya Furman, Cathy Manduca, Barb Tewksbury, Jill Singer, Dave Mogk, and so many others to name. And I have learned so much from the wonderful organizations that support engaged teachers and researchers, such as the Geological Society of America, National Association of Geoscience Teachers, and the Council on Undergraduate Research. But I think I hear the music begin to play and I see the giant hook coming out to drag me off the stage.

There are two additional groups I will quickly thank — first, my students at Penn State Brandywine. Although the administration, staff, and fellow faculty members have been an amazing support network, I am a lone ranger at my campus, faced with many challenges and polite nods when I describe the latest geologic events to colleagues. To the students in my general education courses for non-science majors, thank you for your desire to learn and see how and why geoscience knowledge is important for you to become a scientifically-literate citizen. And to Alyce, Teron, Lindley, Sara, Emily, Paola, Jen, Gina, Shana, Stacey, Leigh Ann, and the many other students that have engaged in undergraduate research projects

with me in the geosciences — even though none of you are geology majors, your passion for engaging in research and presenting and publishing your work is an inspiration to me.

Finally, where would I be without my family. Thank you Mom and Dad for supporting me, even when you were so totally confused when I said I was going to be a geology major in college. Thank you to my brother and sister, thank you to my many personal and professional friends. And most importantly, thank you to my wonderful husband, Dan King, for being as solid as a rock for me during my entire career. Dan is also a pedagogical researcher in chemistry, and it is so nice to have someone to talk to about topics such as the muddiest point, and he knows I'm not talking about the geologic definition of "mud."

So from the Plainville Blue Devils to the Bucknell Bison, to the Miami Hurricanes to the Nittany Lions, thank you to all my teachers and colleagues that have inspired me with their outstanding teaching philosophies and passion for student learning. I only hope that I can and provide the valuable and memorable experiences for my students as you have all done for me. Thank you to all geology faculty with a passion for geoscience education, and thank you Geological Society of America for this great honor.