YOUNG SCIENTIST AWARD (DONATH MEDAL)

Presented to
Katharine W. Huntington

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University of Washington

Citation by Kip V. Hodges

Katharine Huntington, this year's Donath Medalist, is an extraordinary young scientist who works to understand how climatic and deformational processes influence the evolution of mountainous landscapes. Each year the Donath Medal (or Young Scientist Award) honors the accomplishments and promise of the recipient. But, more indirectly, the medalist selection process is an endorsement by the Geological Society of America of *how* the recipient does science.

I intersected with Kate's career arc a few years ago when she elected to come to MIT to work on a Ph.D. project under my supervision in the field of tectonics. We share the belief that this is perhaps the most transdisciplinary field in all of the earth sciences. Continental tectonics is sometimes described as regional structural geology, but it is really much more than that. I think of it as the broader study of the chemical, physical, and thermal evolution of the lithosphere and asthenosphere.

To gain traction in that intellectual domain, you must be a polymath. Yes, observational field geology is key, but equally important are geochemistry, geochronology, geodesy, geomorphology, geophysics, petrology, sedimentology, stratigraphy, and thermochronology. And, of course, data from all those sources must be interpreted in the context of theory, which means that many of the best tectonicists these days are power users – if not developers – of increasingly sophisticated thermal-mechanical models.

From the very beginning of her graduate career, Kate appreciated the need for an expansive view. She learned quickly that the nature of a tectonic problem dictates the approach she must take to address it. Like a good mechanic, she knows that it is unwise to begin a job without the proper tools, and even more unwise to try to use a tool you don't understand. And she knows that sometimes, when the proper tool doesn't exist, you have no choice but to invent it yourself, a process that can sometimes take you far afield from tectonics.

Without doubt, one of the most fascinating developments in the earth sciences over the past decade is the realization of an apparent interdependence of climatic and tectonic processes in orogenic systems. We are stlll far from deciphering the precise nature of this relationship, but the potential ramifications are staggering.

If tectonics is becoming a field in which understanding atmospheric thermodynamics could be as important as understanding structural geology, the cognitive load of tectonics research could be growing exponentially. You can be sure that it will be scientists like Kate who demonstrate the courage to take on that load, even if it means happily accepting dramatic changes in her career trajectory.

This afternoon, Kate will share some of her work with us, but I daresay this talk might be dramatically different if it took place five years from now. That's just the way it is with all the best scientists.

Ladies and gentlemen, join me in welcoming this year's Donath medalist, Katharine Huntington.

Response by Katharine W. Huntington

Thank you Kip, for your kind introduction, and thanks to GSA and Dr. and Mrs. Fred A. Donath for supporting this award.

Dr. Donath is recognized internationally for his great contributions, not only to studies of faulting and experimental rock deformation, but to education, and to advocacy for the role of science in public policy decisions. I am truly honored to receive an award bearing his name.

And I wouldn't have this honor without the efforts of the Awards committee and my nominators, John Eiler, Kip Hodges, Brian Wernicke, Kelin Whipple, Todd Ehlers, and Jay Quade. Thank you.

Growing up with a high school Earth science teacher for a mom, and a poli-sci professor for a dad, I was probably always destined to be a scientist and educator. Although I "rebelled" in college and majored in Economics at UNC Chapel Hill, I came to my senses in an intro Geology course taught by Tim Bralower, and encouraged by Kevin Stewart and Jonathan Lees, I went to MIT to study Himalayan tectonics and erosion with Kip.

Though I'm only half joking when I refer to getting a PhD at MIT as a soul-crushing experience, it's an experience I wouldn't trade for the world. I am grateful to my peers for being curious and generous, and thank both Kip and Kelin Whipple, as well as David Mohrig and Todd Ehlers, for encouraging my curiosity and independence, and for helping me develop my skill for science – from picking good problems, to thinking "big picture," and effectively communicating the results.

After MIT, I switched fields, and field areas, to become a postdoc fellow at Caltech, where I studied clumped isotopes and Colorado Plateau uplift with Brian Wernicke and John Eiler. I think of Caltech as sort of a postdoc heaven—not because spending 19-hours stuck in the basement lab on a Sunday is my idea of heaven—but because of the vibrant postdoc community I got to be a part of there. I thank Brian for encouraging me to try something new, and John for helping to educate a humble tectonicist / geomorphologist / thermochronologist in the ways of stable isotope geochemistry.

In 2008, I joined the University of Washington, where my colleagues and collaborators at UW and beyond have included and supported me to the fullest, my students have challenged me and made me proud, and my peer-mentoring network has helped me find the right path every step of the way. I could not have imagined how rewarding this would turn out to be. I thank ACS-PRF for its support, NSF-Tectonics program CAREER award for giving me license to work on not just research but high school teacher outreach, and NSF-IF for helping me take the plunge on building a lab of my own.

I thank my son for sleeping through the night (at least occasionally) and my husband Geoff—a PhD rocket scientist—for everything from babysitting at a past GSA meeting to giving me the optimism to turn challenges in both science and in life into opportunities.

Finally, thank you all for being here, and thanks again to GSA for this honor.