

## Tuba Özkan-Haller

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My work focuses on the nearshore ocean, the so-called “dirty rim around the bathtub,” where water waves are important to just about anything that happens, contributing to its beauty, enabling recreational activities, and fueling dreams of renewable energy extraction. Waves are a major driver of long-term change to coastlines and of acute damage to cities and towns during storms. Waves also generate currents that are the leading cause for lifeguard rescues (and, unfortunately, also fatalities). So, as much as the nearshore ocean is beautiful and fun, it is also mysterious and dangerous. And I have had a fascination with it, and a healthy respect for it, since I was a child.

My approach to my work involves utilizing theoretical and numerical modeling along with observations from targeted laboratory or field experiments. I feel most satisfied with my work if the theory and modeling can elegantly help bring to light causal relationships and dominant dynamics, which then can help explain complex observations. Recently, I’ve worked on predicting properties of waves as they travel over the complicated bathymetry of the continental shelf, and their potential effect on oxygen cycling, or their interaction with ocean structures. I’ve also been studying surf zone currents generated by waves and the fascinating eddies and rips they form. And I’ve been working on ways to estimate the underlying bathymetry by combining information from remote sensors and skilled numerical models. These methods can potentially help us track beach change during storms when in situ equipment cannot be safely deployed. As part of my job, I also teach several courses and devote a significant amount of time to outreach. I thoroughly enjoy engaging students and the public not only because it might improve (or even save) lives, but also because I find joy in the fact that such engagement helps improve the research itself and the resulting products.

I was fortunate to be part of the first compilation of Women in Oceanography in 2005 when I was an assistant professor. The intervening years brought many adventures, some challenging (like a health issue that took some years to control), and some joyous (like the addition of a third son to our family). Along the way, I learned to balance my time better, to



Tuba and family at her ancestral home, the village of Yörük near Safranbolu, Turkey. “Selfie” courtesy of her oldest son Atlas, while Bora and Korhan laugh, and husband Merrick Haller tries not to squint.

make things that keep me healthy and happy a priority, and to keep the joy in it all. I benefit daily from working with fantastic collaborators who help me remain curious and excited (and I try to stay away from people who don’t). I also benefit from coming home to a supportive spouse, also an academic and an equal partner, and three active boys (now 14, 12, and 7) who keep me on my toes. Every year brings new and different challenges, and I often feel unprepared for them all. But I’ve learned that it is possible to make mistakes and recover from them: I might miss a wave, but there is another not far behind.