

Testimony of Dr. Heather Kaluna

My name is Heather Maria Kaluna, and I am the daughter of Clement Kahele and Cathy Spirz Kaluna. My father and his family originate from a village in Kapoho that was covered during the 1960 Kilauea eruption. My twin brother and I were born and raised in Pahoa. My father was a longtime fisherman, so after our birth, our father took our piko, placed it in a bottle and put it into the ocean. This created a lifelong bond between the us and the ocean. As I child, I watched as Pele came down the pali and made her way through the town of Kalapana. Thus I have a great appreciation for Pele and her presence in my home community.

In 2002, I graduated from Pahoa High School and spent my first semester of college at the University of Hawai'i Manoa in the fall of 2002. After taking a pair of astronomy and physics courses that semester, I immediately fell in love with astronomy decided to pursue the astronomy degree at the University of Hawai'i at Hilo (which was the only place in the islands that offered an undergraduate degree at that time), and transferred the next semester. During my time at UH Hilo, I was an intern for the Panoramic Survey Telescope and Rapid Response System (PanSTARRS) project and was tasked with leading public outreach efforts and educating the community about near-Earth asteroids. In the summer of 2007, I was also an Akamai intern at the University of California, Santa Cruz where I investigated far away galaxies and their companions. I also served as an intern under Dr. Marianne Takamy for the Keaholoa STEM program, and studied the structures of galaxies. The Keaholoa STEM program was designed to provide research and training opportunities for minority students and also educated participants on local cultural perspectives. I received my Bachelors of Arts in Physics and Mathematics in the spring of 2008.

In 2008, I was accepted into the astronomy program at UH Manoa (IfA), where I spent seven years studying water on asteroids and trying to understand a possible source of Earths water. Having such a strong connection to the ocean, I was very passionate about studying the evolution of water in our solar system. As a graduate student I conducted many observations using the UH 2.2m, Subaru, Keck, Gemini and IRTF telescopes. I applied for and utilized time that was appropriated to UH by each of the observatories. I completed my dissertation and received my PhD in 2015. I am now in a post-doctoral fellow at the Hawaii Institute of Geophysics and Planetology. I am working with Paul Lucey on research conducted with the AEOS telescope on Haleakala as well as data collected with NASA's Dawn spacecraft of the asteroids Vesta and Ceres.

My growing relationship with Maunakea

In 2003, I was invited to join a field trip to Maunakea, and it was the first time I went up the mountain. The mountain felt so different from the rest of the island and honestly, made me feel a bit uncomfortable. In 2006, I started volunteering at the Visitor Information Station (VIS) and helped run the nightly star gazing program. During this time, I also spent a lot of time doing community outreach with Gary Fujihara, the IfA Hilo outreach specialist, and learned a lot about the cultural significance of

Maunakea from him. It was then that I truly started to develop a relationship with the mauna, and during my graduate studies, I began to give offerings and prayers at the ahulele behind the VIS. It was during this time that I spent the most my most cherished nights on the summit and really started to feel a special connection to the mauna. Nothing compares to the early morning twilight hours I have spent on the mauna, where I am greeted by the stark beauty and stillness of the mauna.

After I started to spend time on the mountain, my father shared with me his involvement in building the foundation for the Canada France Hawai'i Telescope. He was very proud of my involvement in astronomy and on the mountain. I also have other family members who work on the mountain, one of my cousins currently works for the Subaru Telescope and another is one of the local engineers for the TMT facility.

Hopes

I see Maunakea as a special place that allows us to understand and study our origins. As one's origin and genealogy are critical aspects of Hawaiian culture, I view the pursuit of astronomy on Maunakea to be a beautiful blend of culture and science. To maintain a balance between culture and science, I also believe it important to limit the development of facilities on the mauna. I have never seen as many Native Hawaiians on the mauna as I have when the protests were occurring, and I hope to see these people continue to build a relationship with the mauna and have a more established presence there through a cultural center near Hale Pohaku. When I recently returned home and spent some time at the VIS, I was shocked at the significant increase in the number of people at the visitor's center. The 9,000 ft. elevation is home to some very rare native birds and plants, so I am greatly concerned about the impact that such heavy traffic will have on the mountain's delicate ecosystem.