

Personal Statement

The fire had started overnight, one of the crop of lightning ignitions that had accompanied the spring thunderstorm. As we passed overhead, I pressed myself against the windows of the plane along with the rest of the smokejumpers, straining for a glimpse of the flames. The Twin Otter's engines revved to a high whine and, banking left, we dove toward the ground. Abruptly, I could smell the tang of wood smoke through the open door of the airplane, and felt excitement kindle within me.

My childhood in the Cameroonian town of Ba'Nso was centered on fire: I often ate meals cooked over a fire, learned French and Fulbe (the language of African Fulani nomadic herders) by candlelight, and bathed using cups of water dipped out of a steaming pot. Each year I could judge when the dry season was about to end when I began to smell the smoke. First one family would burn their fields, then another, and then the smoke would mingle with the crisp scent of rain, signaling the advent of the growing season.

When my family moved back to the United States, our home on the Tulalip Bay Indian Reservation was adjacent to the fire department. At sixteen, I began volunteering for the fire department as well as Search & Rescue (SAR). I've long been aware that domestic abuse and violence toward women among my people is the highest of any ethnic group. Yet it wasn't until I began working as an emergency responder that I realized my own community was part of the problem. After gathering suggestions and pamphlets from local women's shelters and crisis lines, I established a program through the fire department to offer resources to give battered women options, which continues to this day.

It was troubling to see how vulnerable the members of my community were, so I began to spend time teaching community education classes on literacy. When I started advanced coursework at the local community college during high school through the Running Start program, I also tutored other students. I devoted ten hours a week to tutoring reading, writing and math throughout high school, developing an appreciation for helping others learn. In 1999, I graduated simultaneously with a high school diploma and an Associate's degree. At Whitman College, I tutored undergraduates and worked in an adult literacy program, and today, I am a peer mentor with UC Berkeley. Tutoring and mentoring has been one of the most rewarding parts of my academic career.

When, after sixteen months of international fire research through a prestigious Watson Fellowship, I returned to the United States, and I knew that I wanted to gain more experience teaching before starting my graduate work. I was especially interested in working with students from underserved areas. Despite this expectation, it was shocking to see how ill-equipped most of the students at Pasadena City College were to study science. I was the first faculty member to integrate Writing and Mathematics Across the Curriculum programs into my classroom, and continue to lead the way in my department's efforts to improve math and English literacy.

I begin each semester with a review of basic science concepts. The glazed eyes and nodding heads that initially met this review goaded me to develop new course material, integrating PowerPoint presentations, class discussions, videos, and case studies into my curriculum. Employing my own field research, I seek to arm students with the theoretical framework and methodological tools necessary to become successful researchers. As I work with underprivileged students on simple scientific experiments, I'm alternately

excited and astonished by the clarity and originality of their ideas. Ultimately, my experiences in teaching and tutoring have inspired my interest in pursuing a graduate degree.

I was only 19 the first time I jumped out of a plane into a wildland fire. Despite my age, I was already an Incident Commander (IC) for the USFS. As IC, I was responsible for every aspect of incident response, from determining objectives, to managing all fire operations, so I was expected to be an experienced leader. As the youngest, smallest woman to ever jump a fire, there was considerable pressure on me, but I already was a veteran firefighter with considerable leadership experience.

I became involved in student government after I became concerned about safety hazards on campus. After I'd been promoted to Team Leader with SAR and won a paid Firefighter position, I joined first the Health & Safety committee, then became a student senator. After being elected ASB President, my Executive Council developed a proposal that led to a multi-million dollar grant to renovate the community college's science department. After graduating in 1999, I continued my leadership development through working as Hotshot/Lead medic. I found working as a wildland firefighter to be as intense and demanding as it was satisfying, but was increasingly curious about what determined whether fire was "good" for a particular area or not. That fall I was chosen to undergo training to become an Incident Commander and soon became a Smokejumper.

In 2003, I won a Watson fellowship during which I followed the fire season through nine countries over sixteen months. I found no easy ways to categorize fires as "good" or "bad". Instead, it appeared that the impact of a fire on an ecosystem was strongly mediated by many factors, including fire frequency, length, extent, and intensity. While many ecosystems need fire to maintain their characteristic ecosystem structure, too much, too little, or the wrong kind of fire can have disastrous impacts, not only on vulnerable ecosystems, but also people whose lives and livelihoods depend on the land.

Working on the Global Fire Assessment afforded me a unique opportunity to assess these threats. Over one year, first as a fire ecologist for the Nature Conservancy and then as a visiting scholar at UC Berkeley, I assessed fire regime alteration around the world. Working collaboratively with Dr. Max Moritz, I concluded that over 84% had altered fire regimes. I designed and organized three global experts' meetings in California, Indonesia, and Chile, to review and further refine our data, and have been asked to speak at conferences in as far-flung places such as Cuba and Portugal. My fluency in French and working knowledge of Spanish has greatly enhanced the quality of these interactions.

Since beginning graduate school, my research interests have remained focused on the physical parameters of fire regimes. Next year I hope to study the impact of climate on fire-related land degradation in Ghana, providing some of the first quantitative measurements of fire regime characteristics in West Africa. It will provide scientists data linking fire and climate change, which may help them identify other vulnerable areas.

Traditional West African landowners, such as the subsistence farmers in Ba'Nso and the Fulani nomadic herders whose livelihoods are tied up in the complex relationships linking fire and land arability, have a vital interest in the results of this research. I intend engage key stakeholders in the research, training my team in basic research techniques with the support of Dr. Kwesi Orgle and the University of Ghana. Eventually, we will present our results as a team acknowledging all contributors as co-authors.