

In the winter of my first year in college, I was at a crossroads. I am the first person in my family to go to college, and I planned to go to dental school after I graduated. However, during my freshman year, I was diagnosed with a neurological disorder which causes my hands to shake uncontrollably -- there is no real cure. I was looking out my window, wondering about the direction my life would take. Outside, I saw a peculiar bird struggling to walk down an embankment covered in snow. I sat there, watching this unfamiliar bird struggle and wondered, "What is that thing?" This question led to hours of online research, drawing sketches, and thumbing through bird guides. I found that it was an American Woodcock, but during my research I started reading about population decline and other conservation issues that these birds face. I was so engrossed and excited that it came to me -- this is what I should be doing. My diagnosis forced me to re-evaluate what I wanted to do with my life and think about where my passions lay.

During high school, I was not particularly interested in academics. Instead of going to college, like most of my peers, I joined the United States Air Force and served for six years as a combat medic and dental hygienist. During the last two years of my Air Force career, I was also the preceptor and head instructor for an American Red Cross dental assistant training program. I held positions such as Vice President of the Airman's Council and editor of my squadron's newsletter. After my honorable discharge as a Staff Sergeant, I went on to work in a public health dental clinic and mobile dental van for over three years as a dental assistant.

My years in the Air Force gave me many opportunities to assume leadership roles and be involved in my community. For example, after I earned "Distinguished Graduate" honors from the Air Force Leadership School, I was immediately appointed as Non-Commissioned Officer-in-Charge (NCOIC) to manage the 55th Dental Squadron's Aerospace Dentistry unit. The mission of this unit was to ensure that high-priority members of the Strategic Command, one of the most important commands in the military, were dentally cleared for duty. After assuming this role, my management approaches to meeting this goal resulted in a 99.5% readiness rate, more than 4% over the Air Force average. My success in this program directly led to my being awarded the Air Force Commendation Medal upon my discharge, an award rarely given to junior level non-commissioned officers.

During the same time frame, I volunteered and was selected to develop and run an American Red Cross dental assistant training program which taught me great organizational skills and enabled me to serve the local community. This free six-month program provided training for unskilled adults so that they would be able to find rewarding and well-paying jobs to support themselves and their families. In my role as preceptor and head instructor, I interviewed and selected students, wrote curriculum, and taught on many topics, such as blood-borne pathogens, introductory human anatomy, and dental terminology. I also developed contacts with local dental offices in order to help find employment for my students once they graduated. During my two years of overseeing the program, over twenty students received the practical job skills they needed to find work. Since the program included on-the-job training, the dental clinic also benefited from it, because the students provided extra man power that allowed more flexibility with the clinical staff and increased public access to care.

After leaving the military, my job working in a public health clinic increased my community involvement in many ways. I helped write numerous policies to increase access to care for uninsured children, migrant farm workers, and HIV positive patients in the Ryan White CARE program in my local community. I regularly volunteered to work overtime to ensure that these at-risk patients were enrolled in our programs and received treatment. I worked on a mobile

dental van to treat the rural poor in Northeast Connecticut and immobile patients in nursing homes who would not otherwise have gotten care. In addition, I volunteered annually to give presentations and demonstrations of proper oral hygiene techniques at local elementary schools in support of Children's Dental Health Month. This effort involved creating lesson plans, teaching, and distributing donated toothbrushes, floss, and toothpaste to the school children.

Though my career goals have changed dramatically as a result of my medical condition, the experience I gained in the dental field has directly benefited my research and education. My military experience fostered the personal qualities I needed for strong academic performance, which in turn opened the door to an opportunity to join Dr. Margaret Rubega's ornithology lab, supported on an NSF REU grant. My work on her NSF-funded project on invasive birds led to the development of my own research on monk parakeets (*Myiopsitta monachus*). As a result, I won several undergraduate scholarships and awards, including the Barry M. Goldwater Scholarship, which encouraged me to continue developing my ideas and my graduate school plans.

Having gained such support and recognition, I am determined to continue to give back. As an undergraduate student, I worked as a writing tutor. Using the concepts I learned in Leadership School in the Air Force, I've developed practical teaching methods that help me better communicate with my younger peers and help them excel. I have started a website (www.eeb.uconn.edu/people/burgio) with the goal of educating the public about my research and encouraging citizen science involvement in my research. I have also spoken to local elementary and high school teachers about developing curriculum using my research and monk parakeets for creative writing and science classes. Another goal of my website is to provide a platform to distribute lesson plans for teachers and promote student involvement in collecting data for my research as a way of introducing a younger generation to science.

I am interested in educating the broader community, and serve as an active member of a local bird watching group, the New Haven Bird Club (NHBC). Through this organization, I co-lead walks that educate the local community about avian biodiversity in different neighborhoods and involve touring local areas, detecting bird species, and discussing their biology and specific habitat needs. Recently, I gave an educational presentation in New Haven for the general public, affected local businesses, and animal rights activists about monk parakeets, the current issues surrounding them, how members of the audience could take part in my research, and how this research may contribute to a solution to these issues.

My career goals are now focused on becoming a university professor in biology. I want to conduct research in ecology, physiology, and behavior, focusing on questions that also have significance for avian conservation. I aim to continue to be involved in uniting various stakeholders and developing cooperative solutions to conservation issues. I believe that conservation cannot happen in a scientific bell jar without the support and involvement of the general public, particularly the neighborhoods and people most locally affected. I will continue public outreach, working with local businesses and involving students while conducting my research. With a National Science Foundation fellowship, I would have the financial support and time to devote to these plans, thereby fostering an enthusiasm for, and understanding of, science within my community, while conducting research that is integral to the understanding of avian physiology. I once planned on being involved in my community by providing dental care and outreach, but, due to my neurological disorder, I have found new way to have a positive impact on my community while doing something about which I am truly passionate.