Personal History Statement

Xurxo Rigueira Diaz — *Civil, Environmental and Sustainable Engineering*
xrigueira.github.io — *December 8, 2022*

The last five years of my life have been the most demanding, but also very rewarding. Drawn by the search for new challenges, in 2016, I decided to apply for a scholarship that would allow me to study my senior year as an undergraduate student in the United States, where my interest in research first sparked. After such a life-changing experience, I returned home to give the graduation speech and went back to school to pursue my master's degree. Once I graduated, I worked as an engineer for a consulting firm. But, knowing something was missing, I decided to go back to campus, where I started doing research, wrote a few papers, attended two international conferences, worked with outstanding people, and finally found my purpose and motivation to pursue my doctoral studies.

I decided to study Mining and Energy Engineering because I always wanted to learn how to make the most of the natural resources available while harming the environment as little as possible. With this focus in mind, I finished the first and second year of general engineering classes. As a junior student, I became familiar with renewable energy sources and responsible mining methods before majoring in Environmental Engineering during my time in California as a senior student. Already in my master's degree, I enrolled in five classes about computer-based numeric simulation and swiftly developed my programming skills due to my interest in computing. At the engineering firm, I noticed that continuous learning and bigger challenges keep my mind awake and sharp, and I knew I could get that in academia, so I reached back to a few professors.

Back on campus, life in the lab was all I expected: learning about state-of-the-art problems and collaborating with excellent people. After my first two research projects, one on Bayesian networks and the other one on computer vision, the opportunity to put together my interest in how to improve our understanding of the environment and computing came around. The research goals during this time proved to be challenging, however, this created great conditions for me to grow not only as a researcher but also as a person. If I had to point out three of the main attributes that helped me endure and succeed, these would be my strong initiative, a deep interest in what I do, and my resilience. This last skill is something I picked up mainly during my years as a triathlete when I had to train for several hours seven days a week. It sure was not easy, and it might have hurt my grades during my first years of undergraduate education, but it also shaped me into the relentless person I am today.

Research in Environmental Science has given me the tools to understand how the natural world behaves and use this information to solve the issues our societies face. This realization was preceded by the joy I found in teaching and helping younger students. Sharing the knowledge I had acquired to make someone's life a little better feels like the right thing to do.

These two main factors made me decide to pursue a Ph.D. in Civil, Environmental and Sustainable Engineering and a career in academia. My thirst for new knowledge is quenched with research in this field, allowing me to share what I learn without any kind of discrimination or barriers. Therefore, I look forward to being part of the outstanding Civil, Environmental and Sustainable Engineering Ph.D. program at Arizona State University, where I can continue to grow as a researcher, help others to learn, and give more back to the community.