

MY JOURNEY TO BECOMING A SCIENTIST

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Choosing the Path of Science

I grew up on a small farm located in the countryside of Santa Catarina, in the south of Brazil. Although my parents have few conditions to finance my academic education, I was always dedicated to studying, because I saw it as an opportunity to grow and develop myself as a person and also as a professional. For that reason, all my elementary and high school education was accomplished in a public school. I clearly remember when I joined the first research project during high school. It was a study on renewable energy sources, in which my group studied the benefits of anaerobic digestion for the small farmer's communities. I was amazed by this technology and it grew in me an immense desire to know more about this topic and, maybe, dedicate my profession to it!



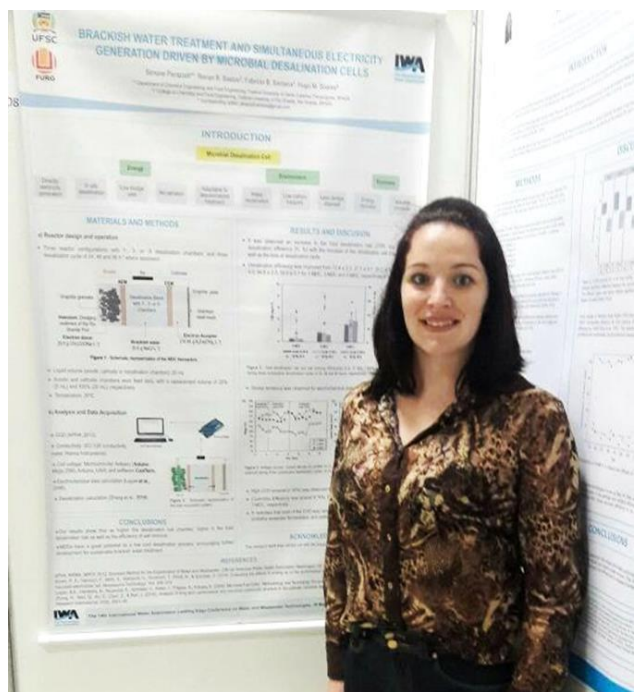
My biggest dream was always to attend University Education, however, at the time (in 2005), it was very difficult to do it, mainly due to the geographical distance as well as my family's economic situation. To turn it possible, I got a job in a local factory, seeing it as a chance to give continuity to my studies. The work was hard and demanded a lot of physical effort, due to the nature of the activities. After one year, I finally joined the university, by studying Sanitary and Environmental Engineering at the University of the West of Santa Catarina. I had a great affinity for the course proposal, mainly due to the possibility of creating solutions to preserve environmental resources, improving the wellbeing's life quality. The first 2 years were arduous, as I had to divide my time between studies, which demanded a lot of dedication and work, which was essential so that I could pay the university fees.

The good influences

In 2010, I was awarded a full scholarship by the PROUNI Program, which is an initiative of the Brazilian government that offers scholarships to private colleges for low-income students. At that time, I had the opportunity to join the Scientific Initiation fellowship, mentored by Prof. Dr Estela Nunes, nowadays, Researcher at the Brazilian Agricultural Research Corporation (Embrapa), a Brazilian company dedicated to developing high quality scientific research.

With this opportunity, I was able to discover my aptitude for research and a real sense for all the effort undertaken for all those years. Prof. Estela was, without a doubt, the main responsible for awakening this feeling, and she was able to show her students that the world is much bigger than a small countryside village, opening new horizons and possibilities and always encouraging us to follow our dreams. Although the resources are scarce to finance research projects, I was fortunate to reach interesting results during my fellowship by being awarded as the best poster in the session of biotechnology during the International Conference "Agriculture for Life, Life for Agriculture" in Bucharest, Romania, 2012. At that moment I had no more doubts about my aptitude for research and my future as a Scientist and Researcher was already outlined!

Following that, I got an internship at Embrapa Swine and Poultry, where I had the opportunity to work with Dr Márcio Busi and Dr Melissa Mezzari. I learned a lot from them, and, without a doubt, we did a great job, with meaningful publications in the field of renewable energy generation through microalgae biomass obtained from phycoremediation of swine wastewater. The study was part of an interinstitutional macro project, coordinated by Prof. Dr Hugo Soares from the Federal University of Santa Catarina, who further became my advisor during the master, doctorate, and postdoctoral.



The main accomplishments

I was always passionate about discovering and better understanding the life origins and how living systems are organized. Due to it, all the research I have been involved in is related to understanding the behavior of living organisms and their importance in our planet, mainly when it comes to the development of innovative biotechnological approaches for resources biorecovery. I obtained my PhD in 2018 and undertook research on the development of biofuel cells to treat effluents, generate bioelectricity and use this energy in situ do desalinate water. During my doctorate, I discovered a new passion related to software development and I had the opportunity to apply Big Data technologies to automate my lab experiments. Thus, it was possible to develop a computational tool to monitor and process data generated in bioreactors in real-time, benefiting the maintenance of such systems.

The desire to associate both biotechnology and computer fields drove me to start a Postdoc in mathematical modeling of biological processes through parallel computing tools. This decision was based on a strong feeling that I could do more for our society by associating my scientific skills with digital transformation, collaborating in the protection of the environment, and building a more sustainable planet. Nowadays I am truly fortunate to invest my working time in the development of digital transformation projects aiming to improve research in the field of environmental biotechnology, through continuous improvement and optimization of these processes.

Suggestions for young women who have already pursued a career in science

By relating my journey to become a scientist, the message I want to share with all the readers, especially the young women and future scientists is: We can do whatever we want, since we focus on it, being resilient and patient. And the scientific community support is the strongest and powerful tool that helps and drives us to make our dreams come true!