



Olivia Carolina Narciso
Pedro
2014 AWARD Fellow

“My research career was new in our country so career progression has been slow, but I saw that I could grow faster in teaching”

Position	Lecturer and Researcher
Institution	Eduardo Mondlane University
Country	Mozambique
PhD	Veterinary Medicine and Sciences, Environmental Toxicology, Norwegian School of Veterinary Science, 2013
Mentor	Professor José Manuel Fafetine, Lecturer and Researcher, Veterinary Faculty, Eduardo Mondlane University,
Research Area	Use of molecular and chemical methods as tools to evaluate aquatic pollution in Mozambique, focusing on cyanobacteria and their toxins in freshwater used for drinking.

Olivia Carolina Narciso Pedro was born in the Mozambican coastal city of Inhambane in a family of eight. Her father, a strict teacher, emphasized the importance of education in the household. “All of us have studied to the university level,” says Pedro. At first, she had wanted to study human medicine but was convinced by her to take up veterinary medicine. She obtained her bachelor’s degree at Eduardo Mondlane University and did her practical training at the university’s Biotechnology Center (CB-UEM), where she was introduced to molecular biology techniques. “We didn’t have molecular biology practices in the curriculum,” says Pedro. With encouragement from the faculty dean, Luís Neves, Pedro learned the new techniques, finishing her laboratory studies within three months, allowing her to write and submit her research report within the recommended period.

In 2005, Pedro began her MSc studies at Tras-Os- Montes and Alto Douro University in Portugal, where she studied the management of wildlife and conservation of its genetic resources. She completed her coursework and returned to her country, but did not complete the thesis as her supervisor fell ill. During the same period, she got an opportunity to pursue a PhD in Environmental Toxicology in Norway. “I was excited about the opportunity and opted to go for the five-year course,” she says. However, Pedro faced challenges at the beginning of the course. “It was so difficult! I was struggling to understand English,” says Pedro, whose first language is Portuguese. She acknowledges the support of her lecturers and fellow students in helping her overcome the language barrier.

Pedro felt the need to monitor the presence of cyanobacteria in drinking water as high levels of the toxins can lead to health complications such as cancer, gastrointestinal, and respiratory problems. “I realized that there was little knowledge on cyanobacterial toxins in Mozambique. The

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AWARD is a career-development program that equips top women agricultural scientists across sub-Saharan Africa to accelerate agricultural gains by strengthening their research and leadership skills through tailored fellowships. AWARD is a catalyst for innovations with high potential to contribute to the prosperity and well-being of African smallholder farmers, most of whom are women.

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results of my research showed that some areas had high levels of toxins, about 44 times above the level recommended by the World Health Organization,” she says. “Some water treatment plants are not efficient in removing the toxins after they are released into the water,” she notes. Pedro’s continued research currently involves testing for toxins in drinking water immediately before and after treatment to assess whether cyanobacteria were eliminated during the treatment process. This research involves collecting and analyzing water samples from different parts of the country, including Gaza, Inhambane, Manica, Nampula, and Zambezia.

“Water quality is very important to livelihoods—a lack of quality water can have an impact on health and the economy,” says Pedro, explaining the importance of this research. “When these toxins (cyanobacteria) are present in a body of water, it can form a bloom and release toxins on the surface and affect public health, agriculture and tourism,” she adds. Pedro’s career goal is to improve the livelihoods of rural and urban communities by improving their water quality. In future, she would like to work with rural smallholder farmers to create awareness of cyanotoxins. “I want to educate them on the risks they are exposed to and how to avoid the intoxication,” she says.

Upon completion of her PhD in 2013, Pedro was offered a teaching position at the university, which she combined with her research work at the Biotechnology Center. “My research career was new in our country so career progression has been slow, but I saw that I could grow faster in teaching,” she explains.

Pedro hopes the AWARD courses will help her boost her confidence, leadership, and science writing skills as a basis for career development. “Sometimes it is difficult to translate and transfer what I know to others,” she says. “I would like to gain these skills to succeed in my work.” Pedro, who derives satisfaction from achieving her goals, plans to enhance the capacity of the team she leads in the Biotechnology Center through training young researchers on environmental toxicology.