

Fellowship Profile

IAEA PROGRAMS
AT ARGONNE NATIONAL LABORATORY

Marine Environment & Coastal Zone Management

TRAINING SUMMARY

I participated in a training program at the University of Wisconsin - Superior that was geared towards learning, understanding and performing basic techniques with Microplastic Analysis. The training included sample collection of different matrices of interest, microplastic identification and quantification, chemical and spectroscopic analysis techniques, and data analysis and interpretation.

I successfully accomplished understanding, and performing identification and quantification of suspected microplastics through chemical and spectroscopic techniques. I learned the proper collection technique of beach sand samples using quadrats, and used a manta collection technique for discrete water samples. I was also able to do analysis and interpretation of data via spectral libraries available on the instrumentation used, as well as through free libraries and derivative spectroscopy.



WHATS NEXT?

Based on the knowledge and experience gained within the past three months of training, I believe my country is now at a level capable of establishing or starting to establish a long-term microplastic monitoring program. Given that there has not been any such data generated for the country regarding microplastic pollution abundance, this is quite crucial. It would also be a great opportunity for our students here at the University of Belize who are involved in thesis research projects, to become engaged in and contribute to the acquisition of such important data. Training sessions with these students, faculty, staff, as well as stakeholders such as our Department of the Environment, in these basic techniques for microplastic analysis will help make this possible.



"These IAEA fellowship programs are an extraordinary opportunity to find yourself faced with – so much knowledge and valuable connections just waiting to be gained. You are not only made a better scientist for yourself, but also for your country and its efforts in advancements for a more secure and sustainable future."

Chelsea Herrera- Belize

September 25th - December 12th 2023

Hosted by: University of Wisconsin