A Young Scientist on a Journey of Discovery

Dear JEQ Readers,

Last year, I wrote to you about a young and gifted scientist, Maria Elena Grimmett, of Palm Beach Gardens, FL, who published her second sole-author paper in *Journal of Environmental Quality*. The paper, titled “Adsorption of Sulfamethazine from Environmentally Relevant Aqueous Matrices onto Hypercrosslinked Adsorbent MN250,” reports her findings on a remediation method that removes sulfamethazine, a widely used livestock antibiotic that contaminates groundwater. In this paper, Maria Elena describes how organic matter, pH, and ionic strength affect the equilibrium and kinetic chemistry of the interaction between sulfamethazine and the adsorbent. This is important because these are the key environmental variables that affect adsorption reactions involved in pollutant remediation.

The membrane she used to remove sulfamethazine can be reused, applied at scale, and implemented using delivery systems already in place for treating drinking water. The remarkable part of this story is that Maria Elena is a 17-year-old high school student.

Maria Elena first became interested in water contamination as a grade-school student. She started reading about the topic and eventually began conducting chemistry experiments in her family’s dining room. She corresponded with authors of the scientific papers she was reading and gained more understanding of the research topic. This curiosity, hard work, and perseverance paid off with her first scientific publication in JEQ in 2013, when she was only 14 years old. She continued on her journey of discovery by attending scientific meetings to eventually make 14 oral and poster presentations of her research. In November 2015, she attended her second ASA, CSSA, SSSA Annual Meeting, in Minneapolis, where she presented a poster in the SSSA session “Environmental Fate and Resistance of Antibiotics, Herbicides, and Pesticides.”

On 8 Dec. 2015, Maria Elena was awarded a $100,000 Grand Prize scholarship for her significant research in the Siemens Competition in Math, Science & Technology, the premier science competition for high school students. Her project was selected as the best from nearly 1800 student submissions. Maria Elena adds this prestigious award to her numerous other honors and awards from competing in science and engineering fairs and scientific societies.

At a time when many quail at the magnitude of environmental challenges we face in the world today, I am encouraged and filled with hope by Maria Elena’s scientific curiosity and drive to find solutions to the problem of water pollution. I congratulate her on winning an important scholarship, knowing it will support further research and education to help her make further discoveries. May many other bright young people join her in the pursuit of a better understanding of, and solutions to, the environmental challenges we so urgently need to address.

Ed Gregorich
Editor, *Journal of Environmental Quality*