



NAME: MARIA ELENA GRIMMETT

SCHOOL: Oxbridge Academy of the Palm Beaches, West Palm Beach, Fla.

YEAR: Senior

HOMETOWN: Jupiter, Fla.

PROJECT: Adsorption of Sulfamethazine from Environmentally Relevant Aqueous Matrices onto Hypercrosslinked Adsorbent MN250

FIELD: Environmental Science

MENTOR: Dr. Hui Li, Associate Professor of Environmental and Soil Chemistry, Michigan State University

“For me, science has always been about the excitement of discovering something new.”

Maria Elena Grimmert’s research found a new method to remove sulfamethazine from water using small plastic beads. Sulfamethazine is the most commonly used veterinary antibiotic to promote both the health and growth of livestock. However, the antibiotic commonly contaminates surface and groundwater, enters the human food chain, and causes both soil and aquatic ecosystem damage. Maria Elena’s beads can be reused, applied at scale, and implemented using delivery systems already in place for treating drinking water.

Maria Elena first became interested in her topic because she wanted to know why her well water was brown. That year, she performed a science project on removing fulvic and humic acids, or color, from water, using three different anion exchange resins. She presented this research at the 2009 Palm Beach County Science Fair where she saw another student’s project describing pharmaceutical contamination of the Florida Everglades, which steered her to her current research on sulfamethazine.

Maria Elena anticipates majoring in engineering in college, and her favorite course right now is computer science. She is also a member of her school’s weekly Computer Science Club. Maria Elena believes computer modeling and programming skills will prove useful in any scientific or engineering discipline.

Outside of the classroom, Maria Elena is a mural artist and Art Club teacher’s assistant at the Weiss Elementary School. In this capacity, she paints murals in the school hallways and helps students with art projects. She also plays clarinet and is a member of her school’s fencing club. In January 2013, she became the youngest author to publish original research in the 43-year history of the Journal of Environmental Quality.

Maria Elena believes that in order to encourage more students to pursue STEM, elementary school science teachers need to make science fun and hands-on.