

Studying Space & Snakes!

From kidney stones in space to poisonous reptiles on the ground, Megan Corn's research activities have an air of danger about them.

Sparked by a summer internship, Corn spent three years researching kidney stones in astronauts at the University of Washington. Due to the challenging environment in orbit, astronauts often have an increase in the concentration of calcium in their blood as well as a general decrease in water intake. If an astronaut develops a kidney stone, which is a possible result of these changes in their health, their mission is immediately terminated and they have to return to Earth as soon as possible. Corn's research helped lead to the development of an "organ on a chip" that serves as a

micro-physiological system in the body. This system "enables the proliferation of cells that mirror those in the human body better than previous two-dimensional systems." The goal is to keep astronauts healthy and functioning for longer periods in space.

Corn's study of reptiles began after becoming intrigued by the subject in her Genetics class. Her current research at Cal Poly San Luis Obispo has focused on epigenetic (physical characteristic) changes in rattlesnakes. "These have not been researched before and are important to know for their adaptation and evolution."

Her other reptile research looks at the effects of a hotter climate. "We keep lizards in varying climates in the lab setting for an extended period of time. Then the lizards are put through heat trials where they are heated to their critical maximum (when they are unable to flip themselves over if placed on their back). The temperatures only vary by one or two degrees Celsius, so we are testing at what point they will begin to go extinct as the California desert temperatures increase every year."



One of the lab snakes at Cal Poly San Luis Obispo

Beyond her research in astronaut logistics and desert creatures, what Corn really aspires to be is an OB-GYN. "Ever since I was a child I would say I want to be a baby doctor." After spending this fall studying in Seville, Spain to improve her language skills, she hopes to practice in an area where her Spanish can aid in her patient care. Her love for science and helping people will someday combine to help people bring new life into the world.



Megan retrieving frozen kidney stone samples

Megan Corn
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Can this lizard survive as California's deserts get hotter?

"I am most passionate about continuously learning and pursuing my dream of practicing medicine."