



Summer Fellows Study Environmental Exposure Effects

Risk Science Fellowships provide summer stipend support for students from the School of Public Health (SPH) and are meant to enhance the education and training in the environmental risk sciences and prepare public health students to pursue careers in the field of risk analysis. The 2008 recipients, Jackie Gaydos and Rosa Roman Gomez, share a common interest in the effects of environmental exposures to chemicals. Both are graduate students in toxicology within the Environmental Health Sciences department at the SPH. The results of their summer fellowship work were presented at a recent Risk Science seminar at the SPH.

Ms. Gaydos conducted her research in the lab of Assistant Professor Nil Basu and is co-advised by Professor Al Franzblau. “The link between chemicals or pollution and disease is intriguing to me,” says Ms. Gaydos. “I chose to study toxicology because it applies biochemical and cell biology research to health issues arising from environmental exposures.” As an Allen Park, MI native with an undergraduate degree from U-M in cellular and molecular biology, Ms. Gaydos found the strong toxicology program in EHS to be a natural choice for graduate school. Her summer fellowship project provides the basis for her doctoral studies and focused on the influence of genetic polymorphisms on low level mercury exposure and toxicity in dental professionals.





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“By using diverse methods, we seek to find single nucleotide polymorphisms that may predict increased susceptibility to mercury toxicity and to elucidate the mechanisms behind the toxic effects,” states Professor Basu, “The fellowship support provided by UMRSC furthered Jackie’s training in many key areas of risk science.”

Professor Craig Harris, adviser to Ms. Gomez, is a long-time researcher focused on mammalian developmental toxicology and attempts to elucidate biochemical mechanisms of teratogenesis. “In the current funding environment, the Risk Science Center summer fellowship was invaluable in



providing support for Rosa at a critical stage of our research,” says Professor Harris. Ms. Gomez’s research on the *Redox Profile Alteration in Rat Conceptus as a Marker of Toxic Exposure* seeks to determine whether changes in the redox conditions in microcompartments within the rat conceptus serve as an indication or a marker for toxic exposure capable of disrupting signaling

pathways. “My work will focus on creating a profile of the changes that occur after a particular chemical exposure,” explains Ms. Gomez. “Hopefully, with these profiles and the measurement of other endpoints in the embryo morphology after exposure we can create a model for the risk of toxic outcome after chemical exposure in the embryo.”

The next Risk Science Center Fellowship call for proposals will be released in October and is open to graduate students with an adviser with a faculty appointment in an SPH department. For more information, visit our website at www.umriskcenter.org.