Two veterinary students at Oklahoma State University's Center for Veterinary Health Sciences were authors on a scientific paper that was published recently in BMC Genomics.

Tisha Posey (Class of 2008) and Heidi Stricker (Class of 2009) were part of a research team that included graduate students Tingting Weng, Zhongming Chen, Narendranath R. Chintagari, Pengcheng Wang, and Nili Jin, and the director of the Veterinary Center's Lung Biology and Toxicology Laboratory (Laboratory), Dr. Lin Liu.

The study, "Arsenic, Cancer and Animal Health and Welfare," examined global gene expression in response to arsenic treatment. Arsenic is a carcinogen that is known to induce cell transformation and tumor formation. It can cause lung , skin, bladder, and kidney cancers. They set out to research the hypothesis that arsenic alters gene expression leading to carcinogenesis in the lung.

Findings show that the altered gene expression is a direct result of arsenic exposure. Analysis links several of the identified genes with functions that include cell growth, cell differentiation and cell metabolism.

"This is a huge accomplishment considering that Tisha and Heidi managed to do this as full-time veterinary students," says Dr. Michael Lorenz, dean and professor of the Veterinary Center. "Information gained from this work is valuable for the direction of future research involving arsenic toxicity and lung cancer formation."

Tisha received a Veterinary Student Fellowship from the Morris Animal Foundation for this work. The fellowship allowed her to spend the summer of 2006 in the Laboratory for research. Prior to that, Tisha participated in the National Institutes of Health Summer Research Program at the Veterinary Center, which allowed her to spend the summer of 2005 in the Laboratory as well.

The Oklahoma State Center for Veterinary Health Sciences is one of 28 veterinary colleges in the United States and is fully accredited by the Council on Education of the American Veterinary Medical Association. For more information, visit http://www.cvhs.okstate.edu .