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**Hamner Scientists Receive Multiple Awards at the Society of Toxicology 48<sup>th</sup> Annual Meeting & ToxExpo™**  
*Hamner Researchers Recognized for their Contributions to Toxicology and Risk Assessment*

RESEARCH TRIANGLE PARK, N.C. – Multiple scientists at The Hamner Institutes for Health Sciences (The Hamner) were recently recognized at the Society of Toxicology (SOT) 48<sup>th</sup> Annual Meeting and ToxExpo for their contributions to the toxicology and risk assessment. Dr. Russell Thomas, Director of The Hamner Center for Genomic Biology and Bioinformatics, received the 2009 Achievement Award for his contributions in bringing high data content, high throughput transformational research approaches to toxicology and applying these methods in a risk assessment context. Dr. Thomas uses high throughput methodologies to more quickly obtain detailed information about how chemicals cause toxicity in the body and may lead to the reduced use of animals in testing.

Jingqi Fu, Hamner Predoctoral Fellow, received the Carl C. Smith Award for Meritorious Research sponsored by the Mechanisms Specialty Section. His project investigates the link between arsenic, a potentially deadly chemical, and Type 2 diabetes. Recent studies have shown that there is a correlation between low level arsenic exposure and the risk of developing Type 2 diabetes in the U.S. Mr. Fu's research suggests that exposure to low levels of arsenic does not kill the cells that secrete insulin, but interferes with their ability to secrete insulin. Ultimately, this work may advance preventive measures and treatment strategies for arsenic or other environmentally -induced diabetes.

Two publications by Hamner scientists received Best Paper 2009 awards by the Risk Assessment Specialty Section. Drs. Melvin Andersen, Harvey Clewell, Russell Thomas and colleagues received Best Paper Advancing the Science of Risk Assessment for the publication entitled, "Genomic signatures and dose-dependent transitions in nasal epithelial responses to inhaled formaldehyde in the rat." High doses of formaldehyde are known to cause tumors in animal models. Dr. Andersen and colleagues utilized high throughput methodologies developed at The Hamner to show that low levels of formaldehyde do not have the same cancer-causing effects on cells as high doses by measuring changes in gene expression. These studies demonstrate that high throughput tools can allow regulators to make better decisions on the safety of chemicals by providing low dose effects data that more closely resemble exposures seen in the real world.

Dr. Julia Kimbell and colleagues received Best Paper Demonstrating the Application of Risk Assessment for the paper entitled, "Modeling approaches for estimating the dosimetry of inhaled toxicants in children." The modeling efforts in this study address the need to adapt existing models of the movement of particles and gases in the respiratory system for children. More advanced modeling of toxicant deposition and interaction in respiratory airways is required to take into account the anatomy and physiology of children. Researchers were able to identify child-adult dosimetry differences in respiratory tract regions that may have implications for children's vulnerability to inhaled toxicants.

**Related Links:**

[www.thehamner.org](http://www.thehamner.org)

**About the Hamner Institutes for Health Sciences:**

The Hamner Institutes for Health Sciences is a nonprofit research organization strategically located on a 56-acre campus in the heart of Research Triangle Park, North Carolina. For 35 years, scientists at The Hamner have conducted preeminent research in environmental health sciences and chemical risk assessment. Built upon an integrated systems-biology platform, The Hamner has broadened its mission to include translational research in biopharmaceutical safety, metabolic disorders, and oncology. The site also includes an Accelerator, which houses emerging companies and provides opportunities to develop collaborative research and educational programs with academia, industry, and government. The Hamner model for translational research and technology development integrates innovative science with business development while capitalizing on academic and industry partnerships. The Hamner supports the discovery of new, safer drugs and formation of new companies, which leads to research-based public health policy and enhanced economic development. For more information, visit [www.thehamner.org](http://www.thehamner.org) or call (919) 558-1200.

**Keywords:**

The Hamner Institutes for Health Sciences, Research Triangle Park, RTP, Society of Toxicology, SOT, Melvin Andersen Ph.D., Harvey Clewell Ph.D., Jingqi Fu, Julia Kimbell Ph.D., Russell Thomas Ph.D., Toxicology, Risk Assessment, Center for Genomic Biology and Bioinformatics, High Throughput, Arsenic, Type 2 Diabetes, Beta Cell Function, Genomic, Inhalation Toxicology, Dosimetry

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