

## E. Spencer Williams

Environmental Health Science Program  
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**Research Interests:** Risk assessment, toxicology, occupational health, regulatory policy

### 1. Professional Preparation

2003-2005	Post-doctoral Research Fellow	University of Michigan
2003	Ph.D., Toxicology	Texas A&M University
1996	B.A., Biology (Chemistry minor)	Texas A&M University

### 2. Professional History

2012-present	Research Assistant Professor, Baylor University (Waco, TX)
2010-present	Visiting Scholar, Texas A&M University Health Science Center
2009-2012	Assistant Research Scientist, Baylor University (Waco, TX)
2005-2009	Health Scientist, ChemRisk Inc. (Houston, TX)

### 3. Publications

#### 3.1 Refereed Articles

22. **Williams, E.S.**, Mahler, B.J., and P. C. Van Metre. In review. Cancer Risk from Incidental Ingestion Exposures to PAHs Associated with Coal-Tar-Sealed Pavement. In press, *Environmental Science and Technology*.

21. Mahler, B.J., Van Metre, P.C., Crane, J.L., Watts, A.W., Scoggins, M., and **E.S. Williams**. 2012. Coal Tar-Based Pavement Sealcoat and PAHs: Implications for the Environment, Human Health, and Stormwater Management. *Environmental Science and Technology* 46(6):3039-3045.

20. **Williams, E.S.**, Mahler, B.J., and P.C. Van Metre. 2012. Coal Tar Pavement Sealants Might Substantially Increase Children's PAH Exposures. *Environmental Pollution* 164:40-41.

19. **Williams, E.S.**, Wilson, E., and K. S. Ramos. 2012. NF- $\kappa$ B and Matrix-Dependent Regulation of Osteopontin Promoter Activity in Allylamine-Activated Vascular Smooth Muscle Cells. *Oxidative Medicine and Cellular Longevity* 2012:496540.

18. Berninger, J.P., **Williams, E.S.**, and B.W. Brooks. 2011. An Initial Probabilistic Hazard Assessment of Oil Dispersants Approved by the United States National Contingency Plan. *Environmental Toxicology and Chemistry* 30(7):1704-1708.
17. **Williams, E.S.**, Berninger, J.P., and B.W. Brooks. 2011. Application of Chemical Toxicity Distributions to Ecotoxicology Data Requirements Under REACH. *Environmental Toxicology and Chemistry* 30(8):1943-1954.
16. **Williams, E.S.\***, Kreider, M.L. 2010. Interpreting REACH Guidance in the Determination of the Derived No Effect Level (DNEL). *Regulatory Toxicology and Pharmacology* 58(2):323-29. \* Joint first authors.
15. **Williams, E. S.**, Panko, J., and D. J. Paustenbach. 2009. The European Union's REACH Regulation: A Review of Its History and Requirements. *Critical Reviews in Toxicology* 39(7):553-575.
14. Scott, L. L. F., Staskal, D. F., **Williams, E. S.**, Luksemburg, W. J., Urban, J. D., Nguyen, L., Haws, L. C., Birnbaum, L. S., Paustenbach, D. J., and M. A. Harris. 2009. Levels of Polychlorinated Dibenzo-p-dioxins, Dibenzofurans, and Biphenyls in Southern Mississippi Catfish and Estimation of Potential Health Risks. *Chemosphere* 74:1002-1010.
13. Staskal, D. F., Scott, L. L. F., Haws, L. C., Luksemburg, W. J., Birnbaum, L. S., Urban, J. D., **Williams, E. S.**, Paustenbach, D. J., and M. A. Harris. 2008. Assessment of Diphenyl Ether Exposures and Health Risks Associated with Consumption of Southern Mississippi Catfish. *Environmental Science and Technology* 42:6755-6761.
12. Haws, L.C., J. A. Tachovsky, **E.S. Williams**, L.L.F. Scott, D. J. Paustenbach, and M.A. Harris. 2008. Assessment of the Potential Human Health Risks Posed by Benzene Beverages. *Journal of Food Science* 73(4):T33-41.
11. Wells, M., and **E. S. Williams**. 2008. The Transgenic Mouse Assay as an Alternative Test Method for Regulatory Carcinogenicity Studies – Implications for REACH. *Regulatory Toxicology and Pharmacology* 53(2):150-155.
10. Scott, P.K., Unice, K.M., **Williams, E. S.**, and J. Panko. 2007. Statistical Evaluation of Metal Concentrations as a Method for Identifying World Trade Center Dust in Buildings. *Environmental Forensics* 8(4):301-311.
9. Ferriby, L.L., **Williams, E.S.**, Luksemburg, W.J., Paustenbach, D.J., Haws, L.C., Birnbaum, L.S., and M.A. Harris. 2006. Comparing PCDDs, PCDFs, and Dioxin-like PCBs in Farm-raised and Wild-caught Catfish from Southern Mississippi. *Organohalogen Compounds* 68:612-615.

8. Ferriby, L.L., **Williams, E.S.**, Luksemburg, W.J., Paustenbach, D.J., Haws, L.C., Birnbaum, L.S., and M.A. Harris. 2006. Comparing Polychlorinated Biphenyls in Farm-raised and Wild-caught Catfish from Southern Mississippi. *Organohalogen Compounds* 68:2527-2530.
7. Paustenbach, D.J., Harris, M.A., Ferriby, L.L., **Williams, E.S.**, Haws, L.C., Unice, K.M., and P.K. Scott. 2006. Development of PCDD/F TEQ Serum Reference Values for the U.S. Population for Use in Evaluating Biomonitoring Results. *Organohalogen Compounds* 68:480-483.
6. Staskal, D.F., Ferriby, L.L., **Williams, E.S.**, Luksemburg, W.J., Haws, L.C., Birnbaum, L.S., Paustenbach, D.J., and M. A. Harris. 2006. Polybrominated Diphenyl Ethers in Southern Mississippi Catfish. *Organohalogen Compounds* 68:1839-1842.
5. Neiger, J.D., Crow, T.Y., Partridge, C.R., **Williams, E.S.**, Chao, J.T., Ramos, K.S., Meininger, G.A., and E. Wilson. 2005. Modulation of  $\alpha_4$  Integrin mRNA Levels is Coupled to Deficits in Vasomotor Function in Rat Arterioles by Allylamine. *Life Sciences* 76:1895-1905.
4. Partridge, C.R., **Williams, E.S.**, Barhoumi, R., Tadesse, M., Johnson, C.D., Lu, K.P., Meininger, G.A., Wilson, E., and K.S. Ramos. 2005. Novel Genomic Targets in Oxidant-Induced Vascular Injury. *Journal of Molecular and Cellular Cardiology* 38(6):983-96.
3. Chao, J.T., Meininger, G.A., Patterson, J.L., Jones, S.A., Partridge, C.R., Neiger, J.D., **Williams, E.S.**, Kaufman, S.J., Ramos, K.S., and E. Wilson. 2004. Regulation of  $\alpha_7$  Integrin Expression in Vascular Smooth Muscle by Injury-Induced Atherosclerosis. *American Journal of Physiology: Heart and Circulatory Physiology* 287(1):H381-9.
2. Moorthy, B., Miller, K.P., Jiang, W., **Williams, E.S.**, Kondraganti, S.R., and K.S. Ramos. 2003. Role of Cytochrome P4501B1 in Benzo[a]pyrene Bio-activation to DNA-binding Metabolites in Mouse Vascular Smooth Muscle Cells: Evidence from  $^{32}\text{P}$ -postlabeling for Formation of 3-hydroxybenzo[a]pyrene and Benzo[a]pyrene-3,6-quinone as Major Proximate Genotoxic Intermediates. *Journal of Pharmacology and Experimental Therapeutics* 305(1): 394-401.
1. Wilson, E., Parrish, A.R., Bral, C.M., **Williams, E.S.**, and K.S. Ramos. 2002. Collagen Suppresses the Proliferative Phenotype of Allylamine-Injured Vascular Smooth Muscle Cells. *Atherosclerosis* 162: 289-97.

### 3.2 In Preparation

**Williams, E.S.**, Berninger, J., Subedi, B., Aguilar, L., Dekar, M., Usenko, U., and B.W. Brooks. Delineation of the Aquatic Food Web at the San Jacinto River Waste Pits Superfund Site in August 2010. In preparation

**Williams, E.S.**, Berninger, J., Subedi, B., Aguilar, L., Usenko, U., and B.W. Brooks. Food Web-Specific Patterns of Bioaccumulation for Polychlorinated Dioxins, Furans, and Biphenyls at the San Jacinto River Waste Pits Superfund Site. In preparation

Calvillo, S.J., **Williams, E.S.**, and B. W. Brooks. Mitigation of Environmental and Human Health Risks through Street Sweeping: A Technological Comparison. In preparation.

Connors, K.A., **Williams, E.S.**, and B.W. Brooks. Towards the Advancement of “Read-Across”: A Critical Examination of Approaches for Leveraging Information in Environmental Applications. In preparation.

### **3.3 Book Chapters**

3. **Williams, E. S.**, and B. W. Brooks. 2012. Human Health Risk Assessment for Pharmaceuticals in the Environment: Existing Practice, Uncertainty, and Future Directions. In Brooks BW, Huggett DB (Eds), Human Pharmaceuticals in the Environment: Current and Future Perspectives. Springer, New York, NY. pp. 164-224.

2. Ramos, K.S., and **E.S. Williams**. 2008. Vascular Toxicology: A Cellular and Molecular Perspective. In Acosta D (Ed), Cardiovascular Toxicology. CRC Press, Boca Raton, FL.

1. **Williams, E.S.**, A.D. Phelka, D.E. Ray, and M.A. Philbert. 2004. Acute Energy Deprivation Syndromes in Astrocytes. In Aschner M, Costa L (Eds), The Role of Glia in Neurotoxicity, pp. 237-49 Eds. Michael Aschner, Lucio Costa. CRC Press, Boca Raton, FL. pp. 237-50

## **4. Presentations**

### **4.1 Platform Presentations**

“The Relevance of Coal Tar-Based Asphalt Sealants to Workplace Exposures to Polycyclic Aromatic Hydrocarbons.” Invited Presentation at the University of Texas School of Public Health in Houston, Texas. June 29, 2012.

“Polycyclic Aromatic Hydrocarbons and Human Health.” Invited Presentation at the University of Connecticut. November 18, 2011.

“REACH: Registration, Evaluation, Authorization (and Restriction) of Chemicals.” Invited presentation to the US Army Corps of Engineers Engineer Research and Development Corporation, Webinar, November 18, 2010.

“Comparison of Ecohazard Values Derived from Chemical Toxicity Distributions with Higher-Tier, Substance-Specific PNECs Developed According to REACH.” Platform Presentation, SETAC North America Meeting, Portland, OR. November 7-11, 2010.

“Application of Chemical Toxicity Distributions in Regulatory Ecotoxicology.” Platform Presentation, SETAC North America Meeting, New Orleans, LA. November 19-23, 2009.

“An Introduction to REACH”. Cooperative Webinar with Fulbright & Jaworski, Webinar, June 29, 2008

“REACH: Update on CSR and Info Requirements”. Invited Presentation, US Department of State and US Mission to the EU, Webinar, June 24, 2008

“Regulation of Substances in Commercial Articles Under REACH”. Invited Presentation and co-organizer, American Industrial Hygienists Association Annual Conference, Minneapolis, MN, June 2, 2008.

“REACH: Registration, Evaluation, Authorization (and Restriction) of Chemicals.”. Invited Presentation, Fulbright and Jaworski Environmental Law Update Seminar, Four Seasons Hotel, Houston, TX, May 6, 2008.

“REACH Implementation Projects: Guidance for Industry and Regulatory Authorities.” Information Session REACH – Implementation, Chemical Safety, and Information Requirements (Co-Chair), Society of Toxicology National meeting, Seattle, WA, March 2008.

“Toxicology Issues Arising from REACH.” Invited Presentation, US Department of Commerce and US Department of State, Marriott Hotel, Trenton, NJ, November 13, 2007.

“Toxicology and REACH: Risk Assessment, Data, and Substance Identification.” Invited Presentation, US Department of Commerce and US Department of State, Webinar, October 25, 2007.

“REACH: A Primer for Toxicologists”. Continuing Education Course REACH: A New Framework for the Regulation of Chemicals (Co-Chair), Society of Toxicology National meeting, Charlotte, NC, March 2007.

“Toxicology Issues Arising from REACH.” Invited Presentation, US Department of Commerce and US Department of State, Federal Reserve Building, Houston, TX, June 2007.

“Testing Requirements Under REACH.” Invited Presentation, Midwest Research Institute, Kansas City, MO, July 2007.

“NF- $\kappa$ B Dysregulation in Atherosclerotic Vascular Smooth Muscle Cells: Complex Composition and Redox Sensitivity.” (Platform Presentation) Society of Toxicology National Meeting, Salt Lake City, UT, March 2003.

“Matrix-Dependent Alterations in Rel Protein Expression and NF- $\kappa$ B Activity After Oxidative Injury.” (Platform Presentation) Society of Toxicology National Meeting, Nashville, TN, March 2002.

“Oxidative Injury Modulates NF- $\kappa$ B Activity and Function”. (Platform Presentation) American Heart Association First Conference on Arteriosclerosis, Thrombosis, and Vascular Biology, Denver CO, May 2000.

“Oxidative Injury Modulates Extracellular Matrix-Regulated NF $\kappa$ B Binding Activity in Vascular Smooth Muscle Cells.” (Poster Discussion) Society of Toxicology National Meeting, Philadelphia, PA, March 2000.

#### **4.2. Poster Presentations**

Subedi B, **Williams ES**, Berninger J, Aguilar L, Brooks BW, Usenko S. San Jacinto River Waste Pits, Texas, Part-2: Polychlorinated-dioxins, Furans, and Biphenyls in Fish, Crabs, and Clams. Poster presentation, SETAC North America, Long Beach CA, November 2012.

**Williams ES**, Berninger J, Subedi B, Aguilar L, Dekar M, Usenko S, Brooks BW. San Jacinto River Waste Pits, Texas, Part-3: Delineation of the Aquatic Food Web of the Site. Poster presentation, SETAC North America, Long Beach CA, November 2012.

**Williams ES**, Berninger J, Subedi B, Aguilar L, Usenko S, Brooks BW. San Jacinto River Waste Pits, Texas, Part-4: Food web-specific patterns of bioaccumulation for polychlorinated dioxins, furans, and biphenyls. Poster presentation, SETAC North America, Long Beach CA, November 2012.

**Williams, ES**. Human Health and Pharmaceuticals in the Environment: A Review of Existing Practices. Poster presentation, SETAC North America meeting, Boston, MA. November 13-17, 2011.

**Williams ES**, Mahler BJ, Van Metre P. An Analysis of Human Health Risks Arising from Exposure to PAHs Adjacent to Coal Tar Sealed Asphalt Parking Lots. Poster presentation, SETAC North America meeting, Boston, MA. November 13-17, 2011.

Connors KA, **Williams ES**, Brooks BW. Towards the Advancement of “Read-Across”: A Critical Examination of Approaches for Leveraging Information in Environmental Applications. Poster Presentation, SETAC North America Meeting, Portland, OR. November 7-11, 2010.

**Williams ES**, Mahler BJ, Van Metre P. House Dust-Mediated Exposures Related to Sealed Parking Lots May Exceed Dietary Intakes in Children. Poster presentation, Society of Toxicology annual meeting in Washington, DC, March 8, 2011.

**Williams ES**, Berninger J, Brooks BW. Chemical Toxicity Distributions and the Threshold of Ecotoxicologic Concern in the Context of REACH. Poster Presentation, SETAC Europe Meeting, Seville, Spain (presented by J. Berninger). May 23-27, 2010.

Berninger JP, Brooks BW, **Williams ES**. An Initial Probabilistic Ecological Hazard Assessment of Oil Spill Dispersants and Surface Cleaning Agents Approved for Use by the US EPA. Poster Presentation, SETAC North America Meeting, Portland, OR. November 7-11, 2010.

Connors KA, **Williams ES**, Brooks BW. Towards the Advancement of “Read-Across”: A Critical Examination of Approaches for Leveraging Information in Environmental Applications. Poster Presentation, SETAC North America Meeting, Portland, OR. November 7-11, 2010.

**Williams ES**, Berninger J, Brooks BW. Application of Chemical Toxicity Distributions in Regulatory Ecotoxicology. Platform Presentation, SETAC North America Meeting, New Orleans, LA. November 19-23, 2009.

Tachovsky, J.A., L.C. Haws, L.L.F Scott, **E.S. Williams**, M. Harris. Benzene in Soft Drinks and Other Beverages: Do Measured Levels Pose a Human Health Risk? Presented at the Society for Risk Analysis’ Annual Meeting, San Antonio, TX, December 9-12, 2007.

Staskal, D.F., L.L.F. Scott, **E.S. Williams**, W.J. Luksemburg, L.C. Haws, L.S. Birnbaum, L.M. Nguyen, D.J. Paustenbach, M.A. Harris. Daily intake estimates of PBDEs associated with consumption of catfish in the U.S. Presented at the Fourth International Workshop on Brominated Flame Retardants. April 24-27, 2007. Amsterdam, the Netherlands

**Williams, E.S.**, L.L. Ferriby, L.C. Haws, D.J. Paustenbach, M.A. Harris. Assessment of Potential Human Health Risks Posed by Benzene in a Commercial Beverage. Presented at the Society of Toxicology National Meeting Charlotte, NC, March 2007.

Nguyen, L., D. Staskal, **E.S. Williams**, W. Luksemburg, L. Haws, L. Birnbaum, D.J. Paustenbach, M.A. Harris. Dietary Intake of PBDEs Based on Consumption of Catfish in Southern Mississippi. Presented at the Society of Toxicology National Meeting, Charlotte, NC, March 2007.

Ferriby, L.L., **E.S. Williams**, W.J. Luksemburg, D.J. Paustenbach, L.C. Haws, L.S. Birnbaum, M.A. Harris. Comparing PCDDs, PCDFs, and dioxin-like PCBs in farm-raised and wild-caught catfish from Southern Mississippi. Presented at the 26th International Symposium on Halogenated Environmental Organic Pollutants and POPs, Oslo, Norway, August 21-25, 2006.

Ferriby, L.L., **E.S. Williams**, W.J. Luksemburg, D.J. Paustenbach, L.C. Haws, L.S. Birnbaum, M.A. Harris. Comparing polychlorinated biphenyls in farm-raised and wild-caught catfish from Southern Mississippi. Presented at the 26th International Symposium on Halogenated Environmental Organic Pollutants and POPs, Oslo, Norway, August 21-25, 2006.

Staskal, D.F., L.L. Ferriby, **E.S. Williams**, W.J. Luksemburg, L.C. Haws, L.S. Birnbaum, D.J. Paustenbach, M.A. Harris. Polybrominated diphenyl ethers in southern Mississippi catfish. Presented at the 26th International Symposium on Halogenated Environmental Organic Pollutants and POPs, Oslo, Norway, August 21-25, 2006.

Paustenbach, D.J., M.A. Harris, L.L. Ferriby, **E.S. Williams**, L.C. Haws, K.M. Unice, P.K. Scott. Development of PCDD/F TEQ serum reference values for the U.S. population using results from the 2001-2002 National Health and Nutrition Examination Survey (NHANES). Presented at the 26th International Symposium on Halogenated Environmental Organic Pollutants and POPs, Oslo, Norway, August 21-25, 2006.

**Williams, E.S.**, E. Wilson, K.S. Ramos. Altered Profiles of Promoter-Specific NF- $\kappa$ B DNA Binding Activity in Oxidant-Induced Atherogenic Vascular Smooth Muscle Cell Phenotypes. Presented at the Arteriosclerosis, Thrombosis, and Vascular Biology National Meeting, Washington, DC, May 2003.

**Williams, E.S.**, E. Wilson, K.S. Ramos. NF- $\kappa$ B Dysregulation in Atherosclerotic Vascular Smooth Muscle Cells: Complex Composition and Redox Sensitivity. Presented at the Society of Toxicology National Meeting, Salt Lake City, UT, March 2003.

**Williams, E.S.**, A. Ridall, E. Wilson, K.S. Ramos. Matrix-Dependent Alterations in Rel Protein Expression and NF- $\kappa$ B Activity After Oxidative Injury. Presented at the Society of Toxicology National Meeting, Nashville, TN, March 2002.

**Williams, E.S.**, A. Ridall, E. Wilson, K.S. Ramos. Oxidative Injury Modulates NF- $\kappa$ B Function in Vascular Smooth Muscle Cells in a Matrix-Dependent Manner. Presented at



the Arteriosclerosis, Thrombosis, and Vascular Biology Meeting, Broomfield, CO, May 2000.

Partridge, C.R., E. Wilson, G. Meininger, **E.S. Williams**, K.S. Ramos. Altered Expression of Osteopontin, Alpha-1 Integrin Subunit, and Alpha-Smooth Muscle Actin in Vascular Tissue in Response to Oxidative Injury. Presented at the Society of Toxicology National meeting, Nashville, TN, March 2000.

**Williams, E.S.**, E. Wilson, K.S. Ramos. Oxidative Injury Modulates Extracellular Matrix-Regulated NF-kB Binding Activity in Vascular Smooth Muscle Cells. Presented at the Society of Toxicology National Meeting, Philadelphia, PA, March 2000.

## **5. Teaching Experience**

### **5.1 Instructor of Record**

- ENV 3314: Introduction to Environmental Health (undergraduate). Fall 2012. Co-instructor: Erica D. Bruce.
- ENV 5302: Foundations of Environmental Health Science (required for MPH – CHE students). Fall 2012. Co-instructor: Bryan W. Brooks.

### **5.2 Guest Lectures in Graduate and Undergraduate Courses**

- Publishing Scientific Research. September 22, 2011. ENV43C1 Environmental Capstone. Baylor University.
- An Introduction to Human Health Risk Assessment. April 27, 2011. VIBS 670 Basic Environmental Toxicology. Texas A&M University School of Rural Public Health.
- Cancer: A Disease of Modern Societies? April 12, 2011. ENV 3100 Seminar in Environmental Health Science. Baylor University.
- Chemical Safety and the Law. April 5, 2011. ENV 4344 Fundamentals of Toxicology. Baylor University.
- Chemical Safety and the Law. April 5, 2011. ENV 3100 Seminar in Environmental Health Science. Baylor University.
- Risk Assessment in the Real World. March 1, 2011. ENV 3100 Seminar in Environmental Health Science. Baylor University.

- Kidney Toxicology. February 16, 2011. VIBS 670 Basic Environmental Toxicology. Texas A&M University.
- Dust Exposures and Human Health. February 15, 2011. ENV 3100 Seminar in Environmental Health Science. Baylor University.
- Metabolic Enzymes. February 15, 2011. ENV 4344 Fundamentals of Toxicology. Baylor University.
- Liver Toxicology. February 9, 2011. VIBS 670 Basic Environmental Toxicology. Texas A&M University.
- Sound Science in Environmental Health Practice. January 18, 2011. ENV 3100 Seminar in Environmental Health Science. Baylor University.
- Invitation to Excellence Undergraduate Recruitment Program for High Ability Students (faculty facilitator). October 30, 2010. Baylor University.
- Chemical Carcinogenesis. October 21, 2010. ENV 5302, Foundations of Environmental Health Science Baylor University.
- Bioaccumulation and Risk Assessment. October 19, 2010. ENV 5342 Ecological Risk Assessment, Baylor University.
- An Introduction to Human Health Risk Assessment. December 1, 2009. VIBS 670 Basic Environmental Toxicology, Texas A&M University.
- Chemical Carcinogenesis. February 26, 2009. ENV 5302, Foundations of Environmental Health Science, Baylor University.

## 6. Grantsmanship

Defining Biota-Sediment Accumulation Factors for the San Jacinto River Waste Pits, Texas. PIs: BW Brooks, E Bruce, S Usenko, **ES Williams**. Funded by Texas Environmental Health Institute and Texas Commission on Environmental Quality, 2009-2012. Award: \$250,000.

La salud humana y la presencia de cianobacterias tóxicas del género *Cylindrospermopsis* en cuerpos de agua del Estado de Veracruz. ¿Cuál es el riesgo? PIs: O Lind, L. Davalos-

Lind, John Berry, **ES Williams**, et al.; collaborative effort between Baylor University, Florida International University, University of Washington-Seattle, and Universidad Veracruzana. Awarded: 14,566,986 pesos (approximately \$1,133,000 USD).

The Relevance of Coal Tar-Based Asphalt Sealants to Workplace Exposures to Polycyclic Aromatic Hydrocarbons. PI: **ES Williams**. Funded by the Southwest Center for Occupational and Environmental Health under the NIOSH Pilot Project Research Training Program, 2010-2012. Award: \$10,000.

Hazard, Exposure, and Risk Assessment for Cleaning Product Ingredients. PIs: M Ciarlo (EA Engineering, Science, and Technology), **ES Williams**, BW Brooks (Baylor University). Funded by the American Cleaning Institute. 2012-2015. Award: \$428,701.

Addressing Lead Exposure Awareness for Vulnerable Populations in McLennan County. PIs: El Doyle, BW Brooks, **ES Williams** (Baylor University). Funded by the Environmental Protection Agency, 2012-2013. Award: \$25,602.

## **7. Service**

### **7.1 Peer-Review**

Integrated Environmental Assessment and Management  
Science of the Total Environment  
Risk Analysis  
Toxicogenomics

### **7.2 Scientific Leadership**

Founding Steering Committee Member and Co-chair, Society of Environmental Toxicology and Chemistry Human Health Advisory Group

## **8. Affiliations**

Associate Member, Society of Toxicology  
Member, Society for Environmental Toxicology and Chemistry