BIOGRAPHICAL SKETCH

NAME: David James Thomas **POSITION TITLE: Research Toxicologist**

EDUCATION/TRAINING

Institution	Degree	Year	Field of Study
Trinity College, Duke University University of Rochester School of Medicine and Dentistry	B.S. Ph.D.	1972 1978	Zoology Toxicology

PROFESSIONAL EXPERIENCE: Postdoctoral Fellow, Department of Neurology and Department of Pathology, University of North Carolina School of Medicine – 1977-1980; Assistant Laboratory Director, Lead Poisoning Clinic, The Kennedy Institute, Baltimore, Maryland - 1980-1986; Research Associate, Department of Environmental Health Sciences, School of Hygiene and Public Health, Johns Hopkins University - 1980-1984; Research Associate, Environmental Sciences, The Kennedy Institute - 1982-1986; Assistant Professor, Department of Pediatrics, School of Medicine, Johns Hopkins University - 1984-1986; Assistant Professor, Department of Pediatrics, University of Nebraska Medical Center - 1986-1991; Research Toxicologist, Pharmacokinetics Branch, Experimental Toxicology Division, National Health and Environmental Effects Research Laboratory -1991

PROFESSIONAL SOCIETIES: American Society for Biochemistry and Molecular Biology, Society of Toxicology

SELECTED AWARDS AND HONORS: U. S. EPA Science and Technology Achievement Award - Level III – 1996; U. S. EPA Science and Technology Achievement Award - Honorable Mention – 1999; U. S. EPA Science and Technology Achievement Award – Level II – 2006; U. S. EPA Science and Technology Achievement Award – Level III – 2006

INVITED LECTURES/SYMPOSIA: Speaker, Arsenic in New England Conference, 2002, Manchester, NH; Speaker, Laboratory of Pharmacology, National Institute of Environmental Health Sciences, 2003, Research Triangle Park, NC; Speaker, U.S. Environmental Protection Agency Region 10 Genomics Seminar Series, 2003, Seattle, WA.; Speaker, Society of Toxicology Annual Meeting, Workshop on Arsenic Methylation, 2004, Baltimore, MD.; Speaker, Federation of American Societies of Experimental Biology Annual Meeting, Symposium on Selenium, 2004, Washington, DC

Speaker, Curriculum in Toxicology, University of North Carolina at Chapel Hill, 2004, Chapel Hill, NC; Speaker, Epidemiology Program, RTI International, 2005, Research Triangle Park, NC; Speaker, Center in Molecular Toxicology, Vanderbilt University, 2005, Nashville, TN; Speaker, Rhode Island IDeA Network of Biomedical Research Excellence Summer Meeting, University of Rhode Island, 2005, Kingston, RI; Speaker, Technical Review Workgroup for Metals and Asbestos Annual Meeting, 2005, Safety Harbor, FL; Speaker, American Chemical Society National Meeting, 2006, San Francisco

ASSISTANCE/LEADERSHIP PROVIDED TO THE SCIENTIFIC COMMUNITY:
Member, Editorial Board, Toxicology and Applied Pharmacology, 2002- ; Member, Editorial Advisory Board, Chemical Research in Toxicology, 2006

ASSISTANCE/LEADERSHIP PROVIDED TO THE AGENCY: Served as NHEERL lead on arsenic/multiple modes of action team for revision of Human Health Multiyear Plan; Served as NHEERL lead of arsenic team for revision of Drinking Water Multiyear Plan

PUBLICATIONS: (since 2003)

Walton, F.S., Waters, S.B, Jolley, S.L., LeCluyse, E.L., Thomas, D.J., and Styblo, M.: Selenium compounds modulate activity of recombinant rat As^{III} methyltransferase and methylation of arsenite by rat and human hepatocytes. Chem. Res. Toxicol. **16**: 261-265, 2003.
Drobna, Z., Jaspers, I., Thomas, D.J. and Styblo, M.: Differential activation of AP-1 in human bladder epithelial cells by inorganic and methylated arsenicals. FASEB Journal **17**: 67-69, 2003.
Abernathy, C.O., Thomas, D.J., and Calderon, R.L.: Health effects and risk assessment of arsenic. J. Nutr. **133**: 1536-1538, 2003.
Hughes, M.F., Kenyon, E.M., Edwards, B.C., Mitchell, C.T., Del Razo, L.M., and Thomas, D.J.: Accumulation and metabolism of arsenic in mice after repeated oral administration of arsenate. Toxicol. Appl. Pharmacol. **191**: 202-210, 2003.
Waters, S.B., Styblo, M., and Thomas, D.J.: Endogenous reductants support the catalytic function of recombinant rat cyt19, an arsenic methyltransferase. Chem. Res. Toxicol. **17**: 404-409, 2004.
Calderon, R.L., Abernathy, C.O., and Thomas, D.J.: Consequences of acute and chronic arsenic exposure. Ped. Annals **33**: 461-466, 2004.
Thomas, D.J., Waters, S.B., and Styblo, M.: Elucidating the pathway for arsenic methylation. Toxicol. Appl. Pharmacol. **198**:319-326, 2004.
Drobna, Z., Waters, S.B., Walton, F.S., LeCluyse, E.L., Thomas, D.J., and Styblo, M.: Interindividual variation in the metabolism of arsenic in cultured primary human hepatocytes. Toxicol. Appl. Pharmacol. **201**:166-177, 2004.
Devesa, V., Del Razo, L.M., Adair B. Drobna, Z., Waters S.B., Hughes, M.F, Styblo, M., and, Thomas, D.J.: Comprehensive analysis of arsenic metabolites by pH-specific hydride generation atomic absorption spectrometry. J. Anal. At. Spectrom. **19**, 1460 - 1467, 2004.
Waters S.B, Devesa, V., Fricke, M., Creed, J., Styblo, M., and, Thomas, D.J.: Glutathione modulates recombinant rat arsenic (+3 oxidation state) methyltransferase-catalyzed formation of trimethylarsine oxide and trimethylarsine. Chem. Res. Toxicol., **17**, 1621-1629, 2004.
Li, J., Waters, S.B., Drobna, Z., Devesa, V., Styblo, M., and Thomas, D.J.: Arsenic (+3 oxidation state) methyltransferase and the inorganic arsenic methylation phenotype. Toxicol. Appl. Pharmacol. **204**, 164–169, 2005.
Drobna, Z., Waters, S.B., Devesa, V., Harmon, A.W., Thomas, D.J., Styblo, M.: Metabolism and toxicity of arsenic in human urothelial cells expressing rat arsenic (+3 oxidation state) methyltransferase. Toxicol. Appl. Pharmacol. **207**, 147-159, 2005.
Hughes, M.F., Devesa, V., Adair B.M., Styblo, M., Kenyon, E.M., and Thomas, D.J.: Tissue dosimetry, metabolism and excretion of pentavalent and trivalent monomethylated arsenic in mice after oral administration. Toxicol. Appl. Pharmacol. **208**: 186-197, 2005.
Adair, B.M., Waters, S.B., Devesa, V., Drobna, Z., Styblo, M., and Thomas, D.J.: Commonalities in metabolism of arsenicals. Environ. Chem. **2**: 161-166, 2005.
Conklin, S.D., Ackerman, A.H., Fricke, M.W., Creed, P.A., Creed, J.T., Kohan, M.J., Herbin-Davis, K., and Thomas, D.J.: In vitro biotransformation of an arsenosugar by mouse anaerobic cecal microflora and cecal tissue examined using IC-ICP-MS and LC-ESI-MS/MS. The Analyst **131**: 648–655, 2006.
Adair, B.M., Hudgens, E.E, Calderon, R.L., Thomas, D.J.: Total arsenic concentrations in toenails quantified by two techniques provide a useful biomarker of chronic arsenic exposure in drinking water. Environ. Res. **101**: 213-220, 2006.
Devesa, V., Adair, B.M., Liu, J., Waalkes, M.P., Diwan, B.A., Styblo, M., Thomas, D.J.: Arsenicals in maternal and fetal mouse tissues after gestational exposure to arsenite. Toxicology **224**: 147–155, 2006.
Drobna, Z., Xing, W., Thomas, D.J., Styblo, M.: shRNA silencing of AS3MT expression minimizes arsenic methylation. Chem. Res. Toxicol. **19**: 894-898. (DOI: 10.1021/tx060076u) 2006.
Thomas, D.J., Li, J., Waters, S.B., Xing, W., Adair, B.M., Drobna, Z., Devesa, V., Styblo, M.: Arsenic (+3 oxidation state) methyltransferase and the methylation of arsenicals. Exp. Biol. Med. **232**: 3-13, 2007.
Fomenko, D.E., Xing, W., Thomas, D.J., Gladyshev, V.N.: Large-scale identification of catalytic redox-active cysteines by detecting sporadic cysteine/selenocysteine pairs in homologous sequences. Science **315**: 387-389, 2007.
Paul, D.S., Harmon, A.W., Devesa, V., Thomas, D.J., Styblo, M. Molecular mechanisms of diabetogenic effects of arsenic: Inhibition of insulin signaling by arsenite and methylarsonous acid. Environ. Health Perspect. **115**: 734-742, 2007.
Thomas, D.J.: Molecular processes in cellular arsenic metabolism. Available online February 23, 2007, doi:10.1016/j.taap.2007.02.007, Toxicology and Applied Pharmacology.

Adair, B.M., Moore, T., Conklin, S.D., Creed, J.T., Wolf, D.C., Thomas, D.J.: Tissue distribution and urinary excretion of dimethylated arsenic and its metabolites in dimethylarsinic acid- or arsenate-treated rats. Available online May 10, 2007, doi: 10.1016/j.taap.2007.04.012, Toxicology and Applied Pharmacology.