Marianne Barrier

Education and Training

- B.S.: University of North Carolina, Greensboro, NC, Mathematics/Computer Science concentration, 1992
- Ph.D.: North Carolina State University, Raleigh, NC, Molecular Genetics, 2002
- Postdoctoral training: University of Washington, Seattle, WA, Teratology, 2002-2004
- Postdoctoral training: Texas A&M University, College Station, TX, Teratology, 2004-2007
- Postdoctoral training: US Environmental Protection Agency, RTP, NC, Reproductive Toxicology2007-Present

Professional Positions

- Business Systems Analyst. EPA contractor providing computer graphics and systems support to EPA scientists. ManTech Environmental Technology Corp., Raleigh, NC, 1992-1996

Research Positions

- 1996-2002: Graduate Research Fellow. Department of Genetics, North Carolina State University, Raleigh, NC
- 2002-2004: Research Scientist II, Department of Pediatrics, University of Washington, Seattle, WA
- 2004-2007: Associate Research Scientist, Department of Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX
- 2007-Present: Biologist, Gamete and Early Embryo Biology Branch, Reproductive Toxicology Division, National Health and Environmental Effects Research Laboratory, US Environmental Protection Agency, RTP, NC

Professional Memberships and Service

- Member, Teratology Society, 2002-present
- Education Committee, Teratology Society, 2007
- Communications Working Group, Teratology Society, 2007

Honors and Awards

- NIH Training Grant Graduate Fellowship, North Carolina State University, 1996-1997, 1999-2001
- Graduate Certificate for Outstanding Teaching, NCSU, 1999

- Graduate Student Teaching Award, NCSU, 1999
- Gamma Sigma Delta (National Honor Society of Agriculture), 2000
- Wilson Postdoctoral Presentation Award for Platform Presentation, Teratology Society 43rd Annual Meeting, 2003
- NIH Training Grant Postdoctoral Fellowship, Texas A&M University, 2004-2007

Selected peer-reviewed publications

Hosako H, Little SA, Barrier M, Mirkes PE. 2007. Teratogen-induced activation of P53 in early postimplantation mouse embryos. Toxicol Sci. 95:257-69. Abstract

Conrad R, Barrier M, Ford LP. 2006. Role of mirna and mirna processing factors in development and disease. Birth Defects Res C Embryo Today. 78:107-17. Abstract

Barrier M, Mirkes PE. 2005. Proteomics in developmental toxicology. Reprod Toxicol. 19:291-304. Abstract

Mikheeva S, Barrier M, Little SA, Beyer R, Mikheev AM, Kerr MK, Mirkes PE. 2004. Alterations in gene expression induced in day-9 mouse embryos exposed to hyperthermia (HS) or 4-hydroperoxycyclophosphamide (4CP): Analysis using CDNA microarrays. Toxicol Sci. 79:345-59. Abstract

Donelson L, Tarczy-Hornoch P, Mork P, Dolan C, Mitchell JA, Barrier M, Mei H. 2004. The BioMediator system as a data integration tool to answer diverse biologic queries. Medinfo. 11: 768-72. Abstract

Barrier M, Bustamante CD, Yu J, Purugganan MD. 2003. Selection on rapidly evolving proteins in the arabidopsis genome. Genetics. 163:723-33. Abstract

Published Meeting Abstracts

Barrier M, Mo Q, Vannucci M, Mirkes PE. (2007) A Genomic Approach to Hyperthermia-Induced Neural Tube Defects. Birth Defects Research (Part A) 79: 376. Platform Presentation at Teratology Society 47th Annual Meeting in Pittsburgh, PA.

Barrier M, Mo Q, Vannucci M, Mirkes PE. (2007) MicroRNA Expression Changes in Response to Hyperthermia During Early Postimplantation Mouse Development. Birth Defects Research (Part A) 79: 379. Platform Presentation at Teratology Society 47th Annual Meeting in Pittsburgh, PA.

Barrier M, Mo Q, Vannucci M, Mirkes PE. (2006) A Genomic Approach to Hyperthermia-Induced Neural Tube Defects. Birth Defects Research (Part A) 76: 336. Platform Presentation at Teratology Society 46th Annual Meeting in Tucson, AZ.

Barrier M, Dugas DV, Shelton J, Ford LP, Mirkes PE. (2006) MicroRNA Gene Expression During Early Postimplantation Mouse Development. Birth Defects

Research (Part A) 76: 338. Platform Presentation at Teratology Society 46th Annual Meeting in Tucson, AZ.

Barrier M, Gil S, Faske JB, Watson EM, Mirkes PE. (2006) Heat Shock Protein 70 (HSP70) Protects Embryos from Teratogen-Induced Exencephaly: Analysis Using HSP70 Null Mice. Birth Defects Research (Part A) 76: 339. Platform Presentation at Teratology Society 46th Annual Meeting in Tucson, AZ.

Barrier M, Gil S, Kim WK, Mirkes PE. (2004). Heat Shock Protein 70 (Hsp70) Protects Embryos from Hyperthermia-Induced Exencephaly: Analysis Using Hsp70 Null Mice. Birth Defects Research (Part A) 70:264. Platform Presentation at Teratology Society 44th Annual Meeting in Vancouver, BC.

Barrier M, Aebersold R, Goodlett D, Yi E, Mirkes PE. (2003). A Proteomic Approach to Hyperthermia-Induced Neural Tube Defects. Birth Defects Research (Part A) 67:315. Platform Presentation at Teratology Society 43rd Annual Meeting in Philadelphia, PA.