Dr. David E. Malarkey received his BS and MS degrees from the University of Bridgeport, Connecticut; DVM from Tufts University School of Veterinary Medicine; Pathology Residency at Angell Memorial Animal Hospital in Boston; and PhD from North Carolina State University. Dr. Malarkey was a Research Fellow under the direction of Dr. Robert Maronpot in the Laboratory of Experimental Pathology at NIEHS from 1993-1997. He has been a Diplomate of the American College of Veterinary Pathologists since 1993 and has particular interest in the areas of toxicological and molecular pathology. Prior to his positions at NIEHS, Dr. Malarkey worked for 7 years as diagnostic pathologist, researcher, and teacher while a faculty member at North Carolina State University College of Veterinary Medicine in Raleigh, NC. His research efforts are in the areas of toxicologic pathology, carcinogenesis, and molecular diagnostic techniques. Primary efforts have been to determine the biological behavior and genetic events involved in chemically induced liver tumors in B6C3F1 mice in order to better define the mouse model for its relevance in assessing human health hazards as well as deciphering the molecular basis of cancer. Other collaborative efforts have been directed at characterizing the pathology of animal diseases, including transgenic mice, and successfully integrated the fields of clinical medicine and diagnostic pathology by applying molecular research techniques in veterinary clinical applications.

PROFESSIONAL EXPERIENCE

2005-present	**Head, National Toxicology Program Pathology Group** Environmental Toxicology Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC
Jan-May 2007	**Acting Chief, Laboratory of Experimental Pathology** Environmental Toxicology Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC
2002-2005	**Pathologist and Staff Scientist** Environmental Toxicology Program, National Institute of Environmental Health Sciences, RTP, NC
2003-present	**Adjunct Assistant Professor,** Population Health and Pathobiology, College of Veterinary Medicine, North Carolina State University, Raleigh, NC
1997-2002	**Assistant Professor** of Pathology, Dept. of Microbiology, Pathology, and Parasitology, College of Veterinary Medicine, North Carolina State University, Raleigh, NC
1993-1997	**Research Fellow**, Environmental Toxicology Program , National Institute of Environmental Health Sciences, Research Triangle Park, NC
1991-1993	**Instructor in Anatomic Pathology**, College of Veterinary Medicine North Carolina State University, Raleigh, NC
1989-1991	**Resident in Anatomic Pathology**, Angell Memorial Animal Hospital, Boston, MA

HONORS/AWARDS

1979-1981	Charles A. Dana Honor Society, University of Bridgeport, Conn.
1993-1997	NIH Intramural Research Training Award, NIEHS, NC.
1996	Research Manuscript Award by Psi Chapter (North Carolina) of Phi Zeta
1999	Inductee to Phi Zeta Veterinary Honor Society, Psi Chapter
2000	Oustanding Alumnus Award, Tufts University School of Veterinary Med.
2008	NIH Merit Award, for contribution to NTP study on Sodium Dichromate

RECENT PUBLICATIONS (out of > 50)

1. Voynow, JA, Fisher, BM, **Malarkey, DE**, Burch, L, Wong, T, Longphre, M, Ho, SB, and Foster, WM. 2004. Neutrophil elastase induces mucus cell metaplasia in mouse lung. *Am J Physiol Lung Cell Mol Physio* l287:L1293-L1302.
2. Stoppini, R, Gilger, BC, **Malarkey, DE**, Ratto, A, Brigati, G. 2005. Bilateral nodular lymphocytic conjunctivitis in a horse. *Vet Ophth* 8(2):129-134.
3. **Malarkey, DE** , Johnson, K, Ryan,, L, Boorman, G and Maronpot, RR. 2005. New insights into functional aspects of liver morphology. *Tox Path* 33(1): 27-34.
4. **Malarkey, DE**, Parker, JS, Turman, CA, Scott, AM, Paules, RS and Maronpot, RR. 2005. Microarray data analysis of mouse neoplasia. *Tox Path* 33(1): 127-135.
5. Lewis, DN, Nyska, M, Johnson, K, **Malarkey, DE**, Ward, S, Streiker, M, Peddada, S, Shabat, S, Nyska, A. 2005. 2-Butoxyethanol female-rat model of hemolysis and disseminated thrombosis: X-ray characterization of osteonecrosis and growth plate suppression. *Tox Path* 33(2): 272-282.
6. Kim, YA, Reineke, S, and **Malarkey DE**. 2005. Cutaneous angiomatosis in a young dog. *Vet Path* 42(3):378-381.
7. Cesta M, Baty, C, Keene, B, Smoak, I, and **Malarkey, DE**. 2005. Pathology of end-stage remodeling in a family of cats with hypertrophic cardiomyopathy. *Vet Path* 42:458-467.
8. Boorman, G, Blackshear, PE. Parker, JS, Lobenhofer, EK, **Malarkey, DE**, Vallant, M, Gerkin, DK, and Irwin, RD. 2005. Hepatic gene expression changes throughout the day in the Fisher rat: Implications for toxicogenomics experiments. *Tox Sci* 86(1):185-193.
9. Dang, H, Trempus, C, **Malarkey, DE**, Wei, S, Humble, M, Morris, RJ, and Tennant, RW. 2006. Identification of genes and gene ontology processes critical to skin papilloma development iin Tg.AC transgenic mice. *Molecular Carcinogenesis* Feb;45(2):126-140
10. Kleiter, MM, Thrall, DE, **Malarkey DE.** Ji, X, Lee, DY, Chou, SC, and Raleigh, JA. 2006. A comparison of oral and intravenous pimonidazole in canine tumors using intravenous CCI-103F as a control hypoxia marker. *International Journal of Radiation Oncology Biol Phys* Feb1;64(2):592-602.
11. Looper, JS, Ruslander, D, Proulx, D, **Malarkey DE**, and Thrall, D. 2006. Epidermal growth factor receptor expression in feline oral squamous cell carcinomas. *Vet Comp Oncology* 4(1):33-40.
12. Lobenhofer, EK, Boorman, GA, Phillips, KL, Heinloth, AN, Malarkey, DE, Blackshear, PE, Houle, C, Parker, JS, and Hurban, P. 2006. Application of visualization tools to the analysis of histopathological data enhances biological insight and interpretation. *Tox Path* 34(7):921-928.
13. Kissling, G, **Malarkey, DE**, Hejtmancik, MR, Vallant, MK, Smith, CA, Herbert, RA, and Boorman, GA. Evaluation of dichloroacetic acid for carcinogenicity in genetically modified TgAC and p53 haploinsufficient mice. *Tox Sci* (in press)
14. Walker, DM, **Malarkey, DE**, Seilkop, SK, Ruecker, FA, Funk, KA, Wolfe MJ, Treanor, CP, Foley, JF, Hahn, FF, Hardisty, JF, and VE Walker. Transplacental carcinogenicity of 3-azido-3-deoxythymidine in B6C3F1 mice and F344 rats. 2007. *Environmental and Molecular Mutagenesis.* Environ Mol Mutagen. 2007 Apr-May;48(3-4):283-98.
15. P. R. Bushel, A. N. Heinloth, J. Li, L. Huang, J. W. Chou, G. A. Boorman, **D. E. Malarkey**, C. D. Houle, S. M. Ward, R. E. Wilson, R. D. Fannin, M. W. Russo, P. B. Watkins, R. W. Tennant and R. S. Paules (2007). "Blood gene expression signatures predict exposure levels." *Proceedings of the National Academy of Sciences of the United States of America* 104(46): 18211-18216
16. J. F. Hardisty, M. R. Elwell, H. Ernst, P. Greaves, H. Kolenda-Roberts, **D. E. Malarkey**, P. C. Mann and P. A. Tellier (2007). "Histopathology of hemangiosarcomas in mice and hamsters and liposarcomas/fibrosarcomas in rats associated with PPAR agonists." *Toxicologic Pathology* 35(7): 928-941

17. J. P. Morrison, H. Satoh, J. Foley, J. L. Horton, J. K. Dunnick, G. E. Kissling and **D. E. Malarkey** (2007). "N-ethyl-N-nitrosourea (ENU)-induced meningiomatosis and meningioma in p16INK4a /p19ARF tumor suppressor gene-deficient mice." *Toxicologic Pathology* 35(6): 838-845

18. K. Yoshizawa, A. Heatherly, **D. E. Malarkey**, N. J. Walker and A. Nyska (2007). "A critical comparison of murine pathology and epidemiological data of TCDD, PCB126, and PeCDF." *Toxicologic Pathology* 35(7): 865-879
19. Stout MD, Kissling GE, Suárez FA, Malarkey DE, Herbert RA, Bucher JR. 2008 Influence of Helicobacter hepaticus Infection on the Chronic Toxicity and Carcinogenicity of Triethanolamine in B6C3F1 Mice. Toxicol Pathol. 36(6):783-794.
20. Lobenhofer EK, Auman JT, Blackshear PE, Boorman GA, Bushel PR, Cunningham ML, Fostel JM, Gerrish K, Heinloth AN, Irwin RD, Malarkey DE, Merrick BA, Sieber SO, Tucker CJ, Ward SM, Wilson RE, Hurban P, Tennant RW, Paules RS. Gene expression response in target organ and whole blood varies as a function of target organ injury phenotype. Genome Biol. 2008;9(6):R100. Epub 2008 Jun 20.

CHAPTERS / NON-PEER-REVIEWED PUBLICATIONS

21. Devereux, TR, **Malarkey**, **DE**, and Maronpot, RR. 1996. The contribution of rodent liver and lung carcinogenesis models to our knowledge of the cancer latent period. In Maltoni, C., Soffritti, M., and Davis, W. (ed), *The Scientific Bases of Cancer Chemoprevention.* Elsevier Publications, Amsterdam, Netherlands.pp. 45-59.
22. Andrews, JM, and **Malarkey**, **DE**. 2001. Advanced diagnostic techniques: molecular diagnostics. In: Atlas of Canine and Feline Cytology, 1st edition, W.B. Saunders. Raskin, R and Meyer, D, editors
23. **Malarkey, DE** and Maronpot, RR. 2005. Carcinogenesis. In Encyclopedia of Toxicology; 2nd edition; Edited by Philip Wexler; Academic press, San Diego. pp 445-466.

24. Gerrish, K and **Malarkey DE.** 2007. Genomic profiles of liver injury. Chapter in Hepatotoxicity: From genomics to in-vitro and in-vivo, S Sahu, editor.