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 training 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:

1991-1993	**Instructor in Anatomic Pathology**, College of Veterinary Medicine, North CarolinaState University, Raleigh, NC
1993-1997	**Research Fellow,** Environmental Toxicology Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC
1997-2002	**Assistant Professor of Pathology**, College of Veterinary Medicine, North Carolina State University, Raleigh, NC
2002-present	**Pathologist and Staff Scientist**, Laboratory of Experimental Pathology, Environmental Toxicology Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC
2005-present	**Head, National Toxicology Program (NTP) Pathology Group**
2007	**Acting Chief, Laboratory of Experimental Pathology** Environmental Toxicology Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC

Publications in last 3 years (out of >40 published):

1. Williams, KW, **Malarkey, DE**, Patrick, D, Cohn, LA, Patrick, DJ, Dye, JA, and Toews, GB. 2004. Identification of spontaneous feline idiopathic pulmonary fibrosis: Morphology and ultrastructural evidence for a type II pneumocyte defect. *Chest* 125 (6): 2278-2288.
2. Kleiter, M, **Malarkey, DE**, Ruslander, DE, and Thrall, DE. 2004. Expression of cyclooxygenase-2 in canine epithelial nasal tumors. . *Vet Radiol Ultrasound* 45 (3):255-60
3. Irwin, RD, Boorman GA, Cunningham, ML, Heinloth, AN, **Malarkey, DE**, and Paules, R. 2004. Application of toxicogenomics to toxicology: Basic concepts in the analysis of microarray data. *Tox Path* 32(Suppl. 1):72-83.
4. Ober, CP, Spaulding, KA, Breitschwerdt, EB, **Malarkey, DE**, and Hegarty, BC. 2004. Orchitis in two dogs with Rocky Mountain spotted fever. *Vet Radiol Ultrasound* Sep-Oct; 45(5):458-65.
5. 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.

6. Stoppini, R, Gilger, BC, **Malarkey, DE**, Ratto, A, Brigati, G. 2005. Bilateral nodular lymphocytic conjunctivitis in a horse. *Vet Ophth* 8(2):129-134.
7. **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.
8. **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.
9. 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.
10. Kim, YA, Reineke, S, and **Malarkey DE**. 2005. Cutaneous angiomatosis in a young dog. *Vet Path* 42(3):378-381.
11. 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.
12. 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.
13. 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
14. 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.
15. 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.
16. 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.
17. 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)
18. Gerrish, K and **Malarkey DE.** 2006. Genomic profiles of liver injury. Chapter in Hepatotoxicity: From genomics to in-vitro and in-vivo, S Sahu, editor. (in press)
19. Reynolds, TL, Barnes, HJ, Wolfe, B, and **Malarkey DE**. 2006. Bilateral nocardial endophthalmitis in a prothonotary warbler. *Vet Path* (submitted).
20. Betz, BL, Wei, S_J, **Malarkey, DE**, Trempus, CS, Humble, MM, French, JE, and Tennant, RW. 2007. Activated H-ras cooperates with p19ARF deficiency to induce gastrointestinal stromal tumors (GIST) in mice. (submitted)
21. Bushel, PR, Heinloth, AN, Li, J, Huang, L, Chou, JW, Boorman, GA, **Malarkey, DE**, Houle CD, Ward SM, Wilson RE, Fannin RD, Russo MW, Watkins PB, Tennant RW, and Paules, RS 2006 Blood gene expression signatures predict exposure levels to rat hepatotoxin acetaminophen. PNAS (submitted)