

**BIOGRAPHICAL SKETCH**

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NAME Anne C. Avery	POSITION TITLE Associate Professor
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EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Mount Holyoke College, South Hadley, MA	B.A.	1982	Biochemistry
University of Pennsylvania, Philadelphia, PA	V.M.D.	1990	Veterinary Medicine
Cornell University, Ithaca, NY	Ph.D	1991	Immunology

**PROFESSIONAL EXPERIENCE:**

- 1990-1991 Intern in small animal medicine and surgery, Veterinary Hospital of the University of Pennsylvania, School of Veterinary Medicine, Philadelphia, PA.
- 1991-1994 Post-doctoral fellow, Laboratory of Immunopathology, Dana-Farber Cancer Institute, Harvard Medical School, Boston, MA.
- 1994-1996 Research Scientist, Department of Pathology, School of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, CO.
- 1996-2000 Special Assistant Professor, Department of Pathology, School of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, CO.
- 2001 – 2007 Assistant Professor, Department of Pathology, School of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, CO.
- 2007 – present Associate Professor, Department of Microbiology, Immunology and Pathology, School of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, CO.
- 2001 – present Director, Clinical Immunopathology Laboratory, School of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, CO.
- 2005 – present Director, Core Cell Sorting Facility, Department of Microbiology, Immunology and Pathology, School of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, CO

**PUBLICATIONS 1992 - present:**

**Crump, AL**, Grusby, MJ, Markowitz, JS, Glimcher, LH, Cantor, H. 1993. Thymocyte development in major histocompatibility complex-deficient mice: Evidence for stochastic commitment to the CD4 and CD8 lineages. *Proc. Natl. Acad. Sci. USA* 90:10739-10743.

Cantor, H, **Crump, AL**, Raman, VK, Liu, H, Markowitz, JS, Grusby, MJ, Glimcher, LH. 1993. Immunoregulatory effects of superantigens: Interactions of Staphylococcal enterotoxins with host MHC and non-MHC products. *Immunol. Rev.* 131:27-42.

Barbis, DP, Bainbridge, D, **Crump, AL**, Zhang, CH, Antczak, DF. 1994. Variation in expression of MHC class II antigens on horse lymphocytes determined by MHC haplotype. *Vet. Immunol. and Immunopathol.* 42:103-114.  
**Avery, AC**, Markowitz, JS, Grusby, M.J., Glimcher, LH, Cantor, H. 1994. T-cell responses to staphylococcal enterotoxins in the absence of class II MHC molecules. *J. Immunol.* 153:4853-4861.

**Avery, AC**, Zhao, Z-S, Rodriguez, A, Bikoff, EK, Soheilian, M, Foster, CS, Cantor, H. 1995. Resistance to herpes stromal keratitis conferred by an IgG2a-derived peptide. *Nature* 376:431-434.

Swardson, CJ Wassom, DL **Avery, AC** 1997. Plasmodium yoelii: resistance to disease is linked to the mtv-7 locus in BALB/c mice. *Experimental Parasitology.* 86:102-109.

Swardson-Olver, CJ, Dawson, TC, Burnett, RC, Peiper, SC, Maeda, N, **Avery AC**. 2002. Plasmodium yoelii uses the murine Duffy antigen receptor for chemokines as a receptor for normocyte invasion and an alternative receptor for reticulocyte invasion. *Blood.* 99:2677-2684.

Luyendyk, JO, Olivas, OR, Ginger, LA, **Avery, AC**. 2002. Antigen-Presenting Cell Function during *Plasmodium yoelii* Infection. *Infection and Immunity.* 70:2941-2949.

Fernandes, PJ, Modiano, JF, Wojcieszyn, J, Thomas, JS, Benson, PA, Smith, R, **Avery, AC**, Burnett, RC, Boone, L, Johnson, MC, Pierce, K. 2002. Use of the Cell-Dyn 3500 automated hematology analyzer to predict leukemic cell lineage in peripheral blood of dogs and cats. *Veterinary Clinical Pathology* 31:167-182.

Burnett, RC, Vernau, W, Modiano, JF, Olver, CS, Moore, PF, **Avery, AC**. 2003. Diagnosis of canine lymphocytic neoplasia using clonal rearrangements of antigen receptor genes. *Veterinary Pathology* 40:32-41.

Perry, JA, Rush, A, Wilson, RJ Olver, CS, **Avery, AC**. 2004. Dendritic cells from malaria infected mice are fully functional antigen presenting cells. *Journal of Immunology.* 172:475-482

Burnett, RC, Blake, MK, Thompson, LJ, Avery, PR **Avery, AC**. 2004. The evolution of a B cell lymphoma to multiple myeloma following chemotherapy. *Journal of Veterinary Internal Medicine*, 18:768 - 771.

Keller, RL, **Avery, AC**, Burnett, RC, Walton, JA and Olver, CS. 2004. Detection of canine lymphoma in peripheral blood using polymerase chain reaction for antigen receptor gene rearrangement (PARR). *Veterinary Clinical Pathology*, 33:145 - 149.

Avery, PR and **Avery, AC**. 2004. Molecular methods to distinguish reactive and neoplastic lymphocyte expansion, Invited Review. *Veterinary Clinical Pathology*, 33:196 – 207

Modiano, JF, Breen, M, Avery, AC, London, CA. 2005. Breed-Specific Canine Lymphoproliferative Disorders, In: The Dog and its Genome (editors Ostrander, E., Giger, U., Lindblad-Toh, K.). Cold Spring Harbor Press. 2005..

Wilkerson, MJ, Dolce, K, Koopman, T, Shuman W, Chun. R, Garrett, L, Barber, L, **Avery, AC**. 2005. Lineage differentiation of canine lymphoma/leukemias and aberrant expression of CD molecules. *Veterinary Immunology and Immunopathology.* 106:179-196.

Perry, JA, Olver, CS, Burnett, RC and **Avery, AC**. 2005. *Cutting Edge*: The acquisition of toll like receptor tolerance during malaria infection impacts T cell activation. *Journal of Immunology*, 174:5921-5925.

Principal Investigator/Program Director (Last, First, Middle):

Modiano, JF, Breen, M, Burnett, RC, Parker, HG, Inusah, S, Avery, PR, Ostrander, EA, Cutter, GC, **Avery, AC**. 2005. Distinct prevalence of B and T cell lymphoproliferative diseases among dog breeds is an indicator of heritable risk. *Cancer Research* 65:5654-5661.

Lana, SE, Jackson, TL, Burnett, RC, Morley, P, **Avery, AC**. 2006. The utility of PCR for analysis of antigen receptor rearrangement in staging and predicting prognosis in dogs with lymphoma. *Journal of Veterinary Internal Medicine* 20:329-334.

Lana, S, Plaza, S, Hampe, K, Burnett, R and **Avery, AC**. 2006. Diagnosis of mediastinal masses by flow cytometry. *Journal of Veterinary Internal Medicine*. 20:1161-1165.

Kisseberth WC, Nadella MVP, Breen M, Thomas R, Duke SE, Murahari S, Kosarek CE, Vernau W, **Avery AC**, Burkhard MJ, Rosol TJ. 2007. A novel canine lymphoma cell line: a translational and comparative model for lymphoma research. *Leukemia Res*, in press.

Williams, MJ, **Avery, AC**, Lana, SE, Hillers, KH, Bachand, A, Avery, PR. 2007. Canine lymphoproliferative disease characterized by lymphocytosis: immunophenotypic markers of prognosis. *Journal of Veterinary Internal Medicine*, in press.

Billier, BJ, Elsmilie, RE, Burnett, RC, **Avery, AC**, Dow, SW. 2007. Use of foxp3 expression to identify regulatory T cells in healthy dogs and dogs with cancer. *Veterinary Immunology and Immunopathology*. 116:69-78.

Miller, AG, **Avery, AC**, Lana, SE, Olver, CS 2007. Cancer related anemia in dogs-anemia is associated with decreased survival time in dogs with lymphoma. *In press*.

Prenni, J, **Avery, AC**, Olver, CS. Proteomics: a review and an illustration. 2007. *Journal of Veterinary Clinical Pathology*. 36:13-24.

Avery, PR, **Avery, AC**. Determining the significance of persistent lymphocytosis. 2007. *Veterinary Clinics of North America*. 37:267-282.

Lana, SE, **Avery, AC**, 2007. Canine Lymphoma, In: Kirk's Current Veterinary Therapy XIV (editor John Bonagura), Saunders, in press.

## **OTHER SUPPORT**

Measurement of acute phase reactants as a diagnostic tool in Shar-Pei fever

*Funding Agency:* American Kennel Club

*Principle Investigator:* Anne Avery

*Dates:* 4-1-05 through 3-1-08

The purpose of these studies is to investigate changes in acute phase reactants in Shar-pei dogs with Shar-pei fever, a model for human Familial Mediterranean Fever.

Gamma-delta T cell Regulation of Adaptive Immunity in West Nile Virus Infection

*Funding Agency:* NIH R01

*Principle Investigator:* Tina Wang

*Percent Funded Effort:* 5%

*Length of Award:* 12-1-07 through 11-30-12

Principal Investigator/Program Director (Last, First, Middle):

Biomedical Research Training for Veterinarians

*Funding Agency:* NIH T32 RR07072

*Principle Investigator:* Ed Hoover

*Role on grant:* Participant

*Year(s) of Award:* 7/1/02 – 6/30/07

This is a training grant for veterinarians who are in their final residency years to obtain PhD training.

U.S. Based Collaborations in Emerging Viral and Prion Diseases

*Funding Agency:* NIH N01-AI-25491

*Principle Investigator:* Ed Hoover

*Role on Project:* Collaborator (5% effort)

*Length of Award:* 09/02 through 08/09

*Percent Funded Effort:* 5%

This grant is designed to investigate the pathogenesis of prion diseases in mice and deer.

**GRANTS PENDING**

Markers of prognosis in canine CD8 T cell leukemia

*Funding Agency:* Morris Animal Foundation

*Principle Investigator:* Anne Avery

The purpose of these studies is to use gene expression profiling to uncover markers of prognosis in canine CD8 T cell leukemia.

Immunophenotypic Analysis to Determine Underlying Etiology and Prognosis in Feline Lymphocytosis

*Funding Agency:* Morris Animal Foundation

*Principle Investigator:* Paul Avery

The purpose of these studies is to use immunophenotypic analysis of peripheral blood in cases of feline lymphocytosis in order to determine etiology and prognosis.

Multicenter Epidemiological Investigation of Preventable Exposures Related to Common Cancers of Golden Retrievers and Labrador Retrievers.

*Funding Agency:* Morris Animal Foundation

*Principle Investigator:* Paul Morley

This is an epidemiologic study of the risk factors involved in the development of three common cancers in two breeds of dog