

## ***CURRICULUM VITAE***

Keith E. Murphy, Ph.D.

### **PRESENT POSITION AND ADDRESS:**

Title: Professor of Genetics and Chair  
Director, Clemson University Genomics Institute

Address: Department of Genetics and Biochemistry  
100 Jordan Hall  
Clemson University  
Clemson, SC 29634-0318  
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864-656-3586 (telephone); 864-656-6879 (facsimile)

### **PERSONAL DATA:**

Date of Birth: 10/31/60  
Place of Birth: Chicago, IL

### **EDUCATION:**

<u>Degree</u>	<u>Conferring Institution</u>	<u>Field</u>	<u>Year</u>
B.S.	Indiana University	Microbiology	1982
M.S.	U. of Cincinnati Coll. of Medicine	Molecular Genetics	1986
Ph.D.	Louisiana State University	Genetics/Biochemistry	1989

### **ADMINISTRATIVE APPOINTMENTS:**

2008-present **Clemson University**  
Member, Cabinet of Vice-President for Public Service (serve to advise the CEO on matters pertaining to PSA, its stakeholders and personnel)

2008-present **Clemson University**  
Chair, Department of Genetics and Biochemistry (responsible for management, direction and decisions regarding all academic, financial and personnel---all faculty and staff--- issues)

2008-present **Clemson University**  
Director, Clemson University Genomics Institute (responsible for all personnel, financial decisions and research activities for this completely self-supporting unit)

2006-2008 **The American Kennel Club-Canine Health Foundation**  
Science Officer (responsible for review of progress reports, grant proposals, budget analysis and site visits; remained full time at Texas A&M University while doing this)

- 2002-2005      **Texas A&M University**  
Executive Committee of the Intercollegiate Program in Genetics
- 2002-2003      **Texas A&M University**  
Chair of Recruitment Committee for the Intercollegiate Program in Genetics

**PROFESSIONAL EXPERIENCE AND ACADEMIC APPOINTMENTS:**

- 2008-present      **Clemson University**  
Clemson, SC  
Professor of Genetics (with tenure)
- 2005-2008      **Texas A&M University College of Veterinary Medicine and Biomedical Sciences**  
College Station, Texas  
Professor of Pathobiology (with tenure)  
Faculty of Genetics  
Faculty of Biotechnology
- 1999-2005      **Texas A&M University College of Veterinary Medicine and Biomedical Sciences**  
College Station, Texas  
Associate Professor of Pathobiology  
Faculty of Genetics  
Faculty of Biotechnology
- 1998-1999      **The University of Memphis**  
Memphis, Tennessee  
Associate Professor of Molecular Genetics (with tenure)
- 1996-1998      **The University of Memphis**  
Memphis, Tennessee  
Assistant Professor of Molecular Genetics
- 1993-1995      **The Citadel**  
Charleston, South Carolina  
Assistant Professor of Biology  
**Medical University of South Carolina**  
Adjunct Assistant Professor of Microbiology and Member of Graduate Faculty: The Molecular and Cellular Biology and Pathobiology Training Program
- 1991-1993      **USDA-Agricultural Research Service, Arthropod-borne Animal Diseases Research Laboratory**  
Laramie, Wyoming  
Postdoctoral Research Geneticist

1989-1991                    **Northwestern University Medical School**  
Chicago, Illinois  
Postdoctorate in Department of Cell, Molecular and Structural  
Biology

**AWARDS, HONORS, OTHER EDUCATION:**

1977                    Invited participant at Indiana University College Credit for High School  
Students program

1978                    Illinois State Scholar

1978                    Who's Who Among American High School Students

1982                    University of Cincinnati Medical School Scholarship

1984-1985            Served as President of Graduate Student Association at The University  
of Cincinnati Medical School

1992                    Participant at *Biology of Disease Vectors* course

1997                    Early Career Research Award

1998                    *Sigma Xi* Award for Outstanding Published Manuscript

1999                    Participant in Jackson Laboratory Short Course in Medical and  
Experimental Mammalian Genetics

2005                    Pfizer Animal Health Award for Excellence in Research

2008                    Keynote speaker and Honoree, Dalmatian Club of America Foundation---  
the Betty Garvin Memorial Speakership

**CURRENT EDITORIAL BOARD:**

*Mammalian Genome*

**TEACHING EXPERIENCE:**

The Citadel, Undergraduate:

Fall 1993                    **The Citadel**  
*General Microbiology* (BIOL 310, lecture and laboratory); 4 credit  
hours; 6 contact hours/week; 100%  
*General Biology* (BIOL 101, lecture); 3 credit hours; 3 contact  
hours/week; 100%  
*General Biology* (BIOL 111, laboratory); 1 credit hour; 2 contact  
hours/week; 100%

- Spring 1994                    **The Citadel**  
*General Biology* (BIOL 102, lecture); 3 credit hours; 3 contact hours/week; 100%  
*General Biology* (BIOL 112, laboratory); 1 credit hour; 2 contact hours/week; 100%  
*Microbial Physiology* (BIOL 425, lecture and laboratory); 4 credit hours; 6 contact hours/week; 100%
- Fall 1994                        **The Citadel**  
*General Microbiology* (BIOL 310, lecture and laboratory); 4 credit hours; 6 contact hours/week; 100%  
*Genetics* (BIOL 308, lecture and laboratory); 4 credit hours; 6 contact hours/week; 100%
- Spring 1995                    **The Citadel**  
*Molecular Genetics* (BIOL 424, lecture and laboratory); 4 credit hours; 6 contact hours/week; 100%
- Fall 1995                        **The Citadel**  
*General Microbiology* (BIOL 310, lecture and laboratory); 4 credit hours; 6 contact hours/week; 100%  
*General Biology* (BIOL 111, laboratory); 2 credit hours; 4 contact hours/week; 100%
- The Citadel, Graduate:  
Spring 1995                    **The Citadel**  
*Medical Microbiology* (BIOL 624, lecture); 3 credit hours; 3 contact hours/week; 100%
- The University of Memphis, Undergraduate (and beginning graduate students):  
Fall 1996                        **The University of Memphis**  
*Pathogenic Bacteriology* (MMCS 4440-6440, lecture); 3 credit hours; 3 contact hours/week; 100%
- Fall 1997                        **The University of Memphis**  
*Virology* (MMCS 4501-6501, lecture); 3 credit hours; 3 contact hours/week; 100%
- Fall 1998                        **The University of Memphis**  
*Pathogenic Bacteriology* (MMCS 4440-6440, lecture); 3 credit hours; 3 contact hours/week; 100%
- The University of Memphis, Graduate:  
Spring 1997                    **The University of Memphis**  
*Biology of Newly-emerging Infectious Diseases* (MMCS 7719, lecture); 3 credit hours; 3 contact hours/week; 100%

- Spring 1998            **The University of Memphis**  
*Biology of Newly-emerging Infectious Diseases* (MMCS 7719, lecture); 3 credit hours; 3 contact hours/week; 100%
- Spring 1999            **The University of Memphis**  
*Human and Veterinary Heritable Diseases* (MMCS 7720, lecture); 3 credit hours; 3 contact hours/week; 100%
- Texas A&M University, Undergraduate:
- Spring 2001            **Texas A&M University**  
*Biomedical Genetics* (GENE 320, lecture); 3 credit hours; 3 contact hours/week; 100%
- Spring 2002            **Texas A&M University**  
*Biomedical Genetics* (GENE 320, lecture); 3 credit hours; 3 contact hours/week; 100%
- Spring 2003            **Texas A&M University**  
*Biomedical Genetics* (GENE 320, lecture); 3 credit hours; 3 contact hours/week; 100%
- Fall 2003                **Texas A&M University**  
*Perspectives in Genetics* (GENE 105, 1 lecture); 2 credit hours; 1 contact hour for entire term; 3%
- Summer 2005           **Texas A&M University**  
*Biomedical Microbiology* (VTMI 405, 3 lectures); 4 credit hours; 4.5 contact hours for entire term; 6%
- Fall 2005                **Texas A&M University**  
*Biomedical Microbiology* (VTMI 405, 3 lectures); 4 credit hours; 3 contact hours for entire term; 6%
- Fall 2005                **Texas A&M University**  
*Perspectives in Genetics* (GENE 105, 1 lecture); 2 credit hours; 1 contact hour for entire term; 3%
- Summer 2007           **Texas A&M University**  
*Biomedical Microbiology* (VTMI 405, 2 lectures); 4 credit hours; 3 contact hours for entire term; 5%
- Summer 2007           **Texas A&M University**  
*Great Diseases of the World* (VTPB 221, 2 lectures); 3 credit hours; 3 contact hours for entire term; 8.6%

Fall 2007                    **Texas A&M University**  
*Great Diseases of the World* (VTPB 221, 2 lectures); 3 credit hours; 3 contact hours for entire term; 8.6%

Fall 2007                    **Texas A&M University**  
*Physiological Chemistry* (VTPB 489, 2 lectures); 3 credit hours; 3 contact hours for entire term; 4.7%

Spring 2008                **Texas A&M University**  
*Great Diseases of the World* (VTPB 221, 2 lectures); 3 credit hours; 3 contact hours for entire term; 8.6%

Summer 2008               **Texas A&M University**  
*Biomedical Microbiology* (VTMI 405, 2 lectures); 4 credit hours; 3 contact hours for entire term; 5%

Texas A&M University, Graduate:

Summer 2001               **Texas A&M University**  
*Biotechnology* (BIOT 601, laboratory); 4 credit hours; 20 contact hours for entire term; 25%

Summer 2001               **Texas A&M University**  
*Biotechnology* (BIOT 602, laboratory); 4 credit hours; 20 laboratory contact hours for entire term; 25%

Summer 2002               **Texas A&M University**  
*Biotechnology* (BIOT 601, 1 lecture); 4 credit hours; 1 contact hour for entire term; 1%

Fall 2002                    **Texas A&M University**  
*Advanced Immunologic Concepts* (VTMI 662, 1 lecture) 4 credit hours; 2 contact hours for entire term; 3%

Fall 2003                    **Texas A&M University**  
*Advanced Immunologic Concepts* (VTMI 662, 1 lecture) 4 credit hours; 2 contact hours for entire term; 3%

Fall 2003                    **Texas A&M University**  
*Special Topics in Veterinary Pathobiology* (VTMI 689, 3 lectures) 4 credit hours; 4.5 contact hours for entire term; 3%

Summer 2004               **Texas A&M University**  
*Biotechnology* (BIOT 601, 1 lecture); 4 credit hours; 1.5 contact hours for entire term; 1%

- Fall 2005                    **Texas A&M University**  
*Advanced Immunologic Concepts* (VTMI 662, 1 lecture) 4 credit hours; 2 contact hours for entire term; 3%
- Fall 2005                    **Texas A&M University**  
*Special Topics in Veterinary Pathobiology* (VTMI 689, 4 lectures) 4 credit hours; 5 contact hours for entire term; 3%
- Fall 2007                    **Texas A&M University**  
*Special Topics in Veterinary Pathobiology* (VTMI 601, Course Director) 5 credit hours; and directly taught 15 contact hours for entire term; 21%

Clemson University, Graduate:

- Fall 2009                    **Clemson University**  
*Advanced Genetics* (GEN 814, 4 lectures) 3 credit hours; 5 contact hours for entire term; 3%
- Fall 2010                    **Clemson University**  
*Advanced Genetics* (GEN 814, 2 lectures) 3 credit hours; 2.5 contact hours for entire term; 1.5%

**UNDERGRADUATE STUDENTS:**

**Brittany Blockman**, high school student, 1996-99: won numerous awards at Shelby County Science Fair; awarded First Place in TN for veterinary research by high school students; graduated from Princeton University, (2003) *Summa cum laude*; named one of 13 outstanding young college women by *Glamour*

**Marlo Anderson**, Christian Brothers University, 1998: recipient of Tennessee Academy of Sciences Award for Best Paper by an Undergraduate; graduated with D.V.M. in 2003 from the University of Tennessee College of Veterinary Medicine

**Sarah Brockman**: VTPB 485, Spring 2000, 3 hours

**Rebecca Lingenfelter**: GENE 485, Spring 2000, 3 hours (in graduate school at Texas A&M University College of Veterinary Medicine and Biomedical Sciences)

**Sruti Sreerama**: VTPB 285, Summer 2000, 3 hours; Fall 2000, 2 hours (graduated with D.V.M. in 2007 from Kansas State University College of Veterinary Medicine)

**Stephanie Helms**: VTPB 485, Fall 2000, 3 hours (graduate studies at Virginia Commonwealth University)

**Troy Day**: GENE 491, Fall 2000, 3 hours (elementary school science teacher)

**Kate Tsai:** GENE 485/491, Summer 2000, 2 hours; Fall 2000, 1 hour; Summer 2001, 3 hours; Fall 2001, 3 hours (postdoctorate in my laboratory)

**Briget Da Graca:** BICH 491, Spring 2001, 2 hours in (earned graduate degree from Texas A&M University)

**Claire Havel:** VTPB 485, Spring 2001, 3 hours (research technician for University of California, San Francisco but based in Washington, D.C.)

**Jessica Grieves:** BICH 485, Spring 2001, 2 hours (graduated with D.V.M. from Texas A&M University College of Veterinary Medicine and Biomedical Sciences in 2007)

**Jessica Moody:** VTPB 485, Fall 2001, 3 hours; NUTR 485, Spring 2003, 1 hour (in graduate school at Texas A&M University College of Veterinary Medicine and Biomedical Sciences )

**Allison Mcinturff:** VTPB 485, Spring 2003, 4 hours (graduated May 2005)

**Heidi Polasek:** VTPB 485, Summer 2004, 1 hour

**Ashley Campbell** (St. Mary's University): NSF-ONR research intern, Summer 2004

**William McAlpine:** (Clemson University Honors College): undergraduate student researcher, Fall 2010

**Heather Troutman:** (Clemson University Honors College): undergraduate student researcher, Fall 2010

**Erin Zepp:** (Clemson University Honors College): undergraduate student researcher, Fall 2010

## **GRADUATE STUDENTS:**

### **Major Professor**

University of Memphis:

**John D. Scott,** M.S., graduated 1997; earned M.D. from University of Tennessee, 2001

**Jennifer A. Johanson,** M.S., graduated 1999; on staff of The Jackson Laboratory; received the Morton Thesis Prospectus Award at The University of Memphis, 1999

**Amy L. Lonkar,** M.S., graduated 2000; earned M.D. from University of Tennessee, 2004

**Amy B. Miller,** Ph.D., graduated 2000; did postdoctoral work at University of Tennessee; awarded Van Vleet Doctoral Fellowship at The University of Memphis, 1997; received the Morton Dissertation Prospectus Award at The University of Memphis, 1998

Texas A&M University:

**Melissa L. Cox**, Ph.D., graduated 2003; postdoctorate at Pfizer Global Research, staff of the Jackson Laboratory; Keystone Symposia Scholarship, 2002; Texas A&M University Genetics Graduate Student Oral Research Competition, Third Place, 2003; Texas A&M University Student Research Week Graduate Oral Presentation Life Sciences, First Place (section 3), 2003; Texas A&M University College of Veterinary Medicine and Biomedical Sciences Graduate Research Symposium Platform Presentation, First Place, 2003; Texas A&M University International Student Study Grant to help defray expenses for attendance at the following course sponsored by the Jackson laboratory: *Genome Sequence Analysis: Theory and Practice*, 2003

**Edward J. Cargill**, Ph.D., graduated 2004; postdoctorate at Texas A&M University College of Veterinary Medicine and Biomedical Sciences until 2006, now a staff scientist at Monsanto Company; Individual NIH predoctoral fellowship, 2001-2004; Texas A&M University Student Research Week Graduate Poster Presentation Life Sciences, Second Place, 2002; Texas A&M University Student Research Week Graduate Oral Presentation Life Sciences, First Place (section 2), 2003; Texas A&M University College of Veterinary Medicine and Biomedical Sciences Outstanding Doctoral Student Award, 2003

**Leigh A. Clark**, Ph.D., graduated 2004; Assistant Professor, Clemson University; American College of Veterinary Internal Medicine Forum Graduate Student Poster Competition, First Place, 2003; Texas A&M University College of Veterinary Medicine and Biomedical Sciences Fisher Institute Medical Research Award, 2004

**Kate L. Tsai**, Ph.D., graduated 2005; postdoctorate at M.D. Anderson Cancer Center through 2006; Research Assistant Professor at Clemson University; Texas A&M University College of Veterinary Medicine and Biomedical Sciences Fisher Institute Medical Research Award, 2005

**Sarah C. Canterberry**, Ph.D., graduated 2006; Assistant Professor, Stephen F. Austin University

**Ashley G. Davidson**, Ph.D., graduated 2007; entering law school in August 2009; Texas A&M University Regents Fellowship; Texas A&M University College of Veterinary Medicine and Biomedical Sciences Graduate Research Symposium Platform Presentation, First Place, 2006; Texas A&M University Genetics Graduate Student Oral Research Competition, Second Place, 2006

**Tanya L. Gustafson**, Ph.D. (co-chair), graduated 2007; now completing studies for the D.V.M. degree; Howard Hughes Medical Institute Doctoral Fellowship; awarded Robert L. Kelly Award for Basic Science at the Genes, Dogs and Cancer annual meeting (Canine Health Foundation)

**Stephanie M. Herbst**, Ph.D., graduated 2007; grant writer for The Texas Heart Institute; Texas A&M University Pathways to the Doctorate Fellowship

**Rebecca J. Bell**, Ph.D., graduated 2007; postdoctorate at The University of Texas Health Sciences Center-Houston; Texas A&M University Graduate Merit Fellowship

**Alison N. Starr-Moss**, Ph.D., graduated 2007; Research Assistant Professor, Clemson University

**R. Michelle Boggs**, Ph.D., graduated 2008; grant writer for University of Texas-Houston; Texas A&M University Student Research Week Graduate Oral Presentation Life Sciences, First Place, 2007; Texas Genetics Society, First Place Graduate Student Platform Presentation Competition, 2007; Best Graduate Student Poster at annual Gulf Coast Society of Toxicology Meeting, 2007; Texas A&M University College of Veterinary Medicine and Biomedical Sciences Fisher Institute Medical Research Award, 2008

**Jacquelyn M. Wahl**, Ph.D., graduated 2008; began studies for D.V.M. August 2008; Texas A&M University College of Veterinary Medicine and Biomedical Sciences Fisher Institute Medical Research Award, 2006

**Jessica A. Moody**, Ph.D., graduated 2008; Texas A&M University Graduate Merit Fellowship; Texas A&M University College of Veterinary Medicine and Biomedical Sciences Fisher Institute Medical Research Award, 2006; Texas A&M University Student Research Week Graduate Oral Presentation Life Sciences, Third Place, 2007

Clemson University:

**Keri L. Nowend**, Doctoral student, 2008-present; B.A. Wake Forest University, M.A. University of Connecticut

#### **POSTDOCTORAL FELLOWS:**

**Mona Abdallah**, Ph.D. (Entomology); postdoctoral trainee 1996-1997; currently in non-tenure track position at University of California, San Francisco

**Xuning Wang**, Ph.D. (Cell Biology); postdoctoral trainee 1996-98; currently Associate Director of Bioinformatics at The Rockefeller University

**Kimberly A. Greer**, Ph.D. (Genetics); postdoctoral trainee 2002-2005; Individual NIH postdoctoral fellowship, 2003-2005; selected as one of twenty postdoctoral scientists for fully sponsored participation in *Summer Institute on Aging Research* of the National Institute for Aging, 2004; selected as one of 30 postdoctoral scientists for fully sponsored participation in *Molecular Biology of Aging* course (lecture and laboratory components) of the Ellison Medical Foundation and held at Marine Biological Laboratories (Woods Hole, MA), 2004; Research Assistant Professor at Texas A&M University College of Veterinary Medicine Texas A&M University College of Veterinary Medicine and Biomedical Sciences; Assistant Professor at Indiana University

**Leigh A. Clark**, Ph.D. (Genetics); postdoctoral trainee 2004-2009; see above for current position and awards

**Kate L. Tsai**, Ph.D. (Genetics); postdoctoral trainee 2006-2009; see above for current position and awards

**Alison N. Starr-Moss**, Ph.D. (Genetics); postdoctoral trainee 2008-present

### **TEACHING PROGRAMS:**

When I teach an undergraduate course, I maintain a website that has movies and many links to resources for genetics. Movies explain concepts and depict processes such as meiosis, mitosis, replication and PCR. Also, again when I teach undergraduates, there is a link to a chat room that I run on Sunday and Wednesday evenings (for two hours each) for students enrolled in GENE320 to allow them access to me in an anonymous setting. This allows shy students or those who have conflicting schedules to interact with me, ask questions, learn from questions posed by other students, *etc.* This chat room has been very well received and utilized.

I have an active program designed to introduce undergraduate students to research and have trained one high school student and many undergraduates in my laboratory. Please see above under **Undergraduate Students**.

### **RESEARCH/SCHOLARLY ACTIVITIES:**

#### Research Funding:

Starr, A.N. and K.E. Murphy (Co-Is). Association mapping study of Legg-Calve-Perthes Disease in the West Highland White Terrier, Yorkshire Terrier, and Miniature Pinscher. Canine Health Foundation. \$100,000. 2010-2012.

Starr, A.N. and K.E. Murphy (Co-Is). Genome-wide association mapping study of hypertrophic osteodystrophy in Irish Setters. Canine Health Foundation. \$75,000. 2010-2012.

Lees, G.E. (Co-PI) and K.E. Murphy (Co-PI). Gene transfer therapy for Alport syndrome. R01. NIH-NIDDK. 1R01DK064273. First year funding, \$441,576; Total, \$2,738,929. 2003-2008.

Fossum, T.W and K.E. Murphy as one of several Co-Is. Evaluation of Fatigue Resistance in Alaskan Sled Dogs as a Model to Improve Peak Soldier Performance. Defense Advanced Research Projects Agency. \$300,000. 2007-2008.

Murphy K.E., K.L. Tsai and A.N. Starr. Genetics of Legg-Calve-Perthes Disease in the West Highland White Terriers. Westie Foundation. \$15,000. 2007-2008.

Murphy, K.E. Identification of Candidate Genes Causative for Dilated Cardiomyopathy in the Dog. Canine Health Foundation. \$111,000. 2007-2008.

Clark, L.A., K.E. Murphy and C.A. Rees (Co-Is). Dermatomyositis in the Collie. Canine Health Foundation. \$89,424. 2007-2008.

Gustafson, T.G. and K.E. Murphy (mentor/sponsor). Cancer: an age-related disease of DNA repair deficiency. Predoctoral Fellow of the Howard Hughes Medical Institute. \$185,000 (\$37,000/year). 2004-2007.

Clark, L.A., K.E. Murphy and C.A. Rees (Co-Is). Investigation of candidate genes for dermatomyositis. American Shetland Sheepdog Association. \$40,000. 2006-2007.

Clark, L.A., K.E. Murphy and C.A. Rees (Co-Is). Analysis for linkage disequilibrium with dermatomyositis of the Collie. Collie Health Foundation. \$20,000. (2006-2007).

Murphy, K.E. Investigation of genes identified by a canine-specific microarray may support a deficiency in cholesterol biosynthesis in the Havanese. Canine Health Foundation. \$12,960. 2006-2007.

Clark, L.A. and K.E. Murphy (Co-Is). The gene for harlequin. Great Dane Charitable Trust. \$50,000. 2006-2007.

Canterberry, S.C. and K.E. Murphy (Co-Is). The role of genetics in the widely differing life spans of the domestic dog. Canine Health Foundation. \$12,960. 2006.

Murphy, K.E. Cholesterol in the Havanese: Examination of dehydrocholesterol reductase-7 as a cause of symptoms similar to Smith-Lemli-Opitz Syndrome and use of a canine microarray to assess gene expression in affected dogs. Havanese Eye Angels Rescue Team. \$203,000. 2004-2006.

Murphy, K.E. (PI) and L.A. Clark. Analysis of a candidate gene for pancreatic acinar atrophy in the German Shepherd Dog. Canine Health Foundation. \$22,680. 2004-2005.

Murphy, K.E. Pilot Study: Genetics of post-squalene cholesterol biosynthesis in the domestic dog: possible roles in developmental abnormalities. Canine Health Foundation. \$12,960. 2004-2005.

Murphy, K.E. Genetics of post-squalene cholesterol biosynthesis in the Havanese, Akita and Samoyed: are defects in this pathway responsible for an array of developmental abnormalities? Havanese Club of America. \$20,000. 2003-2004.

Murphy, K.E. Multiplexing of canine minimal screening set 2. Canine Health Foundation. \$54,000. 2003-2004.

Bell, R.J. and K.E. Murphy (mentor/sponsor). Graduate Merit Fellowship. Texas A&M University. \$30,000. 2003-2004.

Moody, J.A. and K.E. Murphy (mentor/sponsor). Graduate Merit Fellowship. Texas A&M University. \$30,000. 2003-2004.

Herbst, S.M. and K.E. Murphy (mentor/sponsor). Pathways to the Doctorate Fellowship. Texas A&M University. \$25,000. 2003-2004.

Greer, K.A. and K.E. Murphy (mentor/sponsor). Understanding genetics of aging: *Canis familiaris* model. Individual National Research Service Award (postdoctoral). NIH-NIA. \$79,000 (\$39,500/year). 2003-2005.

Murphy, K.E. (PI) and K.A. Greer. Transmission analysis of breed-specific necrotizing encephalitis in the Pug Dog. Canine Health Foundation. \$25,000. 2003-2004.

Murphy, K.E. Whole genome screen for analysis of progressive retinal atrophy in the American Eskimo Dog. North American Eskimo Dog Association. \$69,000. 2003-2004.

Adelson, D.L. and K.E. Murphy as one of several Co-Is. Development of web-based tools for real time physical and comparative genome maps. Telecommunications and Informatics Task Force (TAMU). \$335,000 (divided equally over two years). 2002-2004.

Murphy, K.E. Whole genome screens using microsatellite markers in genetic analyses of canine hip dysplasia. Genetic Savings and Clone. \$96,996. 2002-2003.

Greer, K.A. and K.E. Murphy (Co-I). Transmission analysis of breed specific necrotizing encephalitis in the Pug Dog; collection phase. Canine Health Foundation. \$3,500. 2002-2003.

Derr, J.N and others as Co-Is. Acquisition of significantly expanded high throughput DNA genotyping capabilities in the DNA technologies core laboratory. Life Sciences Task Force (Texas A&M University). \$180,800 (divided equally over three years). 2001-2004.

Cargill, E.J. and K.E. Murphy (mentor/sponsor). Genetic analyses of hereditary deafness: a canine model. Individual National Research Service Award (predoctoral). NIH-NIDCD. \$80,459. 2001-2004.

Credille, K.M. and K.E. Murphy as a Co-I. Localization of the gene for sebaceous adenitis in the Akita Dog by homozygosity mapping. Canine Health Foundation \$62,340 (\$31,170/year). 2001-2003.

Murphy, K.E. (PI) and G.M. Strain. Whole genome screens using microsatellite markers in genetic analyses of hereditary deafness in the Dalmatian and English Setter. Canine Health Foundation. \$50,000 (\$25,000/year). 2001-2003.

Murphy, K.E. and G.E. Lees. Treatment of X-linked Alport syndrome: characterization, assembly, and expression of a full-length cDNA encoding canine *COL4A5* for use in gene therapy. Texas A&M University College of Veterinary Medicine and Biomedical Sciences Signature Enhancement Initiative. \$15,000. 2001-2002.

Murphy, K.E. Visiting Professorship in Human Genetics for Dr. Elaine Ostrander of the Fred Hutchinson Cancer Research Center. Dr. Ostrander spent one week (in 4/02) lecturing at the CVM and meeting clinicians, graduate students and postdoctorates. Funded by the Burroughs Wellcome Fund. \$5,000. 2001-2002.

Murphy, K.E. Use of microsatellite markers for genotyping of the domestic dog. Genetic Savings and Clone. \$25,000. 2001-2002.

Murphy, K.E. Development of a set of multiplexed microsatellite markers for use in whole genome screens of the domestic dog. Kenneth A. Scott Charitable Trust. \$20,250. 2001-2002.

Murphy, K.E. (PI) and G.M. Strain. Genetics of hereditary deafness in the domestic dog. (Supplemental application to grant funded in 1999). Canine Health Foundation. \$30,000. 2000-2002.

Lees, G.E., B.R. Berridge and K.E. Murphy. Temporal role of endothelin-1 in progressive tubulointerstitial injury in a model of canine hereditary nephritis. Interdisciplinary Research Initiatives Program (Texas A&M University). \$24,950. 2000-2001.

Murphy, K.E. Acquisition of avian, canine and feline bacterial artificial chromosome libraries. Texas A&M University College of Veterinary Medicine and Biomedical Sciences Signature Enhancement Initiative. \$29,000. 2000-2001.

Murphy, K.E. (PI) and G.M. Strain. Genetics of hereditary deafness in the domestic dog. Canine Health Foundation. \$77,000. 1999-2001.

Dunstan, R.W., K.M. Credille and K.E. Murphy (Co-I). Defining the molecular basis of canine cornification abnormalities. Morris Animal Foundation. \$37,800. 1999-2001.

Lees, G.E. and K.E. Murphy. Canine X-linked hereditary nephritis: two models from one disease. Texas A&M University College of Veterinary Medicine and Biomedical Sciences Signature Enhancement Initiative. \$35,000. 1999-2000.

Murphy, K.E. Genetics of the domestic dog. Discovery Channel. \$2500. 1999-2000.

Murphy, K.E. A candidate gene for primary open angle glaucoma in the dog. Faculty Research Grant, The University of Memphis. \$4000. 1999-2000.

Murphy, K.E. Molecular genetics of developmental dislocation of the hip. Baptist Healthcare Foundation. \$164,000. 1998-1999.

Murphy, K.E. Molecular genetic analysis of canine hip dysplasia. The Iams Company. \$65,500. 1997-1998.

Murphy, K.E. Molecular genetic analysis of canine hip dysplasia. Boykin Spaniel Society. \$6,000. 1997-1998.

Murphy, K.E. Molecular genetic analysis of canine hip dysplasia. The Iams Company. \$93,000. 1995-1997.

Murphy, K.E. Molecular genetics of *Culicoides variipennis* vector competence for arboviruses. The Citadel Development Foundation. \$4600. 1995-1996.

Murphy, K.E. Molecular and classical genetic analyses of hip dysplasia in dogs. Boykin Spaniel Society. \$16,000. 1994-1996.

Murphy, K.E. Molecular genetics of *Culicoides variipennis* vector competence for arboviruses. The Citadel Development Foundation. \$5804. 1994-1995.

Murphy, K.E and W.J. Tabachnick (Co-investigators). Molecular genetics of *Culicoides variipennis* vector competence for arboviruses. USDA-NRICGP. \$184,069. 1993-1997.

Murphy, K.E. Insect receptors for arboviruses. The Citadel Development Foundation. \$1,500. 1993-1994.

## **BIBLIOGRAPHY:**

### Publications in Refereed Journals:

\*Past/present graduate student/postdoctoral trainee in my laboratory

\*Nowend, K.L., \*A.N. Starr-Moss, G.E. Lees, B.R. Berridge, F.J. Clubb, C.E. Kashtan, M.B. Nabity and K.E. **Murphy** (2012). Autosomal recessive hereditary nephropathy in English Springer Spaniel dogs. *Journal of Veterinary Internal Medicine* (in press).

\*Tsai, K.L., R. Noorai, \*A.N. Starr-Moss, P. Quignon, E.A. Ostrander, J.M. Steiner, K.E. **Murphy** and \*L.A. Clark (2011). Genome-wide association studies for multiple diseases of the German Shepherd Dog. *Mammalian Genome* DOI: 10.1007/s00335-011-9376-9.

\*Starr, A.N., \*K.L. Nowend and K.E. **Murphy** (2011). Exclusion of *COL2A1* in canine Legg-Calvé-Perthes Disease. *Animal Genetics* DOI: 10.1111/j.1365-2052.2011.02215.

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Stoica, G.S., J. Levine, J. Wolff and K.E. **Murphy** (2011). Canine astrocytic tumors: A comparative review. *Veterinary Pathology* 48: 266-275.

Love, S.B., M.S. Davis, C. Goad, K.E. **Murphy**, D. Aichelle and T.W. Fossum (2010). Predictive serum biomarkers for canine endurance exercise. *Journal of Comparative Exercise Physiology* 7: 109-115.

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Phavaphutanon J., R.G. Mateescu, \*K.L. Tsai, P.A. Schweitzer, E.E. Corey, M.A. Vernier-Singer, A.J. Williams, N.L. Dykes, K.E. **Murphy**, G. Lust and R.J. Todhunter (2009). Evaluation of quantitative trait loci for hip dysplasia in Labrador Retrievers. *American Journal of Veterinary Research* 70(9): 1094-101.

\*Greer, K.A., S.J. Schatzberg, B.F. Porter, K.A. Jones, T.R. Famula and K.E. **Murphy** (2009). Heritability and transmission analysis of Pug Dog encephalitis. *Research in Veterinary Science* 86: 438–442.

Strain, G.M., \*L.A. Clark, \*J.M. Wahl, A. Turner and K.E. **Murphy** (2008). Deafness prevalence in dogs heterozygous or homozygous for the merle allele. *American Journal of Veterinary Research* 23(2): 282-286.

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Mateescu, R.G., N.I. Burton-Wurster, G. Lust, \*K.L. Tsai, K.E. **Murphy**, J. Phavaphutanon, Z. Zhang, and R.J. Todhunter (2008). Quantitative trait loci for osteoarthritis of hip joints in dogs. *American Journal of Veterinary Research* 69(10): 1294-1300.

\*Clark, L.A., \*A.N. Starr, \*K.L. Tsai and K.E. **Murphy** (2008). Genome-wide linkage scan localizes the harlequin locus in the Great Dane to chromosome 9. *Gene* 418(1-2): 49-52.

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- \*Wahl, J.M., \*L.A. Clark, O. Skalli, A. Ambrus, C.A. Rees and K.E. **Murphy** (2008). Genetics and immunobiology of dermatomyositis in the Shetland Sheepdog. *Veterinary Dermatology* 19(2): 52-8.
- \*Davidson, A.G., \*R.J. Bell, G.E. Lees and K.E. **Murphy** (2007). Isolation, culture and characterization of canine Sertoli cells. *In Vitro* 43(10): 324-327.
- \*Boggs, R.M., \*J.A. Moody, \*K.L. Tsai and K.E. **Murphy** (2007). Identification, amplification and characterization of the miR-17-92 from canine tissue. *Gene* 404: 25-30.
- \*Tsai, K.L., \*L.A. Clark and K.E. **Murphy** (2007). Understanding hereditary diseases using the dog and human as companion model systems. *Mammalian Genome* 18(6-7): 444-451.
- \*Starr, A.N., T.R. Famula, N.J. Markward, J.V. Baldwin, K.D. Fowler, D.E. Klumb, N.L. Simpson and K.E. **Murphy** (2007). Hereditary evaluation of multiple developmental abnormalities in the Havanese dog breed. *Journal of Heredity* 98(5): 510-517. (**work featured on cover**).
- Kerns, J.A., \*E.J. Cargill, \*L.A. Clark, S.I. Candille, M. Olivier, G. Lust, S.M. Schmutz, K.E. **Murphy** and G.S. Barsh (2007). Linkage and segregation analysis of black and brindled coat color in domestic dogs. *Genetics* 176: 1679-1689.
- \*Davidson, A.G., \*R.J. Bell, G.E. Lees, C.E. Kashtan, G.S. Davidson and K.E. **Murphy** (2007). Genetic cause of autosomal recessive hereditary nephropathy in the English Cocker Spaniel. *Journal of Veterinary Internal Medicine* 21: 394-401.
- \*Greer, K.A., \*S.C. Canterbury and K.E. **Murphy** (2006). Statistical analysis regarding the effects of height and weight on life span of the domestic dog. *Research in Veterinary Science* 2007 82(2): 208-14.
- \*Greer, K.A., M.A. Higgins, \*M.L. Cox, T.P. Ryan, B.R. Berridge, C.E. Kashtan, G.E. Lees and K.E. **Murphy** (2006). Gene expression analysis in a canine model of X-linked Alport Syndrome. *Mammalian Genome* 17: 976-990.
- \*Clark, L.A., \*J.M. Wahl, C.A. Rees and K.E. **Murphy** (2006). Retrotransposon insertion in *SILV* is responsible for merle patterning of the domestic dog. *Proceedings of the National Academy of Sciences* 103: 1376-1381. (**work highlighted by: a. accompanying Commentary; b. mention in This Week in PNAS and; c. selection of an image for the cover**).
- \*Tsai, K.L. and K.E. **Murphy** (2006). Clinical and genetic assessments of hip joint laxity in the Boykin Spaniel. *Canadian Journal of Veterinary Research* 70(2): 148-150.

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- \*Cargill, E.J., T.R. Famula, R.D. Schnabel, G.M. Strain and K.E. **Murphy** (2005). The color of a Dalmatian's spots: Linkage evidence to support the *Tyrp1* gene. ***BMC Veterinary Research*** 1: 1-5 (journal is published online only).
- Credille, K.M., R. Guyon, C. André, K.E. **Murphy**, K. Tucker, K.F. Barnhart and R.W. Dunstan (2005). Comparative sequence analysis and radiation hybrid mapping of two epidermal type II keratin genes in the dog: keratin 1 and keratin 2e. ***Cytogenetic and Genome Research*** 108: 328-332.
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- \*Clark, L.A., T.R. Famula and K.E. **Murphy** (2004). A rapid, single multiplex microsatellite-based assay for use in canine forensics. ***American Journal of Veterinary Research*** 65(10): 1446-1450.
- \*Cargill, E.J., R.D. Schnabel and K.E. **Murphy** (2004). Assignment of canine MSS1 microsatellite markers to chromosomes by linkage. ***DNA Sequence*** 15: 209-212.
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- \*Tsai, K.L., R. Guyon and K.E. **Murphy** (2003). Identification of isoforms and radiation hybrid mapping of canine *c-kit*. ***Cytogenetic and Genome Research*** 102: 261-263.

\*Greer, K.A., \*E.J. Cargill, \*L.A. Clark, \*M.L. Cox, \*K.L. Tsai, R.W. Dunstan, P.J. Venta, K.M. Credille and K.E. **Murphy** (2003). Digging up the canine genome---a tale to wag about. **Invited review** for *Cytogenetic and Genome Research* 102: 244-248.

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Lowe, J.K., R. Guyon, \*M.L. Cox, D.C. Mitchell, \*A.L. Lonkar, F. Lingaas, C. Andre, F. Galibert, E.A. Ostrander and K.E. **Murphy** (2003). Radiation hybrid mapping of the canine type I and type IV collagen gene subfamilies. *Functional and Integrative Genomics* 3: 112-116.

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Moeller, E.M., J.M. Steiner, \*L.A. Clark, K.E. **Murphy**, T.R. Famula, D.A. Williams, M.E. Stankovics and A.S. Vose (2002). Inheritance of pancreatic acinar atrophy in German Shepherd Dogs in the USA. *American Journal of Veterinary Research* 63(10): 1429-1434.

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Shin, T., D. Kraemer, J. Pryor, L. Liu, J. Rugila, L. Howe, S. Buck, K. **Murphy**, L. Lyons and M. Westhusin (2002). A cat cloned by nuclear transplantation. *Nature* 415: 859.

\*Miller, A.B., J.K. Lowe, E.A. Ostrander and K.E. **Murphy** (2001). Cloning, sequence analysis and radiation hybrid mapping of a mammalian *krt2p* gene. *Functional and Integrative Genomics* 1: 305-311.

Credille, K.M., P.J. Venta, M. Breen, J.K. Lowe, K.E. **Murphy**, E.A. Ostrander, F. Galibert and R.W. Dunstan (2001). Characterization and physical mapping of the canine transglutaminase 1 gene. *Cytogenetics and Cell Genetics* 93: 73-76.

\*Abdallah, M.A., R.S. Pollenz, F.N. Droog, R.A. Nunamaker, W.J. Tabachnick and K.E. **Murphy** (2000). Characterization of a cDNA encoding a glutathione S-transferase from the biting midge *Culicoides variipennis*. *Biochemical Genetics* 38(11/12): 377-390.

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- \*Miller, A.B., M. Breen and K.E. **Murphy** (1999). Chromosomal localization of acidic and basic keratin gene clusters of *Canis lupus familiaris*. *Mammalian Genome* 10(4): 371-375.
- \*Wang, X., \*A.B. Miller, \*J.D. Scott, A.J. Lepine and K.E. **Murphy** (1999). Analysis of randomly amplified polymorphic DNA (RAPD) for identifying genetic markers associated with canine hip dysplasia. *Journal of Heredity* 90(1): 99-103.
- Xu, G., W.C. Wilson, J.O. Mecham, K.E. **Murphy**, E.M. Zhou and W.J. Tabachnick (1997). VP7: an attachment protein of bluetongue viruses for receptors in *Culicoides variipennis*. *Journal of General Virology* 78: 1617-1623.
- Tabachnick, W.J., M.A. Robertson and K.E. **Murphy** (1996). *Culicoides variipennis* and bluetongue disease: research on arthropod-borne animal diseases for control and prevention in the year 2000. *Annals of the New York Academy of Sciences* 791: 219-226.
- Nunamaker, R.A., V.C. Dean, K.E. **Murphy** and J.A. Lockwood (1996). Stress proteins elicited by cold shock in the biting midge, *Culicoides variipennis sonorensis*. *Comparative Biochemistry and Physiology* 113: 73-77.
- Goldman, R.D., Y.H. Chou, C. Dessev, G. Dessev, J. Eriksson, A. Goldman, S. Khoun, R. Kohnken, M. Lowy, R. Miller, K. **Murphy**, P. Opal, O Skalli and K. Straube (1991). Dynamic aspects of cytoskeletal and karyoskeletal intermediate (IF) filament systems during the cell cycle. *Cell Cycle*: 629-642.
- Murphy**, K.E. and H.D. Braymer (1990). *Serratia marcescens rpr* gene sensitizes *Escherichia coli* wild type, *xth* and *nfo* strains to methyl methanesulfonate. *Molecular Microbiology* 4: 651-655.
- Murphy**, K.E., S.N. Guzder and H.D. Braymer (1989). Evidence for unique DNA repair activity encoded by a cloned *Serratia marcescens* gene: Suppression of *Escherichia coli* mutations which reduce repair of alkylated DNA. *Journal of Bacteriology* 171: 5179-5182.
- Murphy**, K.E. and H.D. Braymer (1989). Molecular cloning and characterization of a genetic region from *Serratia marcescens* involved in DNA repair. *Molecular Microbiology* 3: 249-255.
- Murphy**, K.E. and J.R. Stringer (1986). RecA independent recombination of poly[d(GT) · d(CA)] in pBR322. *Nucleic Acids Research* 14: 7325-7340.

Refereed Proceedings/Monographs:

\*\*I am first and/or senior author on these presentations. All presentations in this section are *in addition* to any presentation listed under **Invited Presentations**.

\*\*Identification of the mutation responsible for harlequin coat patterning in the Great Dane. *Advances in Canine and Feline Genomics and Inherited Diseases* (9/10) POSTER

\*\*Investigation of DLA Class II haplotype as a risk factor for Hypertrophic Osteodystrophy of the Irish Setter. *Advances in Canine and Feline Genomics and Inherited Diseases* (9/10) POSTER

\*\*Characterization of the genetic basis for autosomal recessive hereditary nephropathy in the English Springer Spaniel. *Advances in Canine and Feline Genomics and Inherited Diseases* (9/10) POSTER

\*\*MicroRNA expression in canine mammary cancer. *Genes, Dogs and Cancer* (2/09) POSTER

Pancreatic acinar atrophy in German Shepherd Dogs is not caused by mutations in *cftr*. *North American Cystic Fibrosis Conference* (10/07) POSTER

\*\*MicroRNA expression in canine mammary cancer. *Gulf Coast Society of Toxicology Annual Meeting* (10/07) POSTER

\*\*Characterization of canine microRNAs. *Texas Genetics Society* (4/07) TALK

\*\*Regulation of type IV collagen. *Texas Genetics Society* (4/07) TALK

\*\*Genetics and immunobiology of dermatomyositis in the Shetland sheepdog. *North American Veterinary Dermatology Forum* (4/07) TALK

Association mapping accounting for background QTLs: pedigree vs. molecular marker approach. *International Conference on Animal Genetics* (8/06) POSTER

Genetics of pigment type-switching in the domestic dog: Identification and characterization of the dominant black (K) and brindle (*kbr*) mutations. *Advances in Canine and Feline Genomics and Inherited Diseases* (8/06) POSTER

\*\*Type IV collagen gene expression in canine hereditary nephropathy and identification of mutation causative for HN in the English Cocker Spaniel. *Advances in Canine and Feline Genomics and Inherited Diseases* (8/06) TALK

\*\*Developmental abnormalities in the Havanese may be due to a deficiency in cholesterol biosynthesis. *Advances in Canine and Feline Genomics and Inherited Diseases* (8/06) POSTER

\*\*Genetics and immunobiology of dermatomyositis in the Shetland Sheepdog. *Advances in Canine and Feline Genomics and Inherited Diseases* (8/06) POSTER

\*\*Identification of the gene mutation that causes autosomal recessive hereditary nephropathy in English Cocker Spaniels. *American College of Veterinary Internal Medicine Forum* (5/06) TALK

\*\*Deciphering mechanisms of aging in *C. familiaris*. *Biology of Aging, Gordon Conference* (1/06) TALK (selected from posters)

A second-generation genome wide screen for linkage to Canine Hip Dysplasia. *Tufts Canine and Feline Breeding and Genetics Conference* (10/05) POSTER

\*\*Identification of microsatellite markers linked to progressive retinal atrophy in the American Eskimo Dog. *Symposium on Genetics of Animal Health* (7/05) TALK

\*\*Inborn errors in cholesterol biosynthesis in the domestic dog. *Symposium on Genetics of Animal Health* (7/05) TALK

\*\*Investigation of *C. familiaris* for determination of genetic factors in longevity. *American Aging Association* (6/05) POSTER

\*\*Understanding the genetics of aging: a canine model. *American Aging Association* (6/04) POSTER

\*\*Gene expression analysis in a canine model of X-linked Alport Syndrome (XLAS). *American Society for Nephrology* (11/03) INVITED TALK that was given by my former graduate student, Dr. Melissa Cox

\*\*Screening for a genetic marker for pancreatic acinar atrophy in German Shepherd Dogs. *American College of Veterinary Internal Medicine Forum* (6/03) POSTER

\*\*Utilizing 155 multiplexed canine microsatellite markers to screen for linkage with hereditary diseases. *Workshop on Dog Genetics* (Sweden) (5/02) TALK

\*\*Genetic analysis of canine X-linked Alport syndrome in a family of mixed breed dogs. *Workshop on Dog Genetics* (Sweden) (5/02) TALK

Comparative sequence analysis of three canine type 2 keratins. *American Academy of Veterinary Dermatology and American College of Veterinary Dermatology Meeting* (4/02) POSTER

\*\*Genetic cause of X-linked Alport syndrome in a family of domestic dogs. *Keystone Symposium: Focus on Disease; From Genotype to Phenotype* (2/02) POSTER

\*\*Genetic analyses of hereditary deafness: a canine model. *NIH-sponsored Molecular Biology of Hearing Conference* (10/01) POSTER

Inheritance of pancreatic acinar atrophy in German Shepherd Dogs in the USA. *American College of Veterinary Internal Medicine Forum* (5/01) POSTER

\*\*Polymorphisms within the human *COL1A1* gene. *American Society of Human Genetics Meeting* (10/99) POSTER

Cryopreservation of *Culicoides variipennis*. *American Society of Biochemistry and Molecular Biology Meeting* (5/99) POSTER

\*\*Physical mapping and characterization of the acidic and basic keratin gene clusters in the domestic dog. *The American Society for Cell Biology* (12/98) POSTER

\*\*Cloning and chromosomal localization of canine *bmp* genes. *The American Society for Cell Biology* (12/98) POSTER

Physical mapping of the genome of the biting midge. *Culicoides variipennis*. *The American Society for Cell Biology* (12/98) POSTER

Physical mapping of the *Culicoides variipennis* genome. *Entomological Society of America Meeting* (11/98) POSTER

\*\*Use of amplified fragment length polymorphisms (AFLP) for analysis of the canine genome and identification of markers for genetic diseases. *Molecular Genetics of Canine Health Conference* (11/97) POSTER

\*\*Analysis of genes important for canine skeletal development. *Molecular Genetics of Canine Health Conference* (11/97) POSTER

Landmark gene mapping in the dog: Mapping murine chromosome 7 loci to the canine genetic map. *Molecular Genetics of Canine Health Conference* (11/97) POSTER

\*\*Identification and mapping of canine keratin genes. *Molecular Genetics of Canine Health Conference* (11/97) POSTER

\*\*Characterization of a glutathione S-transferase from *Culicoides variipennis*. *Society for Vector Ecology Meeting* (10/97) POSTER

\*\*Search for markers associated with canine hip dysplasia and mapping the canine genome. *The Canine Genetics Workshop: The Map, The Genes, The Diseases* (7/97) POSTER

\*\*Canine hip dysplasia: Evaluation of joint laxity in the Boykin Spaniel. *North American Veterinary Internal Medicine Meeting* (5/97) POSTER

\*\*Use of restriction digested randomly amplified polymorphic DNA (RxRAPD) to identify markers associated with canine genetic diseases. *Experimental Biology Meeting* (4/97) POSTER

\*\*The Boykin Spaniel as a model for molecular genetics study of hip dysplasia. *International Symposium on Hip Dysplasia and Osteoarthritis in Dogs* (8/96) POSTER

\*\*Biology of *Culicoides variipennis*-bluetongue viruses interactions. *Entomological Society of America Meeting* (12/95) POSTER

*Culicoides variipennis* and bluetongue disease. *Proceedings of the Society for Tropical Veterinary Medicine* (10/95) TALK

Genetic basis of *Culicoides variipennis* vector competence for the bluetongue viruses. *United States Animal Health Association Meeting* (7/95) TALK

Stress Proteins in *Culicoides variipennis*. *Entomological Society of America Meeting* (12/94) POSTER

\*\**Culicoides variipennis*: genetics of vector competence. *Entomological Society of America Meeting* (12/94) POSTER

*Culicoides variipennis* and bluetongue disease epidemiology in the United States. *Second International Congress of the Society of Vector Ecology* (10/93) POSTER

#### Abstracts:

\*\*Radiation hybrid mapping of canine *coll1A1* and *coll1A2*. *Jackson Laboratory Short Course in Medical Genetics* (7/00) POSTER

\*\*Genetic and physical mapping of the *Canis lupus familiaris* genome using type I and type II loci. *The Canine Genetic Mapping Meeting* (10/98) TALK

\*\*Identification of a cDNA clone coding for heat shock protein 60 (Hsp60) from *Culicoides variipennis*. *Heat Shock Proteins and Chaperonins Meeting* (1/97) POSTER

Cold tolerance in *Culicoides variipennis*. *Pacific Meeting of Entomological Society of America* (6/95) POSTER

#### Book Chapters:

\*Moody, J.A., \*L.A. Clark and K.E. **Murphy** (2005). Working Dogs: History and Applications. In: *The Dog and Its Genome*. Ed: E.A. Ostrander, U. Giger, K. Lindblad-Toh. Woodbury, New York. **Cold Spring Harbor Laboratory Press**: 1-16.

Mateescu, R.G., \*K.L.Tsai, Z. Zhang, N.I. Burton-Wurster, G. Lust, N.L. Dykes, G.M. Acland, R.L Quaas, K.E. **Murphy**, and R. Todhunter (2005). QTL Mapping Using Cross Breed Pedigrees: Strategies for Canine Hip Dysplasia. In: *The Dog and Its Genome*. Ed:

E.A. Ostrander, U. Giger, K. Lindblad-Toh. Woodbury, New York. *Cold Spring Harbor Laboratory Press*.

\*Clark, L.A., \*J.M. Wahl, C.A. Rees, G. Strain and K.E. **Murphy** (2007). The genetics governing merle coat patterning in the domestic dog and association of merle with auditory and ophthalmologic abnormalities. In: Genomics of Disease. Ed: P.Gustafson.

#### **PATENTS:**

Murphy, K.E., L.A. Clark, J.M. Wahl, C.A. Rees (2005). Test for mutation causing merle in the domestic dog. USA patent

Murphy, K.E., A.L. Davidson, G.E. Lees (2006). Test for mutation causing hereditary nephropathy in the English Cocker Spaniel. USA patent

#### **PROFESSIONAL SERVICE:**

Reviewer for Journals (last three years):

*Mammalian Genome*

*Trends in Genetics*

*Genomics*

*Cytogenetic and Genome Research* (formerly *Cytogenetics and Cell Genetics*)

*Genome Research*

*Molecular Reproduction and Development*

*Cancer Epidemiology, Biomarkers and Prevention*

*Journal of Heredity*

*DNA Sequence*

*Genome Biology*

*Biomed Central Genetics*

*Nature Genetics*

*Gene*

*PloS Genetics*

*Genome Dynamics*

*Genetics*

*Nature*

*Biotechnology Progress*

*Biomed Central Veterinary Research*

*European Biophysics Journal*

*American Journal of Veterinary Research*

*Disease Models and Mechanisms*

Reviewer of Grant Proposals (last three years):

National Institutes of Health, Canine Health Foundation, Wellcome Trust, Ontario Research Fund (Global Leadership Round in Genomics and Life Sciences Competition)

Site Reviewer (last four years):

University of Missouri, University of Florida, National Human Genome Research Institute (NIH)

Major Committee Assignments:

Departmental: The Citadel:

Chair of Curriculum Committee, charged with developing and implementing a molecularly oriented curriculum

The University of Memphis:

Biochemist Search Committee

Endowed Chair Search Committee

Curriculum Committee, committee charged with developing two-track curriculum in Department of Microbiology and Molecular Cell Sciences

Texas A&M University:

Tenure and Promotion Committee, Chair

Molecular Microbiologist search committee

Transgenics Search Committee

Graduate Research Advisory Committee, committee charged with revamping curriculum, standardizing requirements for degrees, developing introductory course for all new students, recruiting graduate students, monitoring of students' progress, redesigning website, creating poster and recruiting pamphlets (current)

College:

The University of Memphis:

College of Arts and Sciences tenure and promotion committee; committee reviewed all College applications for tenure and promotion

Pre-professional evaluation committee, committee charged with reviewing all students submitting application packets to medical, dental, veterinary, optometry and physical therapy programs and writing evaluations of students and submitting to the various programs

Texas A&M University:

College Tenure and Promotion Committee (current)

Student-faculty Relations Committee

Committee for changing name of department(s) and College

Gene Therapy Search Committee

Biomedical Genomics Signature Program Search Committee

Graduate Instruction Committee, Chair

University: The University of Memphis:

Distinguished dissertation award committee, committee reviewed all submitted dissertations (across all fields) and chose one as the best for a given year

Texas A&M University:

University Technology and Informatics Task Force, committee assessed mechanisms to utilize recent technological advances and emerging fields (*e.g.*, bioinformatics) to improve research infrastructure and to better position investigators to compete nationally for funding; this initiative involved workers from life sciences, mathematical sciences, physical sciences and engineering

Graduate Student Recruitment Committee Intercollegiate Program in Genetics (2000-present), Served as Chair 2002-2003; as chair, assembled all application packets, coordinated with Program secretary, decided how many students were brought in for on campus interviews, arranged for talks by faculty during recruiting weekend, gave several talks about Program, interviewed all students, made budgetary decisions, wrote letters of offers, selected students for nominations for special fellowships and/or scholarships; designed Program poster (former CVM graduate students Drs. Edward Cargill and Natalie Halbert were driving force under my guidance)

Executive Committee of Intercollegiate Program in Genetics, committee of nine Program faculty governs the Program and must make all decisions regarding assignments to committees, budgetary allocations, decisions regarding request to higher administration and curricular issues

Avian Genomics Search Committee

**OTHER SCHOLARLY ACTIVITY:**

Hosted senior scientists in my lab:

Dr. John Diehl, Clemson University, sabbatical 1998

Dr. George Strain, Louisiana State University, visiting scientist 2002

Invited Presentations, Symposia, Colloquia and Named Lectures:

- 1989            **University of Cincinnati Medical Center**  
Department of Molecular Genetics, Biochemistry and  
Microbiology
- 1989            **Northwestern University Medical School**  
Department of Cell, Molecular and Structural Biology
- 1991            **University of Northern Colorado**  
Department of Biological Sciences
- 1991            **Viterbo College**  
Department of Biology
- 1991            **Los Alamos National Laboratory**  
Life Sciences Division
- 1991            **Saint Andrew College**  
Department of Biology
- 1991            **USDA-Agricultural Research Service**  
Arthropod-borne Animal Diseases Research Laboratory
- 1993            **The Citadel**  
Department of Biology
- 1995            **Clemson University**  
1.     Department of Animal and Veterinary Science  
2.     Department of Biological Sciences
- 1995            **Medical University of South Carolina**  
Molecular and Cellular Biology and Pathobiology Training  
Program
- 1995            **The University of Memphis**  
Department of Biology
- 1995            **The Boykin Spaniel Society**
- 1995            **United States Air Force Academy**  
Department of Biology
- 1995            **University of Colorado**  
Department of Biology
- 1996            **National Sporting Dogs Awards Conference**

1997 **Memphis Kennel Club**

1997 **Oklahoma State University College of Osteopathic Medicine**  
Department of Biochemistry

1997 **University of Colorado**  
Department of Biology

1998 **University of Tennessee College of Veterinary Medicine**  
Department of Pathology

1998 **Texas A&M University College of Veterinary Medicine**  
Department of Pathobiology

1998 **Louisiana State University School of Veterinary Medicine**  
Program in Veterinary Biomedical Sciences

1998 **Memphis Kennel Club**

1998 **Canine Health Foundation**

1999 **Memphis Kennel Club**

1999 **National Bird Dog Awards**

1999 **Texas A&M University College of Veterinary Medicine**  
Department of Pathobiology

2000 **National Parent Breed Health Conference**

2000 **Texas A&M University**  
Intercollegiate Program in Genetics

2000 **International Canine Mappers Meeting**

2000 **Clemson University**  
Department of Animal and Veterinary Science

2000 **Idexx, Inc.**

2000 **Baylor University**  
Department of Biology

2001 **Texas A&M University**  
Pre-Veterinary Medicine Society

- 2001 **Eli Lilly and Company**
- 2001 **Pet Food Industry Symposium**
- 2001 **Astroworld Dog Show** (sponsored by Canine Health Foundation)
- 2001 **Genetic Savings and Clone**
- 2002 **Sam Houston State University**  
Department of Biology
- 2002 **Texas Department of Criminal Justice**  
Kennel Sergeants' Meeting (discussed genetics of the dog and problems resulting from inbreeding of dogs utilized by law enforcement agencies)
- 2002 **Viagen, Inc.**
- 2002 **University of Cincinnati Medical Center**  
Department of Molecular Genetics, Biochemistry and Microbiology
- 2002 **University of Memphis**  
Department of Microbiology and Molecular Cell Sciences
- 2002 **Louisiana State University School of Veterinary Medicine**  
Department of Comparative Biomedical Sciences
- 2003 **Baylor University**  
Department of Biology
- 2003 **University of South Florida**  
Department of Biology
- 2003 **Louisiana State University Health Sciences Center**  
Department of Cellular Biology and Anatomy
- 2003 **International Working Dog Breeding Association Conference**  
(Biennial meeting; cancelled before talk due to family emergency)
- 2004 **Cornell University College of Veterinary Medicine**  
Baker Institute for Animal Health
- 2004 **University of Wyoming**  
Department of Molecular Biology

- 2004                    **United States Air Force** (Keesler Air Force Base)  
Clinical Research Laboratory and Veterinary Services
- 2004                    **Department of Defense** (Lackland Air Force Base)  
Military Working Dog Veterinary Service
- 2004                    **Applied Food Biotechnology, Inc.**
- 2005                    **United States Air Force** (Keesler Air Force Base)  
Air Force Research Week
- 2005                    **National Canine Health Conference**
- 2006                    **Advances in Canine and Feline Genomics and Inherited  
Diseases**
- 2006                    **University of Missouri**  
Stadler Genetics Symposium (*The Genomics of Disease*)
- 2007                    **Canine College Cruise** (two 3 hour seminars)
- 2007                    **International Working Dog Breeding Association**
- 2007                    **Clemson University**  
Department of Genetics and Biochemistry
- 2008                    **Hill's Pet Nutrition**
- 2008                    **Veterinary International Congress**  
Two seminars
- 2008                    **Dalmatian National Specialty**  
Keynote speaker and Honoree---the Betty Garvin Memorial  
Speakership
- 2008                    **National Conference in Healthcare Genetics**
- 2008                    **American Veterinary Medical Association** (annual meeting)
- 2009                    **Oklahoma State University**  
Department of Biochemistry and Molecular Biology
- 2010                    **Genetics Conclave-*Birth Defects and other Structural  
Anomalies***  
Greenwood Genetic Center

2010

**University of Nebraska**  
School of Biological Sciences

2011

**North Dakota State University**  
Department of Animal Sciences