

CURRICULUM VITAE

James N. Derr, Ph.D

(2009)

PRESENT POSITION AND ADDRESS:

Title	Professor
Office - Phone	979-862-4775
Office – Fax	979-854-9972
E-mail	jderr@cvm.tamu.edu

EDUCATION:

Degree/Training	Conferring Institution	Field	Year
BS	Cameron University, Lawton, OK	Biology	1980
MS	Sul Ross State University, Alpine, TX	Zoology	1982
Ph.D	Texas A&M University, College Station, TX	Genetics	1990

PROFESSIONAL EXPERIENCE AND ACADEMIC APPOINTMENTS:

1985 - 1987	Graduate Teaching Assistant	Genetics
1987 - 1989	Tom Slick Research Fellow	Genetics
1989 - 1990	Staff Research Assistant	Genetics & WFSC
1990 - 1993	Post-Doc Research Associate	Animal Sciences
1993 - 1999	Assistant Professor	Veterinary Pathobiology
1999 – 2007	Associate Professor	Veterinary Pathobiology
2000 - 2002	Chair – Graduate Faculty of Genetics	Genetics
2007 – present	Professor	

AWARDS AND HONORS:

President, Texas Genetics Society, (2001-2003).

Phi Kappa Phi Distinguished Alumnus Award, Cameron University, 2000.

Outstanding Doctoral Student, WFSC, TAMU, 1987-1988.

Outstanding Student in Training, Texas Genetics Society. 1987.

Recipient of the Tom Slick Research Fellowship, COALS, TAMU, 1987-1988.

President, Association of Graduate Wildlife and Fisheries Scientists, TAMU, 1985-1986.

EDITORIAL BOARDS:

External reviewer for dissertation research, University of Manitoba. I traveled to Winnipeg, Manitoba to review the scientific quality and merit of Ms. Christine Hansen's doctoral work. April 1997.

The Food and Agriculture Organization of the United Nations (FAO) as a **reference panelists** to develop a Global Project for the Maintenance of Domestic Animal Genetic Diversity

(MoDAD). This panel was established by the FAO in Rome and communicates via e-mail. **Committee member.** The World Conservation Union, Species Survival Commission, Bison Specialist Group. 1998 - present.

Reviewer for grant proposals: National Science Foundation, United States Department of Agriculture, 1994 - present.

Reviewer for submitted manuscripts for numerous societies, journals and publishers. A partial list includes, Animal Genetics, The Canadian Journal of Zoology, Conservation Biology, Journal of Mammalogy, Royal Society of London.

GRANT REVIEW COMMITTEES:

Reference panelists for the NSF funded BIO-POWRE program (Professional Opportunities for Women in Research and Education). National Science Foundation, Washington, DC. August 1997.

TEACHING EXPERIENCE:

I teach BIMS/GENE 320 (Biomedical Genetics) and about 25% of the lectures in BIMS/GENE 405 (Mammalian Genetics). In addition I typically have 2 to 4 undergraduate students and 2 to 4 graduate / postgraduate students in my laboratory each year.

TEACHING EFFORT passionate about subject

Undergraduate:

<u>Course Title</u>	<u>Hr</u>	<u>%</u>	<u>Dates</u>
GENE 301(honors) General Genetics	4	100%	spring (92, 93, 95, 03)
GENE 320 Biomedical Genetics	3	100%	spring (95 – 00, 04 - present)
GENE 405 Mammalian Genetics	3	25%	fall (94 – present)
GENE 481 undergraduate research	1 – 3	100%	various semesters since fall 94
GENE 485 undergraduate problems	1 – 3	100%	various semesters since fall 94

Professional

<u>Course Title</u>	<u>Hr</u>	<u>%</u>	<u>Dates</u>
VLAM 331 Conservation Medicine	2	5%	fall 00 – 06
VLAM 948-302	2	5%	Spring - 08

Graduate:

<u>Course Title</u>	<u>Hr</u>	<u>%</u>	<u>Dates</u>
GENE 603 Graduate Genetics	4	100%	fall 94 – 96
GENE 685 Graduate problems	1-4	100%	various semesters

BIOT 601 Biotechnology	5	5%	1 week 00 - present
GENE 691 Graduate Research	1 – 9	100%	94 – present

Graduate Students and Resident Advisory Committees

Alex P. Rooney	VTPB (Genetics)	Chair (graduated, Aug. 1998)
Todd J. Ward	VTPB (Genetics)	Chair (graduated, May 2000)
Robert D. Schnabel	VTPB (Genetics)	Chair (graduated Aug. 2001)
Scott Dindot	VAPH (Genetics)	Co-Chair (graduated Aug. 2003)
Natalie D. Halbert	VTPB (Genetics)	Chair (graduated Dec. 2003)
Gretchen Zaunbrecher	VAPH (Genetics)	Co-Chair (graduated Dec. 2003)
Christopher M. Seabury	VTPB (Genetics)	Chair (graduated Dec. 2004)
Erin Gillenwaters	VTPB (Genetics)	Member
Brittany Jones	VTPB (Genetics)	Member
Katherine Busch	VTPB (Genetics)	Member
Kory Douglas	VTPB (Genetics)	Member
Thad Adams	ANSC	Member
Jason Osterstock	VTPB	Member (graduated Dec. 2007)
Ralph Callicott	VTPB (Genetics)	Member (graduated May 2008)
Tonya Amen	ANSC	Member (graduated May 2007)
Christopher Schutta	VTPB	Member (graduated May 2006)
Bin Zeng	VTPB	Member (graduated Dec. 2006)
Glenda Goh	VAPH (Genetics)	Member (graduated Dec. 2004)
Stephan White	VTPB (Genetics)	Member (graduated Aug. 2003)
Michael Golding	VTPB	Member (graduated Dec. 2003)
Edward Cargill	VTPB (Genetics)	Member (graduated May 2003)
Kristen Janelle-Hawkins	ANSC (Genetics)	Member (graduated Aug. 2003)
Melissa Cox	VTPB (Genetics)	Member (graduated Dec. 2003)
James Thomson	VAPH (Genetics)	Member (graduated Aug 2001)
Heather Newkirk	VAPH (Genetics)	Member (graduated May 2001)
Wade Ryberg	WFSC (Genetics)	Member (graduated May 2001)
Quinton Winger	VTPB (Genetics)	Member (graduated May 2000)
Ikhide Godwin Imumorin	ANSC	Member (graduated Dec. 2000)
Beverly Finklea	VAPH (Genetics)	Member (graduated May 1999)
Joseph P. Bielawski	WFSC (Genetics)	Member (graduated May 1999)
David Riley	ANSC (Genetics)	Member (graduated May 1999)
Paul Bielic	VAPH (Genetics)	Member (graduated Aug. 1998)
Barbra Campbell	VAPH (Genetics)	Member (graduated Dec. 1998)
Emilie Genho	ANSC (Genetics)	Member (graduated Dec. 1998)
Ravi Iyer	BICH	Member (graduated May 1998)
Cathi A. Lehn	ANSC (Genetics)	Member (graduated Aug. 1998)
Caird Rexroad	VTPB (Genetics)	Member (graduated May 1998)
Rosalee McShane	VAPH (Genetics)	Member (graduated Aug. 1998)

Xiadong Wu	ANSC (Genetics)	Member (graduated Aug. 1998)
Brenden Holland	OCNG	Member (graduated May 1997)
Karen Moore	VAPH (Genetics)	Member (graduated Dec. 1997)
Robert Barber	VTPB (Genetics)	Member (graduated May 1997)
Qing Gao	VTPB (Genetics)	Member (graduated May 1996)
David Starkey	ANSC (Genetics)	Member (graduated May 1997)
Eddie Louis	ANSC (Genetics)	Member (graduated May 1996)
Yaping Yang	VTPB (Genetics)	Member (graduated Dec. 1996)
Yi Hai Jiang	NURT	Member (graduated May 1995)

M.S.

Alice E. Keller	VTPB (Genetics)	Chair (graduated May 1996)
Greg Peters	ANSC (Genetics)	Chair (graduated Aug. 2002)
Jose Miguel Arriaga	VTPB	Chair (graduated May 2002)
Timothy Novak	COFD	Chair (graduated Aug. 2003)
Lacy Caulk	COFD	Chair (graduated Aug. 2006)
Jay Burzlaff	COFD	Chair
Jerad Dabney	VTPB	Chair
Nathan Dewsbury	BIOT	Chair
Thad Adams	ANSC	Member (graduated Dec. 2007)
Iman M. Al-Swaiti	COFD	Member (graduated May 2005)
Laura Montier	COFD	Member (graduated May 2005)
Samantha Cunningham	ANSC	Member (graduated May 2004)
Jonathan I. Santos	COFD	Member (graduated May 2003)
Jo Anna Zuniga	COFD	Member (graduated May 2003)
Jill McCoy	PPIB	Member (graduated Aug. 2001)
Koryn Wunderlich	PPIB	Member (graduated Aug. 2001)
Natalie Wreyford	VLAMS	Member (graduated May 2001)
Sandy Shaffer	PPIB	Member (graduated Aug. 2001)
Susan Souers	PPIB	Member (graduated Aug. 2001)
Baitsi Podisi	ANSC	Member (graduated May 1998)
Yibing Song	ANSC (Genetics)	Member (graduated Aug. 1998)
Susan Tanksley	ANSC (Genetics)	Member (graduated Dec. 1998)
Regina Weaks	VAPH	Member (graduated May 1998)
Thomas Brodigan	VTPB	Member (graduated May 1998)
April Harlin	WFSC	Member (graduated May 1998)
Trina M. Guerra	ANSC (Genetics)	Member (graduated Aug. 1998)
Lisa Gefrides	VAPH (Genetics)	Member (graduated Aug. 1998)
Tana C. Wheeler	ANSC (Genetics)	Member (graduated May 1997)
Kimberly A. Greer	VAPH	Member (graduated Dec. 1996)
Emmanuel Lutaaya	ANSC (Genetics)	Member (graduated Dec. 1996)
Pepper A. Chastain	ANSC (Genetics)	Member (graduated Dec. 1995)
Chen Chen Yen	ANSC (Genetics)	Member (graduated Dec. 1995)

Kim Herring	ANSC (Genetics)	Member (graduated Dec. 1995)
Kevin Weis	VAPH (Genetics)	Member (graduated May 1994)

Graduate students outside of TAMU (Ph.D)

Christiane Hansen	Univ. of Manitoba	Member (graduated May 1997)
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Graduate committee representative

Philip Brown	MATH	GCR (graduated)
Yvonne Eixmann	EHRD	GCR (graduated)
Karine Brand	MEEN	GCR (graduated)
Myron Gray	PLPA	GCR

Recent undergraduate students working in my laboratory

Jennifer Churchill	2005 - present
Kelly Orr	2007 - present
Manju Mohan	2007 - present
Kavila Krishnan	2007 - present
Amanda Gaither	2006 - 2007
Lance Shaffer	2006 - 2007
Kimberly Jeunen	2006 – 2007
Mellisa Hain	2009 summer
Floyd Barns	2009 summer
Laura Cox	2009 summer
Teryin Wixson	2009 summer

Post Doctoral Students / Research Professors

Natalie Halbert, Assistant Research Professor

RESEARCH/SCHOLARLY ACTIVITIES:

Graduate student matriculation (Major Adviser)

Alice E. Keller graduated with a Masters of Science degree in Genetics in May of 1996. She successfully obtained a graduate research fellowship to attend Cornell University to continue her graduate education in Biometrics. She completing her degree requirements and works for a consulting company, the Emmes Corporation, as a Biostatistician in the Washington DC area.

Alex P. Rooney graduate with a Ph.D in Genetics in December 1998. His dissertation title is "Assessment of Recent Bottlenecks: A Case Study of the Bering-Chukchi-Beaufort Seas

Stock of Bowhead Whales”. While a graduate student here at Texas A&M University, Mr. Rooney distinguished himself by receiving an award for graduate research through the Faculty of Genetics, a College of Veterinary Medicine – Graduate Student Association award (1st place) for a research presentation at the annual Fall Forum (1996) and a CVM-GSA mini-grant travel award. Mr. Rooney completed post-doctoral studies with Dr. Masatoshi Nei, Institute of Molecular Evolutionary Genetics, Pennsylvania State University worked as an Assistant Professor at Mississippi State University for two years and now is employed by the USDA National Center for Agriculture Utilization Research in Peoria, IL.

Todd J. Ward began his graduate work in September of 1995. His dissertation title is “An Evaluation of the Outcome of Interspecific Hybridization Events Coincident with Dramatic Demographic Decline in North American Bison”. Mr. Ward won second place in the 1997 Genetics Graduate Student Poster competition and received travel awards from the College of Veterinary Medicine and the Faculty of Genetics. Dr. Ward graduated in May of 2000 and he is employed at the USDA National Center for Agriculture Utilization Research in Peoria, IL.

Robert D. Schnabel joined my laboratory in the fall of 1997 and graduated in August of 2001. His dissertation title is “Developing DNA-Based Technologies in North American Bison: Parentage Testing, Linkage Mapping and QTL Scans”. He won second place in the 2001 Genetics Graduate Student research competition. He worked for 18 months for the USDA in Beltsville, MD as a research scientist and is now a Research Assistant Professor in the Department of Animal Sciences at the University of Missouri.

Jose Miguel Arriaga completed his degree requirements for a Masters of Science in genetics in August of 2002. His thesis title is “Detection of *Rhodococcus equi* by Polymerase Chain Reaction Using Species Specific, Non-Proprietary Primers”. He is currently employed at a biotech company in the Woodlands, TX.

Greg Peters complete his degree requirements for a Masters of Science in genetics in August of 2002. He successfully completed the MBA program at Texas A&M University in 2003 and owns a private company in Austin, Texas that provides genetic testing services for livestock. He currently is employed at National Beef in Kansas City, Missouri.

Scott Dindot was originally mentored by Jorge Piedrahita in Veterinary Anatomy and Public Health at Texas A&M University. I assumed the responsibilities of his co-chair when Dr. Piedrahita left the University. Scott graduated in August of 2003 and was a post doctoral researcher at the Baylor College of Medicine in Houston, Texas. Currently he is an Assistant Professor in the Department of Veterinary Pathobiology at Texas A&M University.

Gretchen Zaunbrecher was originally mentored by Jorge Piedrahita in Veterinary Anatomy and Public Health at Texas A&M University. I assumed the responsibilities of her co-chair when Dr. Piedrahita left the University. Gretchen graduated in 2004.

Natalie D. Halbert joined my laboratory in September 1999 as a Ph.D student in Genetics. Her dissertation title was “The Utilization of Genetic Markers to Resolve Modern Management Issues in Historic Bison Populations: Implications for Species Conservation”. Ms. Halbert graduated in December of 2003. She won first place in the Annual Genetics Graduate student research competition for 2002 and first place in the 2002 Texas Genetics Society Ph.D poster competition. She is currently employed as an Assistant Research Professor in the Department of Veterinary Pathobiology, TAMU.

Timothy Novak graduated in August of 2003 with a Masters in Biotechnology. He was employed with Sigma-Genosys in Denver, Colorado until he was promoted and transferred to Houston, Texas in 2005.

Chris M. Seabury joined my laboratory in the fall of 2001 and graduated in December of 2004 with a Ph.D in Genetics. His dissertation title was “Genetic Evaluation of The Ovine and Bovine Prion Protein Genes (*PRNP*)”. Chris is currently employed as an Assistant Professor in the Department of Veterinary Pathobiology TAMU.

Student advising outside the classroom (Undergraduate, Graduate, Professional)

Participating on a number of graduate committees requires that I spend a considerable amount of time advising students in research projects and course work. I am involved in the TAMU MENTORS program where I am available to listen and hopefully provide academic and personal assistance to students. Throughout the last few years I have also been involved in a number of short term programs that are designed to give High School students, undergraduate students and public school teachers opportunities to increase their knowledge and research experience in a modern molecular biology laboratory. These programs include; the Undergraduate Fellows Program, Summer Research Apprentice Program through the Texas Alliance for Science, Technology and Mathematics Education, the Bridges to Baccalaureate Summer Program, and the Howard Hughes Medical Undergraduate Research Intern Program.

RESEARCH/SCHOLARLY ACTIVITIES:

Localization of Quantitative Trait Loci of Economic Importance in the Bovine and Caprine. J.F. Taylor (PI), S.K. Davis and J.N. Derr. Agency: The Texas Agriculture Experiment Station - Expanded Research Program for 1993 - 1994.

Total amount of grant 10,600\$.

1993 - 1994 **Total funded \$10,600.**

Identification and Characterization of Trinucleotide Repeat Polymorphisms in Cattle. J.N. Derr. Agency: TAMU Faculty Minigrant Program.

1993 - 1994 **Total funded \$1,500.**

Identification of Genetic Markers for the Detection of B-Mannosidosis in Salers Cattle.

J.F. Taylor, S.K. Davis and J.N. Derr. Texas A&M University, Interdisciplinary Research Initiatives for 1993, \$35,000. Not funded.

Trinucleotide Repeat Mutations in the Cattle Genome. J.N. Derr. Agency: OUR Research Enhancement Funding Program, College of Veterinary Medicine, TAMU.

1994 - 1995 Total funded \$4,000.

Temporal Perspective of Population Fragmentation Through Historical Bottlenecks and Human activities: The North American bison model. J.N. Derr and J.W. Templeton co-

investigators. Agency: Conservation Biology Panel, National Science Foundation (NSF) 1994. Total requested \$276,431. Not funded.

Temporal Perspective of Population Pragmentation Through Historical Bottlenecks and Human Activities in the Conservation and Restoration of North American Bison. J.N. Derr

(PI) and J.W. Templeton. National Aeronautics and Space Administration (NASA). 1994. Total requested 258,522. Not funded.

DNA Markers for Redfish Aquaculture. J.R. Gold (PI) and J.N. Derr . Agency:

Interdisciplinary research initiative program 1994, TAMU. Not funded.

Germplasm Characterization and Utilization from Colombian Criollo cattle. J.N. Derr

(PI) and L. G. Adams. Foreign Agriculture Service, U.S. Department of Agriculture 1995. Not funded.

Innovative Computer Technology in the Instructional Process. J.N. Derr. Submitted to

Dr. John Dinkel, Associate Provost for Computing and Information Systems, Texas A&M University. Total requested \$7,500. 1995. Not funded.

Manipulation of Cytoplasmic Inheritance in Cattle by Nuclear Transplantation. M.

Westhusin, R.D. Randel and J.N. Derr . Agency: U.S. Department of Agriculture (USDA) Cooperative State Research Service in 1995. Total requested \$860,891. Not funded.

Development of a Serovar Specific Diagnostic Test for *Salmonella enteritidis*. N. Cohen,

J.N. Derr and B. Hargis. Agency: Diagnostic & Biologic Technologies, Inc. of San Antonio, TX. 1995. Total requested \$65,600. Not funded.

Determiation of Bovine Gonadal Microsatellite Mosaicism: Implication for Development of Neoplasia and Neurodegenerative Disease. C. L. Guyer and J. N. Derr. Agency: The

National Association of Animal Breeders, 1995. Not funded.

Molecular and Population Genetics of Colombian Criollo cattle. J.N. Derr, S.K. Davis, J.L. Estrada, F. Ariza, J.E. Ossa, A.R. Linares. Agency: COLCIENCIAS, Bogota, Colombia. 1995 - 2000 **Total funded: \$216,000.**

Conservation Genetics of Bowhead Whales. J.N. Derr (PI) and A.P. Rooney. Agency: Department of Wildlife Management, North Slope Borough, Barrow, AK. 1996 - 1998 **Total funded: \$49,121**

American Bison as a Model for the Conservation of Megavertebrate Populations. J.N. Derr (PI) and J.W. Templeton. Agency: National Science Foundation 1996 – 1999. **Total funded: \$120,000.**

Manipulation of Cytoplasmic Inheritance in Cattle by Nuclear Transplantation. M. Westhusin (PI), R.D. Randel and J.N. Derr. Agency: The Texas Agriculture Experiment Station - Research Enhancement Program (REP).
1996 - 1997 **Total funded \$39,000 .**

1996 - \$5,000 (Derr)

1997 - \$4,000 (Derr)

Proposed Rat Model of Olivopontocerebellar Atrophy. C. L. Guyer, J. N. Derr and J.E. Womack. Agency: National Institutes of Health (NIH) 1996. Total requested: \$337,160. Not funded.

JA Ranch Bison Genetics. J.N. Derr (PI), T. Ward and J. Templeton. Agency: Texas Parks and Wildlife Department, Austin, TX. 1997 - 1998 **Total funded \$10,000.**

Signaling Requirements for CDK Expression in T cells. National Institutes of Health. (NIH). J. Modiano (PI) and J. Derr. Total requested \$965,367. Submitted June 1998. Not funded.

Comparative Molecular and Biological Characterization of Bursal Anti-Steroidogenic Peptide (BASP): Role in Reproductive and Immune System Disease. B. Hargis (PI) T. Porter and J.N. Derr. Agency: CVM Formula Animal Health TAMU. 1997 - 1998 **Total funded: \$39,600.**

Efficacy of Commercial, Assigned PCR Primers for Gene Mapping in the Rat. J.N. Derr. To Faculty Mini-Grant Program 1997. Total requested \$1,500. Not funded.

Demographic and Genetic Differences in Dusky Dolphins: Phase 1; Winter vs. Summer. B. Wursig, J.N. Derr and R.H. Honeycutt. Agency: Interdisciplinary Research Initiatives, Office of the Vice President for Research and Associate Provost for Graduate Studies, TAMU. 1997 – 1998 **Total funded: \$24,600.**

***Rhodococcus equi* Foal Pneumonia: Molecular Epidemiology, Pathogenesis and Diagnosis.** R. Martens (PI), N. Cohen, K. Chaffin and J.N. Derr. Agency: American Quarter

Horse Association. **1998 – 2000. Total funded: \$57,852.**
1998-1999 \$25,000
1999-2000 \$32,852

Center for Environmental and Rural Health. S, Safe, K. Ramos, et al. Agency: National Institutes of Health (NIH-NIEHS) Special Emphasis Panel. Total Requested \$3,653,664 for 4 years. Priority Score 148.
1998 - 2002 Total funded: \$2,000,000.
1998 - 1999 \$32,000 (Derr)

Conservation of Domestic Animal Genetic Resources. Spring 1998 International Research Travel Assistance Grant from the Assistant Provost for International Programs. This travel grant to Nepal to collect DNA samples from wild bovinds. **Total funded \$750.**

Molecular Mechanisms of Neuronal Death in Leaner Mice, An animal Model of Neurodegenerative Disease. L. Abbott and J. Derr. 1999 – 2000 TAMU Program to Enhance Scholarly and Creative Activities. **Total funded \$7,271.**

Comparative Genomics. J. Womack, L. Skow. G. Lees and J. Derr. 2000. College of Veterinary Medicine Signature Program Enhancement Initiative. **Requested \$270,000, Total funded \$40,000.**

Molecular Mechanisms of Methylmercury Toxicity. L.C. Abbott and J.N. Derr, CERH Pilot Project (NIEHS). February 1, 2000 - August 31, 2001 **Total funded \$15,000.**

Acquisition of Real Time Quantitative PCR capabilities for the CVM. D. Kochevar et.al. College of Veterinary Medicine Signature program Enhancement Initiative. **Total funded \$36,475.**

DNA Array Bioinformatics Software and Workstations. J.N. Derr PI. **2001.** College of Veterinary Medicine Signature Programs Enhancement Initiative. **Total funding \$32,000.**

Development of A Genetic Based Breeding Program For The Texas State Bison Herd. J.N. Derr PI. 2001 Texas Parks and Wildlife, Austin, Texas. **Total funding \$20,200.**

Intertaxon Nuclear Transfer: Basic Research Model and Potential Conservation Technology. 2002 TAMU Life Science Task Force. D. Kraemer PI. Total requested \$1,025,100. Not funded.

Animal Cloning: Exploring the Mechanisms of Failed Mammalian Development. 2002 TAMU Life Science Task Force. M. Westhusin PI. Total requested \$1,025,100. Not funded.

Transmissible Spongiform Encephalopathies: Genomic and Functional Analysis of the

Cattle Prion Protein Gene. 2002 TAMU Life Science Task Force. J.N. Derr PI. Not funded.

College of Veterinary Medicine Support for the Interdisciplinary Faculty of Genetics. College of Veterinary Medicine Signature Program Enhancement Initiative. **Total funding \$15,000.** (\$5,000 per year, 2000 – 2003).

Molecular and Electrophysiological Analysis of Neuronal Programmed Cell Death. 2001 National Science Foundation (NSF) L. C. Abbott PI. Total requested \$299,029. Not funded.

MGET: Animal Biotechnology and Genomics. 2001 USDA, J.E. Womack PI. Total requested \$417,988. Not funded.

The Discovery of Mitochondrial Mutations Associated with Productivity and Longevity in Cattle. 2001 Texas Advanced Technology Program. J.N. Derr PI. Total requested \$200,000. Not funded.

Critical and Emerging Issues: Bovine Spongiform Encephalopathy (BSE) and the Prion Protein (PrP) gene. 2001 USDA. J. Piedrahita PI. Total requested \$943,553. Not funded.
Defining the Genetics of Native North American Bison. The Turner Foundation 2001. J.N. Derr PI. Not funded.

Intertaxon Nuclear Transfer: Basic Research Model and Potential Conservation Technology. TAMU Life Sciences Program of Excellence. Duane C. Kraemer (PI), Mark E. Westhusin, James N. Derr, Joe W. Templeton, Loren C. Skow, Arnold Vedlitz, Letitia T. Alston, Nancy Rhodes, B. Mitch Peck. Total requested \$551,000, Not funded.

The Application of Conservation Genetics to the Long-term Management of Bison in Five National Parks. J.N. Derr and J.W. Templeton. Agency: Department of Interior, US Geological Service and the National Park Service.

2000-2004 Total funded \$265,000

2000-2001 \$30,000

2001-2002 130,000

2002-2003 \$92,000

2003-2004 \$13,000

Acquisition of Significantly Expanded High Throughput DNA Genotyping Capabilities in the DNA Technologies Core Laboratory, College of Veterinary Medicine. J.N. Derr PI. 2001 Life Sciences Training Program – Research Instrumentation. **Total funding \$180,800** (2001 – 2003).

The Role of the Ft. Niobrara Wildlife Refuge and Sullys Hill Wildlife Preserve in the Long-Term Management of Federal Bison Herds. J. Derr PI and J. Templeton. The

U.S. Department of the Interior, U.S. Geological Survey & the U.S. Fish and Wildlife Service. **Total funding \$53,000 (2002 – 2003).**

Support for DNA Genotyping and Sequencing Equipment Maintenance in the CVM DNA Technologies Laboratory. TAES. J. Derr. September 2004. Total requested \$27,400. Not funded.

Assessing the Evolutionary Mechanisms Influencing the Avian *PRNP* Gene and Association Tests with *Mycobacterium avium*. J. Derr and C. Seabury. Submitted to the Richard M. Schubot Exotic Bird Health Center (Dr. Ian R. Tizard). September 2004. Total Requested \$25,000. Not funded.

Mitochondrial Genomics: Defining Nucleotide Diversity for Productivity vs Longevity in a Bovine Model. The Ellison Medical Foundation - Senior Scholar Award in Aging. March 2005. J. Derr. Total requested \$150,000. Not funded.

Management to Meet Conservation Challenges with Badlands N.P., Teddy Roosevelt N.P., and Windcave N.P. Bison Herds. The Department of the Interior. J. Derr and N. Halbert. Total requested \$300,000. Not funded.

Genotyping for Resistance to Bovine Spongiform Encephalopathy (BSE) In US Cattle. The Texas Agriculture Experiment Station, College Station. J.N. Derr PI and C. M. Seabury. **Total funding \$16,000 (2004).**

Banking Bison Tissue Culture Cells for Cloning of Bison in Case of Catastrophic Loss. The Turner Foundation 2001. J.W. Templeton PI. **Total funding \$180,000 (2002 – 2005).**

Development of a Genetic Based Breeding Program for the Badlands National Park Bison Herd. The Department of the Interior, US. J.N. Derr PI. **Total funding \$50,000 (2005 – 2007).**

Effect of Domestic Cattle / Bison Mitochondrial DNA in Semi-Feedlot Treated Bison. Turner Enterprises, Bozeman, MT. **Total funded \$9,700. (2007).**

Remove Threats To Irreplaceable Bison Herd At Wind Cave National Park. J. Derr and N. Halbert. The National Park Service FY 2006 Challenge Cost Share Program through Wind Cave National Park, **Total funding \$60,000 (2007 – 2008).**

Bison Herd Genetic Architecture and Management – Working Toward a Species-Wide Conservation Approach II. Genetic Diversity. The Nature Conservancy – RJ Kose funding for Conservation Biology. Bob Hamilton (TNC), co-PI, J. Derr (Co-PI) and N. Halbert. **Total requested \$150,000 (not funded).**

Research activities (current funding)

Development of a Genetic Based Conservation Management Program for the Wind Cave National Park Bison Herd. Department of Interior – BRMD. J. Derr and N. Halbert. **Total funded \$50,000. (2007 – 2009).**

Bison Herd Genetic Architecture and Management – Working Toward a Species-Wide Conservation Approach. The Nature Conservancy – RJ Kose funding for Conservation Biology. Bob Hamilton (TNC), co-PI, J. Derr (Co-PI) and N. Halbert. Total funded \$60,000 (RJ Kose) and \$60,000 match (TNC), **Total funded \$120,000. (2008 - 2009).**

A Systematic Approach to African Wildlife Conservation Genetics. The Dallas Safari Club. J. Derr (PI), J. Lane Easter and Nigel Theisen. Total requested \$1,000,000. **Total funded \$10,000 with addition pending.**

Assessment of Genetic Diversity and Status of Domestic Cattle Introgression in Bison from the Marine Corps Base at Camp Pendleton, CA. Department of Defense (contract research). J. Derr and N. Halbert. **Total funded \$9,000 (2008 - 2009).**

Bison Genetics of Great Sand Dunes National Park. COOPERATIVE AGREEMENT NO. H5000 02 0271. J. Derr and N. Halbert. **Total funded \$10,000. (2008).**

Developing Genetic Tools for the Conservation of European Bison. USGS. J. Derr and N. Halbert. **Total funded \$8,000. (2008 – 2009).**

Research activities (grant proposals and contracts submitted or in progress)

Genetic Evaluation of the National Bison Range lineage in Alaskan bison. Submitted to Alaska Department of Fish and Game. N. Halbert, Ph.D and J. Derr. Total Requested \$30,000.

Developing SNP Genotyping Technology for Bison. Submitted to the American Bison Society -Wildlife Conservation Society -Turner Foundation. J. Derr and N. Halbert. Total Requested \$100,000.

A Systematic Approach to African Wildlife Conservation Genetics. Submitted to the Safari Club International and other local Safari Club Chapters. Total requested \$10,000 to \$1,000,000.

BIBLIOGRAPHY: Publications in Refereed Journals:

- Carr, S.M., S.W. Ballinger, J.N. Derr, J.W. Bickham and L.H. Blankenship.** 1986. Mitochondrial DNA analysis of hybridization between sympatric white-tail and mule deer in west Texas. *Proceedings of the National Academy of Science, USA.* 83:9576-9580.
- Derr, J.N., J.W. Bickham, I.F. Greenbaun, A.G.J. Rhodin and R.A. Mittermeier.** 1987. Biochemical systematics and evolution in the South American turtle genus *Platemys* (Pleurodira:Chelidae). *Copeia.* 1987:2. 370-375.
- Lee, T.E., J.N. Derr, J.W. Bickham and T.L. Clark.** 1989. Genetic variation in West Texas pronghorn antelope. *Journal of Wildlife Management,* 53:890-896.
- Derr, J.N.** 1991. Genetic interactions between white-tailed and mule deer in the southwestern United States. *Journal of Wildlife Management,* 55:228-237.
- Derr, J.N., D. W. Hale, D. L. Ellsworth and J.W. Bickham.** 1991. Fertility in a F1 male hybrid of white-tailed deer (*Odocoileus virginianus*) X mule deer (*O. hemionus*). *Journal of Reproduction and Fertility.* 93:111-117.
- Lockwood, S.F. and J.N. Derr.** 1992. Intra- and interspecific genome size variation in the Salmonidae. Cytogenetics and Cell Genetics. *Cytogenetics and Cell Genetics,* 59:303-306.
- Cameron, S.A., J.N. Derr, A.D. Austin, J.B. Woolley and R.A. Wharton.** 1992. Molecular systematics of the Hymenoptera: a review of methods, procedures and analysis. *Journal of Hymenoptera Research,* 1: 63-79.
- Derr, J.N., S.K. Davis, J. Woolley and R. Wharton.** 1992. Variation and the phylogenetic utility of the large ribosomal subunit of mitochondrial DNA from the insect order Hymenoptera. *Molecular Phylogenetics and Evolution,* 1:136-147.
- Derr, J.N., S.K. Davis, J. Woolley and R. Wharton.** 1992. Reassessment of the 16S rRNA nucleotide sequence from members of the parasitic Hymenoptera. *Molecular Phylogenetics and Evolution,* 1:338-341.
- Morales, J.C., J.W. Bickham, J.N. Derr, B.G. Hanks and B.J. Gallaway.** 1993. Allozyme analysis of population structure of Arctic Cisco (*Coregonus autumnalis*) from the Beaufort Sea. *Copeia.* 93:863-867.
- Bickham, J.W., V.L. Sawin, K. McBee, J.N. Derr, B.G. Hanks and B.J. Gallaway.** 1994. Further studies on the effects of triethylenemelamine on somatic and testicular tissues of the rat using flow cytometry. *Cytometry,* 15:.
- Aukema, H.M., L.A. Davidson, W.-C.Chang, J.R. Lupton, J.N. Derr and R.S. Chapkin.** 1994.

Dietary modulation of rat colonic cAMP-dependent protein kinase. *Biochimica et Biophysica ACTA* 1224:1-10.

Davidson, L.A., Y.-H. Jiang, J.N. Derr, H.M. Aukema, J.R. Lupton and R.S. Chapkin. 1994. Protein kinase C isoforms in human and rat colonic mucosa. *Archives of Biochemistry and Biophysics*. 312:547:553.

Arevalo, E., D.A. Holder, J.N. Derr, E. Bhebhe, R.A. Linn, J.F. Taylor, S.K. Davis and F. Ruvuna. 1994. Caprine dinucleotide repeat polymorphisms at the SR-CRSP-1, SR-CRSP-2, SR-CRSP-3, SR-CRSP-4 and SR-CRSP-5 loci. *Animal Genetics* 25:202

Bhebhe, E., J. Kogi, D.A. Holder, Arevalo, E., J.N. Derr, R.A. Linn, J.F. Taylor, S.K. Davis and F. Ruvuna. 1994. Caprine dinucleotide repeat polymorphisms at the SR-CRSP-6, SR-CRSP-7, SR-CRSP-8, SR-CRSP-9 and SR-CRSP-10 loci. *Animal Genetics* 25:203.

Gallagher, D.S., J.N. Derr and J.E. Womack. 1994. Chromosome conservation among the advanced Pecorans and determination of the primitive bovid karyotype. *Journal of Heredity*. 85:204-210.

Reese, R.L., M. Hyman, M.W. Rowe, J.N. Derr and S.K. Davis. 1996. Ancient DNA from Texas Pictographs. *Journal of Archaeological Science* 23:269-277.

Ficht, T.A., H.S. Hussein, J. Derr and S.W. Bearden. 1996. Species-specific sequences at the omp2 locus of Brucella type strains. *International Journal of Systematic Bacteriology* 46:329-331.

Piedrahita, J.A., R. Weeks, A. Petrescu, T.W. Schrode, J.N. Derr and J.E. Womack. 1997. Genetic Characterization of the bovine leukemia inhibitory factor (LIF) gene: isolation and sequencing, chromosome assignment and microsatellite analysis. *Animal Genetics* 28:14-20.

Ward, T.J., R. H. Honeycutt and J.N. Derr. 1997. The pattern of nucleotide sequence evolution at Kappa-Casein loci provides evidence of positive selection. *Genetics* 147:1863-1872.

Rooney, A.P., D.B. Merrit and J.N. Derr. 1999. Microsatellite diversity in captive bottlenose dolphins (*Tursiops truncatus*). *Journal of Heredity* 90:228-331.

Phalen, DN, V.G. Wilson, J.M. Gaskin, J.N. Derr and D.L. Graham. 1999. Genetic diversity in twenty variants of the avian polyomavirus. *Avian Diseases* 43:207-218.

Ward, T.J., J.P. Bielawski, S.K. Davis, J.W. Templeton, and J.N. Derr. 1999. Identification of domestic cattle hybrids in wild cattle and bison species: A general approach using mtDNA markers and the parametric bootstrap. *Animal Conservation* 2:51-57.

Rooney, A.P. R.L. Honeycutt, S.K. Davis and J.N. Derr. 1999. Evaluating a putative bottleneck in a population of bowhead whales from patterns of microsatellite diversity and

genomic disequilibria. *Journal of Molecular Evolution* 49:682-690.

Schnabel, R.D., T.J. Ward and J.N. Derr. 2000. Validation of 15 microsatellites for parentage testing in North American bison, *Bison bison* L. and Domestic cattle. *Animal Genetics* 31:360 – 366.

Ward, T.J., L.C. Skow, D.S. Gallagher, R.D. Schnabel, C.E. Kolenda, C. Nall, S.K. Davis, J.F. Taylor and J.N. Derr. 2000. Differential introgression of uniparentally-inherited markers in bison populations with hybrid ancestries. *Animal Genetics* 32:89-91.

Rooney, A.P., R.L. Honeycutt and J.N. Derr. 2001. Historical population size change of bowhead whales inferred from DNA sequence polymorphism data. *Evolution* 55(8) 1678-1685.

Arriaga, J.M., N.D. Cohen, J.N. Derr, M.K. Chaffin and R.J. Martens. 2002. Detection of *Rhodococcus equi* by polymerase chain reaction using novel, non-proprietary primers. *Journal of Veterinary Diagnostic Investigation.* 14:347-353.

Hansen, C., J.N.B. Shrestha, R.J. Parker, G.H. Crow, P.J. McAlpine and J.N. Derr. 2002. Genetic diversity among Canadienne, Brown Swiss, Holstein and Jersey cattle based on 15 microsatellite markers. *Genome.* 45:862-870.

Guyer C.L. G. Stoica, J.E. Womack, R.W. Storts, J.N. Derr, L.C. Abbott. 2002. A line of Berlin Druckrey IV rats proposed as a new model for human hereditary ataxia. *In Vivo.* 16(4):255-63.

Hansen, C., J.N.B. Shrestha, R.J. Parker, G.H. Crow, P.J. McAlpine and J.N. Derr. 2003. Genetic diversity among Canadienne, Brown Swiss, Holstein and Jersey cattle based on mitochondrial D-loop sequence variation. *Canadian Journal of Animal Science* 83: 39-44.

Seabury, C.M., and J.N. Derr. 2004. Identification of a novel ovine PrP polymorphism and scrapie resistance genotypes for St. Croix White and a related composite breed. *Cytogenetic and Genome Research.* 102: 85-88.

Schnabel, R.D., J.F. Taylor and J.N. Derr. 2004. Development of a linkage map and QTL scan for growth traits in North American bison. *Cytogenetic and Genome Research.* 102:59-64.

Seabury, C.M., J.E. Womack, J. Piedrahita, and J.N. Derr. 2004. Comparative PRNP genotyping of U.S cattle sires for potential association with BSE. *Mammalian*

Genome. 15:828-833.

Seabury, C.M., R.L. Honeycutt, A.P. Rooney, N.D. Halbert and J.N. Derr. 2004. Novel prion protein gene (PRNP) variants and evidence for strong purifying selection in functionally important regions of bovine exon 3. *Proceedings of the National Academy of Sciences*. 101(42):15142-15147.

Halbert, N., Raudsepp, T., Chowdhary, B., and J.N. Derr. 2004. The legacy of Charles Goodnight: Conservation genetic analysis of the Texas State Bison Herd. *Journal of Mammalogy*. 85(5):925-931.

Seabury, C. M., N. D. Halbert, P. J. P. Gogan, J. W. Templeton, and J. N. Derr. 2004. An evaluation of PRNP exon 3 variation and association with seroprevalence of *Brucella* spp. antibodies in Yellowstone bison. *Animal Genetics* 36:104-110.

Halbert, N.R., W.E. Grant, and J.N. Derr. 2005. Genetic and demographic consequences of importing animals into a small population: A simulation model of the Texas State Bison Herd (U.S.A.). *Ecological Modeling*. 181:263-276.

Halbert, N., T. Ward, R. Schnabel, J. Taylor, and J. Derr. 2005. Conservation genomics: disequilibrium mapping of domestic cattle chromosomal segments in North American bison populations. *Molecular Ecology* 14:2343-2362.

White, S.N., N.D. Halbert, K.H. Taylor, J.N. Derr, and J.E. Womack. 2005. Comparison of segregating *TLR4* variation in American bison and cattle. *Animal Genetics* 36:511 – 542.

Solomon K.M., N.D. Halbert, D.T. Redden, D.B. Allison, J.N. Derr. 2006. Marker genotypes, population admixture, and their association with body weight, height, and relative body mass in U.S. federal bison herds. *Genetics* 174:775-783.

Halbert, N., and J. Derr. 2007. A Comprehensive Evaluation of Cattle Introgression into U.S. Federal Bison Herds. *Journal of Heredity* 98(1):1-12.

Freese, C.H., K. E. Aune, D.P. Boyd, J. N. Derr, S.C. Forrest, C.C. Gates, P.J.P. Gogan, S.M. Grassel, N.D. Halbert, K. Kunkel and K.H. Redford. 2007. Second Chance for the plains bison. *Biological Conservation* 136(2):175-184.

Vogel, A.B., K. Tenggardjaja, S. Edmands, N.D. Halbert, J.N. Derr, and D. Hedgecock. 2007. Introgression of cattle mtDNA into Santa Catalina Island American bison. *Animal Genetics* 38: 410 – 412

Halbert, N., P. Gogan, R. Hiebert, and J. Derr. 2007. Where the buffalo roam: federal bison history and role in species conservation. National Park Service. *Park Science* 24: (2) 22-29.

Seabury, C., J. E. Womack, C. A. Gill, J. B. Dyar, J. W. Templeton, D. L. Adelson, K. E. Owens, J. N. Derr, D. C. Kraemer. 2007. Molecular characterization of the Rocky Mountain Elk (*Cervus elaphus nelsoni*) PRNP putative promoter. *Journal of Heredity*. 98(7): 678-686.

Osterstock, J., G. Fosgate, J. Derr, N. Cohen and A. Roussel. 2008. Assessing familial aggregation of paratuberculosis in beef cattle of unknown pedigree. *Preventive Veterinary Medicine.* 84: 121-134.

Osterstock, JB; Fosgate, GT; Cohen, ND; Derr, JN; Manning, EJB; Collins, MT; Roussel, AJ. 2008. Familial associations with paratuberculosis ELISA results in Texas Longhorn cattle. *Veterinary Microbiology.* 129 (1-2), 131-138.

Sanderson, E., K. Redford, B. Weber, K. Aune, D. Baldes, J. Berger, D. Carter, C. Curtin, J. Derr, S. Dobrott, E. Fearn, C. Fleener, S. Forrest, C. Gerlach,^j C.C. Gates, J. Gross, P. Gogan, S. Grassel, J. Hilty, M. Jensen, K. Kunkel, D. Lammers, R. List, K. Minkowski, T. Olson, C. Pague, P. Robertson, and B. Stephenson. 2008. The Ecological Future of the North American Bison: Conceiving long-term, large-scale conservation of a species. *Conservation Biology* 22(2): 252 – 266.

Osterstock, JB., G T Fosgate, N D Cohen, J N Derr, A J Roussel. 2008. Familial and herd-level associations with paratuberculosis ELISA status in beef cattle. *Journal of Animal Science.* 2008 May 9.

Refereed Proceedings/Monographs:

Derr, J.N. S.K. Davis, J.L. Estrada, J.E. Ossa, M. Westhusin, J. Piedrahita and L.G. Adams. 1995. Genetic characterization of Colombian Criollo cattle. (R.D. Crawford, E.E. Lister and J.T. Buckley, eds.). pp. 291 -306. *in* Proceedings of The Third Global Conference on Conservation of Domestic Animal Genetic Resources.

Rooney, A., R.L. Honeycutt, M. Nei, R. Chakraborty, and J.N. Derr. 1998. Evaluating the likelihood of a potential recent bottleneck in the Bering-Chukchi-Beaufort Seas stock of bowhead whales (*Balaena mysticetus*). Paper SC/50/AS13, Proceedings of the IWC Scientific Committee, Muscat, Oman.

Derr, J.N. 1998. Conservation Genetics and Hybridization. Proceedings of the Congreso Iberoamericano de razas autoctonas y Criollas in Tampico, Tamaulipas, Mexico.

Rooney, A., S.K. Davis, R.L. Honeycutt, and J.N. Derr. 1999. Evaluating the likelihood of a potential recent bottleneck in a population of bowhead whales (*Balaena mysticetus*) from patterns of microsatellite diversity and genetic disequilibria. Paper SC/51/AS16, Proceedings of the IWC Scientific Committee, Saint George, Grenada.

Derr, J.N. 2001. Genetics and public herds in the 21st century. Pages 25 – 28.in Rutley, B.D., ed., *Bison are back – 2000*. Proceedings of the International Bison Conference, Aug. 2 – 4 2000 Edmonton, Alberta.

Derr, J.N, Seabury C.M., Schutta, C., Templeton, J.W. 2002. Genetic Resistance to Disease in Bison. In *Brucellosis in Elk and Bison in the Greater Yellowstone Area*. pp 97-98. Jackson, Wyoming. Greater Yellowstone Interagency Brucellosis Committee.

Book Chapters:

Gogan, P., J. Derr, N. Halbert and C. Gates. 2005. Restoration of Populations of Large Mammalian Herbivores: Principles and Case Studies. Pp. 161 - 178 *in* Health threats for the European bison particularly in free-roaming populations in Poland. Wydawnictwo SGGW Agricultural University of Warsaw. pp. 320.

Reece, R.L., E.J. Mawk, J.N. Derr, M.Hyman, M.W. Rowe and S.K. Davis. 1996. Ancient DNA in Texas rock paintings. (M. V. Orna, ed.). pp. 378 - 391. *in* Archaeological Chemistry: Organic, Inorganic and Biochemical Analysis.

Schmidly, D.J., K.T. Wilkins and J.N. Derr. 1993. Biogeography. *in* Biology of Heteromyid rodents. (H.H. Genoways and J.H. Brown eds.). American Society of Mammalogists, Special Publication.

Patents And Related Discovery Activities

United States Patent # 7,083,925. **Inventors R. D. Schnabel and J.N. Derr.** Issued 8/1/2006 “Method for Parentage Testing in North American Bison”

Also, working with the Texas A&M University System Technology Licensing Office to license diagnostic molecular technologies for various bovid genetic traits.

Service Activities:

Professional Organizations and Service: President (2001 – 2003) and member of the Board of Directors of the Texas Genetics Society.

Reviewer for submitted manuscripts for numerous societies, journals and publishers. A partial list includes, Animal Genetics, The Canadian Journal of Zoology, Conservation Biology, Journal of Mammalogy, Royal Society of London.

Major Committee Assignments:

Departmental:

Department Head Advisory Committee for VTPB. 2006 – present.
Interim Department Head Advisory Committee for VTPB. 2005 – 2006
Graduate Studies and Seminar Committee, Veterinary Pathobiology, 1994 – 2002.
Graduate Student Association Travel Awards Committee, College of Veterinary Medicine
1995 – 1998.

College:

VTPB Department Head Search Committee, 2006
CVM Staff Recognition Award Committee, 2004
Formula Animal Health CVM Committee, 1998 – 2001.

University:

**Agriculture Program Faculty Advisory Committee, APFAC, College of Agriculture
TAMU** 2005 – 2007.
University Research Infrastructure Oversight Committee (URIOC), 2005 – 2007.
Council of Principal Investigators, Executive Committee 2004 – 2006.
Council of Principal Investigators, 2002 – present
Undergraduate Curriculum Committee, Faculty of Genetics, 1998 – 2000.
Graduate Work/Recruiting Committee, Faculty of Genetics, 1994 - 1998.
Executive Committee, Faculty of Genetics, 1996 - 2002 (Chairman of the faculty 2000
- 2002).

Professional:

Reference panelists for the NSF funded BIO-POWRE program (Professional Opportunities
for Women in Research and Education). National Science Foundation, Washington, DC.
August 1997.

External reviewer for dissertation research, University of Manitoba. I traveled to Winnipeg,
Manitoba to review the scientific quality and merit of Ms. Christine Hansen's doctoral work.
April 1997.

The Food and Agriculture Organization of the United Nations (FAO) as a **reference panelists**
to develop a Global Project for the Maintenance of Domestic Animal Genetic Diversity
(MoDAD). This panel was established by the FAO in Rome and communicates via e-mail.

Committee member. The World Conservation Union, Species Survival Commission,
Bison Specialist Group. 1998 - present.

Reviewer for grant proposals: National Science Foundation, United States Department of Agriculture.

Department of Interior - Bison Working Group (ad hoc non-federal employee member).
1999 – present.

Membership in professional associations

American Genetics Society
The Texas Genetics Association
Safari Club International
American Bison Society

Major public presentations:

Of Deer and Man: A Genetic View of White-tailed and Mule Deer from the Pleistocene to the Present. Departmental Seminar, Southwest Texas State University, Department of Biology, San Marcos, TX. February 1992.

The Application of Molecular Genetic Techniques to Questions Involving Wildlife species: Examples from natural populations. U.S. Fish and Wildlife Research Center, Anchorage, Alaska, June 1992.

New Frontiers in the Natural Sciences Using the Tools of Molecular Biology. Florida Marine Research Institute, St. Petersburg, Florida, September 1992.

Genetica de la Calidad de la Carcasa en Bovinos. Conferencia Inaugural, II Encuentro Nacional de Investigadores de las Ciencias Pecuarias (ENICIP), Medellin, Colombia, November 1993.

Genetic Characterization of Colombian Criollo Cattle. Presented at The Third Global Conference on Conservation of Domestic Animal Genetic Resources, Queen's University, Kingston, Ontario, Canada. August 1994.

Germplasm Characterization and Preservation for Colombian Criollo Cattle (poster). Animal Improvement Programs Laboratory, USDA-ARS, Beltsville, MD. May 1995.

Animal Genome Characterization and its Importance in Conservation and Improvement Programs. Invited Speaker. Congreso Iberoamericano de razas autoctonas y Criollas in Bogoto, Colombia, November 1996.

Conservation Genetics of Megavertebrate Populations. Invited Speaker. College of Agriculture, University of Manitoba, Winnipeg, Manitoba, March 1997.

Germplasm Conservation. Presented to officials of the Inter-American Institute for Cooperation on Agriculture (IICA) at the College of Veterinary Medicine, TAMU, April 1997.

North American Bison as a Model for Megavertebrate Conservation. Symposium on Bison Ecology and Management in North America, Bozeman, Montana, June 1997.

Management Implications of Genetic Diversity Among and within Populations of North American Bison. Invited Speaker. The Openlands Project, Chicago, Illinois, October 1997.

Genetic Management of Bison. Invited Speaker. Greater Yellowstone Interagency Brucellosis Conference. Executive Committee Meeting. Idaho Falls, Idaho, May 1998.

Conservation Genetics and Hybridization. Invited Speaker, Congreso Iberoamericano de razas autoctonas y Criollas in Tampico, Tamaulipas, Mexico. November 1998.

North American Bison as a Model for Megavertebrate Conservation. Departmental Seminar, Department of Zoology, Oklahoma State University, Stillwater, OK, March 1999.

Genetic Management of Bison. Invited Speaker. The Texas Genetics Society. College Station, TX. April 1999.

Bison Genetics. Invited Speaker. A joint meeting of the National Park Service and the U.S. Fish and Wildlife Service, Billings, MT. April 1999.

Using Molecular Genetic Technology to Understand and Manage Populations: North American Bison as a Model. Invited Speaker. Cameron University Biology Department. October 1999.

Genetic Engineering: Its Past, Its Future. Invited Speaker. Cameron University Festival IV. October 1999.

Bison Genetics. Invited Speaker. A joint meeting of the National Park Service and the U.S. Fish and Wildlife Service, Lincoln, NE. April 2000.

Genetics and Public Herds in the 21st Century. Invited Speaker. International Bison Conference, Edmonton, Alberta, August 2000.

Genetics Management of North American Bison. Invited Speaker. Parks Canada, Edmonton Alberta, March 2001.

Genetic Exchange Between Domestic Cattle and North American Bison. Invited Speaker. USAHA Annual Meeting, Hershey, PA. November 2001.

Update on Federal Bison Herd Genetic Research. Department of the Interior, bison working

group, Custer, South Dakota, April, 2002.

DNA Technologies. Invited Speaker. The Annual Food Animal Conference: Emerging Challenges and Opportunities, the College of Veterinary Medicine, Texas A&M University, June 2003.

Conservation Genetics of North American Bison - Exploring Their Past, Preserving Their Future. Invited Speaker. University of Northern Arizona, October 2003.

DNA Technologies for Texas Longhorn Cattle. Invited Speaker. Board Meeting, The Cattlemen's Texas Longhorn Registry, Crocket and Menger Hotels, San Antonio, TX December, 2003.

Basic Concepts Related to Genetic Adaptation I. Invited Speaker. USDA sponsored workshop on Beef Cattle Adaptability. The Noble Foundation, Ardmore, OK, March 2004.

Basic Concepts Related to Genetic Adaptation II. Invited Speaker. USDA sponsored workshop on Beef Cattle Adaptability. Kansas City, MO. October 2004.

Bovine Prion Protein (PRNP) Genotyping and Disease. Invited Speaker. Texas – United Kingdom Collaborative Research Initiative Workshop. Galveston, TX. March 2005.

The Utilization of Genetic Markers to Resolve Modern Management Issues in Historic Bison Populations: Implications for Species Conservation: Report to the U.S Fish & Wildlife Service. Invited Speaker. Denver, Colorado, March 2005.

Modern Molecular Genetic Approaches to the Conservation and Management of North American. Invited Speaker. IUCN – The World Conservation Union Species Survival Commission, Bison Specialist Group (North America). Vermejo Park Ranch, New Mexico. April 2005.

The Application Of Conservation Genetics To The Long-Term Management Of Bison In Federal Herds Invited Speaker. The Department of Interior, NPS and USF&W joint bison management meeting. Ft Collins, Colorado. May 2005.

The Spectacular Recovery and Future Conservation and Management of North American Bison. Invited Speaker. The Intertribal Bison Cooperative. Albuquerque, New Mexico. June 2005.

Conservation Genetics of North American Bison: Exploring Their Past, Preserving Their Future. Invited Speaker. Warsaw Agriculture University, Warsaw, Poland, July 2006.

American Bison: The Ultimate Genetic Survivor. Invited Speaker. The Wildlife Conservation Society – The Ecological Recovery of Bison Symposium. Denver, CO. October 2006.

Bison Genetics. International Bison Conference, Rapid City, NV July 2007.

Conservation Genetics of North American Bison. School of Natural Resources, University of Nebraska – Lincoln. September 2007.

American Bison Restoration as a Model for the Propagation of African Wildlife Populations. Safari Club International, Reno NV. January 2008.

Saving Genomes: The American Bison Model. Keynote Speaker. The Texas Genetics Society, College Station, TX 2008.

OTHER SCHOLARLY ACTIVITY:

I serve as the director of the CVM DNA technologies laboratory. This laboratory provides DNA sequencing, genotyping and pathogen identification services (<http://www.cvm.tamu.edu/dnacore/>).