

Curriculum Vitae

CRAIG N. CARTER, DVM MS PhD Dipl. ACVPM DSNAP

(Updated October, 2017)

BIRTH PLACE: Gary, Indiana USA

MARITAL STATUS: Wife, Ronda M. Carter

HOME ADDRESS: 3135 Newman Rd, Lexington, KY 40515
859-321-4890

CURRENT TITLE: Director & Professor, Epidemiology

BUSINESS ADDRESS: University of Kentucky Veterinary Diagnostic Laboratory
Department of Veterinary Science
College of Agriculture, Food & the Environment
College of Public Health (Adjunct)
University of Kentucky
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EDUCATION:

Command and General Staff College, U.S. Army
PhD, Veterinary Public Health
MS, Epidemiology
DVM, Doctor of Veterinary Medicine (Cum Laude)
BS, Biomedical/Computer Sciences (Magna Cum Laude)
Additional Undergraduate Coursework

Certificate in Systems Analysis/Programming/Design
Accounting/Management coursework
USAF Computer Programmer D.o.D. Career Course

Fort Leavenworth, KS ('05)
Texas A&M University ('93)
Texas A&M University ('85)
Texas A&M University ('81)
Texas A&M University ('80)
Penn State University ('76-77)
San Antonio College ('74)
Riverside City College ('70-72)
University of Maryland ('68-69)
Sheppard AFB, Texas ('69)

ADDITIONAL QUALIFICATIONS:

- Licensed to practice Veterinary Medicine in Texas, #4922
- Adjunct Faculty, Lincoln Memorial University College of Veterinary Medicine, 2014 - Present
- Adjunct Faculty, University of Kentucky College of Public Health, 2006 – Present
- Member, University of Kentucky Graduate Faculty, 2005 – Present
- Diplomate, American College of Veterinary Preventative Medicine (ACVPM), 1985 - Present
- Colonel, US Army Reserves, Retired, 2009
- Foreign Animal Disease Diagnostician, Plum Island, NY, 1998
- NASA Astronaut Candidate Selection List, Johnson Space Center, Houston, TX, 1987-2003
- Private Pilot, Fixed Wing, Certificate #2141264, 1971 – Present

PROFESSIONAL/FACULTY EXPERIENCE:

Director, Veterinary Diagnostic Laboratory; Professor, Epidemiology, Department of Veterinary Science, College of Agriculture, University of Kentucky (2007-Present)

Service— The Director serves as the chief administrative, operations and academic officer for a full-service veterinary diagnostic laboratory (VDL), reporting to the Associate Dean for Research of the College of Agriculture, Food & the Environment (CAFE). The VDL has approximately 70 full-time faculty/staff to include 11 multi-disciplinary faculty, 1 Diagnostic Services Coordinator (DVM), 1 Toxicology resident (DVM), and 58 scientists, technicians and support staff in sixteen departments. The laboratory receives roughly 40,000 clinical/regulatory cases and roughly 3000 necropsies annually from over 2000 veterinary hospitals, clinics and producers throughout Kentucky and around the U.S. The UKVDL serves 89% of Kentucky counties, 21% of Appalachian counties, 94% of U.S. States and several foreign countries. The laboratory is open to receive cases 7-days/week, is on-call 24 hours/day and is only fully closed four days a year.

Select administrative duties:

- ✓ Oversee the preparation and management of a \$5.8M annual budget;
- ✓ Prepare and implement strategic and operational plans;
- ✓ Manage the recruitment, retention, promotion, tenure and evaluations for faculty;
- ✓ Manage the recruitment, retention and evaluation of high quality staff;
- ✓ Oversee and manage the national accreditation status by the American Association of Veterinary Laboratory Diagnosticians (AAVLD) to the ISO 17025 standard.
- ✓ Maintains membership in the National Animal Health Laboratory Network (NAHLN), the FDA Laboratory Investigation Response Network (VetLIRN) and the National Poultry Improvement Plan (NPIP);
- ✓ Plans and oversees major facilities renovations and expansions (completed \$28.5M expansion/renovation project in 2011);

- ✓ Assures that all laboratory sections have a functional physical plant and necessary instrumentation and other tools to accomplish the laboratory mission;
- ✓ Plan for an optimal laboratory response to endemic, emerging, foreign or intentionally introduced animal diseases;
- ✓ Work with the Deans and government relations staff to help prepare, defend and support legislative budget requests;
- ✓ Encourage collaborative research and other programs with the Chair and Faculty of the Department of Veterinary Science, Animal and Food Science, College of Public Health and other University of Kentucky departments;
- ✓ Provide necessary support for the Office of the State Veterinarian, the Kentucky Cabinet for Health, and the U.S. Department of Agriculture (AVIC) in Kentucky.

Research— The Director advises, assists and mentors faculty regarding all competitive internal and extra-mural funding for research projects to be conducted at the laboratory, collaboratively with other departments within the College, at other Colleges, other Universities and with industry partners. In addition, the Director has personally brought in \$3.0M in grant funding as Principal Investigator (PI) at University of Kentucky since 2005 (see research project summary below); Manages and oversees all grants for active research projects. Oversees the Lincoln Memorial University (LMU) College of Veterinary Medicine (CVM) Summer Research Program.

Teaching--

As a full Professor of Epidemiology, deliver scientific lectures and presentations on request in various university courses; Oversees the new instructional block program on Diagnostic Veterinary Medicine for LMU CVM seniors; Assist with meeting AVMA Council on Education accreditation for the new LMU; Serve on graduate student committees (see career “Teaching Activity” below); Teach classes for international veterinary projects and programs. Serve as Adjunct Professor of Epidemiology for the UK College of Public Health the Lincoln Memorial University College of Veterinary Medicine.

Professor, Epidemiology, College of Agriculture, University of Kentucky (full-tenured appointment). Design, conduct and publish research and epidemiological studies in support of the livestock industries with emphasis on zoonotic diseases. Design and establish statewide information systems to support animal disease surveillance, zoonoses reporting and epidemiological studies. Interact directly with AVIC, State Veterinarian and staff, practicing veterinarians, farm managers, extension agents and others to coordinate clinical cases and to aid in managing disease outbreaks. Write grants for extramural funding in support of epidemiological research projects. Publish peer-reviewed scientific papers and lay articles. Manage graduate students. Lecture in select classes. Serve on departmental, college, university, state and national committees (2005-2007).

Head, Department of Epidemiology & Informatics, Texas Veterinary Medical Diagnostic Laboratories, Texas A&M University System, College Station, TX. Serve as state veterinary laboratory epidemiologist and Chief Information Officer (CIO) for a Texas agency which

operates full service laboratories in College Station and Amarillo and poultry diagnostic laboratories in Center and Gonzales, Texas. Responsibilities include direct supervision of six staff members and indirect supervision/coordination of various technical and administrative staff. Plan and conduct investigations and passive monitoring and surveillance on large, small and exotic animal diseases occurring throughout Texas (with emphasis on zoonoses) utilizing the laboratory test results from pathology, microbiology, immunology, toxicology, endocrinology, and molecular genetics laboratory sections and the findings from necropsies and field investigations. Epidemiological studies conducted on zoonotic diseases are shared with the Texas Department of Health for further investigation of risk to human health. Present lectures and team teach courses at the Texas A&M University College of Veterinary Medicine on epidemiology, zoonotic disease, and diagnostic veterinary medicine topics. Oversee the animal disease surveillance system in support of the State Veterinarian and the Texas Animal Health Commission. Provide laboratory data stream integration with the National Animal Health Laboratory Network (NAHLN). Publish the results of research studies in peer-reviewed scientific journals/proceedings, write lay articles for trade journals and make presentations at local, state, national and international meetings. As agency CIO, write strategic and operational plans and prepare budgets for future information and epidemiology operations. Perform assigned duties as an alternate clinical coordinator for diagnostic services. Participate in new facilities planning and construction activities. Lead and administer projects that pertain to the development of disease monitoring and surveillance, epidemiological, medical diagnostic, financial and administrative information systems for four laboratory facilities and the Texas Racing Commission Drug Lab. Support the laboratory director and QA/QC to assure adherence to ISO 17025 standards in support of laboratory AAVLD accreditation. Serve on the pathology rotation on necropsy service for the purpose of diagnosing diseases in small, large and exotic animals (teaching and research activities listed below). Serve on laboratory, college and university-wide committees as needed/directed (1988-2005).

Lecturer, Department of Veterinary Public Health, College of Veterinary Medicine, Texas Veterinary Medical Center, Texas A&M University (25% appointment). Curriculum development and team-teaching of various courses in epidemiology, public health, epidemiology and diagnostic laboratory medicine for senior DVM students in the professional veterinary curriculum and graduate students. In addition, provide student counseling, mentoring, grading of exams and participate in various research projects (1984-1991).

Veterinary Clinical Research Associate, Texas Veterinary Medical Diagnostic Laboratory, Texas A&M University System. Design, purchase, install and implement an enterprise-wide mini-computer system network and develop a multi-site, integrated Laboratory Information Management System (LIMS) to serve four diagnostic laboratories. Participate in the pathology rotation on necropsy service and work closely with laboratory clients on obtaining diagnoses for clinical cases (1981-1988).

Private Veterinary Practitioner, Brazos Valley Ambulatory Veterinary Services, Texas. Served as an ambulatory clinical veterinarian in a solo general practice serving five counties and one

animal shelter. Conduct patient diagnosis, treatment and care, preventive medicine and general surgery, 1981-1986.

Externship, National Zoo, Washington D. C. – Participated in medical rounds and surgeries with the chief zoo veterinarian and other zoo veterinarians and technical staff, related to day-to-day clinical operations of the zoo, Oct-Nov, 1980.

OTHER CIVILIAN EXPERIENCE:

Co-Founder, President and CEO, Texas Medical Informatics (TMI Inc.). Development and marketing of clinical decision support and medical information systems which aid in the diagnosis and treatment of diseases for veterinary and human medicine (1989-2006).

D.o.D. Supervisory Computer Programmer/Analyst/Software Developer, GS-11. Supervised systems analysts and programming teams in the design, coding, testing and implementation of large scale main-frame based software systems, (1976-1978).

MILITARY CAREER:

Full Colonel (Retired, 2009), US Army Reserves

U.S. Army Reserve ARMEDCOM Senior Veterinary Readiness Staff Officer, Pinellas Park, FL, *Senior Theater Veterinary Corps Officer, Ramadi, Iraq, Operation Iraqi Freedom* (2007-2009).

U.S. Army Reserve Senior Civil Affairs Veterinarian, 352nd Civil Affairs Command (Special Operations), Riverdale, MD (2006-2007)

U.S. Army Reserve Brigade Veterinary Staff Officer, 332nd Medical Command, Nashville, TN (2005-2006)

U.S. Army Reserve Executive/Operations Officer, 994th Medical Detachment, 807th Medical Brigade, Round Rock, TX (2003-2005)

U.S. Army Reserve Commander, 994th Medical Detachment, 807th Medical Brigade, Austin, TX (1999-2002) – Commanded the first US Army Reserve Veterinary unit deployment into Afghanistan and eight Middle Eastern countries for *Operation Enduring Freedom*; unit provided food and water safety & security services for all deployed troops, Special Forces & US Embassy support, military working dog medicine & surgery, epidemiological investigations and public health consulting for medical commanders in eight Middle Eastern countries (2001-2002)

U.S. Army Reserve Public Health Officer, 321st Civil Affairs Battalion, Special Operations, San Antonio, TX (1998-1999)

U.S. Army Reserve Veterinary Field Officer, 994th Medical Detachment, 807th Medical Brigade, Austin, TX (1997)

U.S. Air Force Reserve Environmental Health Officer, 924th Tactical Hospital, Bergstrom AFB, TX (1986-1991)

US Air Force *Operation Desert Storm*, 325th Medical Group, (Jan-Apr 1991)

US Air Force active duty enlisted airman, Warner-Robins AFB, GA (1967-1968); *Vietnam Theatre deployment* (1968-1969); March AFB, CA (1969-1972); Randolph AFB, San Antonio, TX (1972-1974)

SELECT SPECIALTY TRAINING COURSES ATTENDED:

- Epidemiological Applications of GIS, Johns Hopkins School of Public Health, Jun 26-30, 2006.
- Homeland Security Medical Executive Course, Defense Medical Readiness Training Institute, University of South Florida School of Public Health, Tampa, Florida, Jun 12-16, 2006.
- Preparedness and Response to Agricultural Terrorism, National Center for Biomedical Research and Training, Louisiana State University, May 8-10, 2006
- SNOMED Implementation Training, College of American Pathologists, Northbrook, IL, Oct 21-22, 2003.
- Veterinary Field Operations Course, Fort Sam Houston, Texas--- Aug 3-15, 1997; Sep 11-22, 2000; Jun 1-13, 2003.
- Biological Warfare and Terrorism Seminar, Texas A&M University, Sep 21-23, 1999
- Civil Affairs Advanced Officer's Course (Special Operations), Phase II, Fort Bragg, NC Mar, 1999
- Foreign Animal Disease Diagnostician's Course, Plum Island, NY, August 16-29, 1998.
- AMEDD Advanced Officer's Course, Phase I, Jan-Aug, 1998
- Civil Affairs Advanced Officer's Course (Special Operations), Phase I, Jan-Jun, 1998
- Data Modeling and Design, The Inteq Group, Austin, Texas---Feb. 19-21, 1997
- Pathology Informatics Course, University of Pittsburgh Medical School---Nov, 7-10, 1996
- Internship In Medical Informatics and Infectious Diseases, Presb. Healthcare Services, Albuquerque, New Mexico---Oct-Dec, 1995
- Successful Project Management, Kapur Series, Austin, Texas---Dec, 1994
- Managing Negativity in the Workplace, Skillpath---Aug, 1994
- Internetworking and Design, Teknowlogy USA, Houston, Texas---Mar, 1994
- Networking Technologies, Teknowlogy USA, Houston, Texas---Nov, 1993
- Bioenvironmental Engineering Conference, USAF Reserve---Jun, 15-19, 1987
- Introduction to Expert Systems, Texas Instruments---Aug, 1986

HONORS AND AWARDS:

Civilian--

- AVMA XIIth International Veterinary Congress Prize, August, 7, 2016.
- Epidemiology & Informatics Director Emeritus, Texas A&M Veterinary Medical Laboratory, February 11, 2016.
- K. F. Meyer/James Steele Gold-Headed Cane for excellence in epidemiology, public health and One Health, AVMA—American Veterinary Epidemiology Society, 2011
- Kentucky Veterinarian of the Year, 2009
- Distinguished Scholar, National Academies of Practice, 2009-Present
- Honorary Research Fellow, Jilin Veterinary Research Institute, Changchun, China, 2006.
- Texas Specialty Veterinarian of the Year, Feb, 2004
- Honorary Diploma, American Veterinary Epidemiology Society, Jul, 2003
- Regent's Fellow, Texas A&M University System, Board of Regents (\$9000 prize), 2000
- Fellow, Association of Veterinary Informatics, 1990 - Present
- Distinguished Achievement Award, Texas Veterinary Medical Association, February, 2000
- Chancellor's Award in Excellence for Agriculture, Texas A&M University, January, 1999
- Phi Kappa Phi Honor Society---1975-Present
- Phi Zeta Honor Society---1980-Present
- Gamma Sigma Delta, Honor Society of Agriculture---1989-Present
- Outstanding Public Service Award, Brazos Animal Shelter---service from 1974-1984

Military (select list)--

- Legion of Merit, 2009
- Joint Services Commendation Medal, *Operation Iraqi Freedom*, Iraq, 2008
- Order of Military Medical Merit, 2005
- Bronze Star Medal, *Operation Enduring Freedom*, Afghanistan, 2002
- Joint Military Unit Award, *Operation Enduring Freedom*, Afghanistan, 2002
- Meritorious Service Medal, 2003
- Army Commendation Medal (one oak leaf cluster) 2003
- SSI Combat Patch, Joint Forces Command, Ramadi, Iraq, 2008
- SSI Combat Patch, 1st Marine Expeditionary Force, Ramadi, Iraq, 2008
- SSI Combat Patch, 101st Airborne (Air Assault), C Company, 626th Forward Support Battalion, Kandahar, Afghanistan, 2002
- SSI Combat Patch, 44th MEDCOM, Bagram AB, Afghanistan, 2002
- SSI Combat Patch, 3d MEDCOM, Camp Doha, Kuwait, 2002
- Global War On Terrorism Expeditionary Medal—2002
- Global War On Terrorism Service Medal-- 2002
- Republic of Viet Nam Gallantry Cross with Palm—1968-69

- Viet Nam Service Medal---1968-69
- Viet Nam Campaign Medal (4 battle stars for counter Tet Offensives)---1968-69
- USAF Commendation Medal (2 oak leaf clusters)---1969-1972-1974
- USAF Outstanding Unit Citation, 325th Medical Group, Desert Storm---1991
- Expert Marksman, Rifle (USAF, US Army, US Navy)
- Expert Marksman, Pistol (USAF, US Army, US Navy)
- USAF Excellence in Data Automation Award, 1968

Who's Who (select list)--

- Who's Who in America---1994
- Who's Who in American Education---1993
- Who's Who in the World---1991
- Who's Who of Emerging Leaders in America---1991
- Who's Who in Veterinary Medicine and Science---1987

VETERINARY ASSOCIATION LEADERSHIP EXPERIENCE:

- **President**, American Veterinary Epidemiology Society, 2016-2021.
- **Chair**, OIE ad hoc Committee on New Approaches to Diagnosis: Applied Genomics, with focus on high throughput sequencing, Paris, France, 9-13 Dec 2012.
- **Executive Director**, American Veterinary Epidemiology Society, 2011 – present.
- **President**, American Association of Veterinary Laboratory Diagnosticians, 2010-2011.
- **Chair**, ACVPM Internal Affairs Committee, 1994-1995
- **President**, American Veterinary Academy on Disaster Medicine, 1987-1991
- **President**, American Veterinary Computer Society, 1987-1989
- **Executive Director**, World Association of Veterinary Laboratory Diagnosticians, 1999-Present
- **Co-Chair**, International Veterinary Academy on Disaster Medicine, 1990-1991.

SELECT ASSOCIATION COMMITTEES/MEMBERSHIPS:

- Member, Advisory Board, Center for Animal Health in Appalachia, 2015- present
- Member, OIE-WHO-FAO-United Nations Global Alliance for Rabies Control, Expert Committee, 2015.
- National Animal Health Laboratory Network Coordinating Council, Member, 2012 – present.
- Member and Rapporteur for OIE ad hoc Expert Committee on Reference Laboratories and International Collaboration Centres, 2nd meeting, Paris, France, 15-20 Jan 2012.

- Member for OIE ad hoc Expert Committee on Reference Laboratories and International Collaboration Centres, 1st meeting, Paris, France, 16-21 Jan 2011.
- NAHLN Coordinating Council/NAHLN IT Subcommittee, Liaison, 2013-Present.
- Honorary Board Member, One Health Initiative Advisory Board, 2010-Present.
- AAVLD House of Delegates, 2005-Present.
- AAVLD Laboratory Director's Committee, 2007-Present.
- AAVLD Strategic Planning Committee, 2010- Present.
- AAVLD Government Relations Committee, 2010- Present.
- AAVLD Informatics Committee, 1995-Present.
- AAVLD/USAHA Epidemiology Committee, 1999-Present
- AAVLD/USAHA Joint Committee on the NAHLN, 2009-Present
- AAVLD/USAHA Committee on Animal Disease Surveillance and Animal Health Info. Systems---1987-Present
- Kentucky Poultry Federation, 2009 – Present.
- Infectious Diseases of the Horse Committee, U.S. Animal Health Association, 2006-Present.
- Member, World Association of Veterinary Laboratory Diagnosticians Meeting, College Station, Texas, Organizing Committee Member---1997-1999
- American Association of Veterinary Laboratory Diagnosticians, Member, 1981 – Present
- American Association of Equine Practitioners, 2005 – Present
- Kentucky Veterinary Medical Association, 2005 - Present
- U.S. Animal Health Association, 2004 - Present
- American Veterinary Medical Association, Member, 1981 - Present
- Texas Veterinary Medical Association, Member, 1981 - 2005
- Texas Veterinary Medical Association, Committee, Telecommunications and Informatics, Chairman---1997-2001
- Texas Academy of Veterinary Practice, Member, 1994-Present
- International Society for Infectious Diseases (ISID), Member, 1994-Present
- Texas Public Health Association, Member, 1988 - 2000
- American Medical Informatics Association, Member, 1995 - 2001
- Texas Veterinary Medical Association Public Health Committee---1989-1994
- Organizing Committee, American College of Veterinary Informatics, **Chairman**---1988-1994
- Third Annual Symposium on Computer Applications in Veterinary Medicine, **Organizing Committee Member**---May, 1984

SELECT COMMITTEE POSTS—UNIVERSITY:

- Provost's ad hoc Committee on Title Series, 2017-Present
- University of Kentucky College of Agriculture, Food & the Environment Dean's Distribution of Effort Committee, 2015-present.

- **Co-chair**, University of Kentucky College of Agriculture, Food & the Environment Dean's Strategic Planning Action Committee, Build and Nurture Relationships with the People of the Commonwealth and Across the World, 2015-Present.
- Member, University of Kentucky College of Agriculture, Food & the Environment Dean's Strategic Planning Initiative, 2014-2015.
- Member, University of Kentucky Senate Advisory Committee on Privilege and Tenure (SACPT) for a three year term beginning September 1, 2014 through August 31, 2017.
- Member, University of Kentucky CAFE Strategic Planning Leadership Team, 2014-2015.
- **Chair**, Periodic Review of Animal & Food Sciences Department, University of Kentucky, 2012
- **Chair**, Search Committee, Director, Regulatory Services, University of Kentucky, 2012.
- External Review Committee, Regulatory Services, College of Agriculture, University of Kentucky, 2011.
- Member, CAFE Dean's Equine Programs External Advisory Committee, 2010 – Present.
- Search Committee Member, Veterinary Science Department Chair, 2007.
- Full member of the University of Kentucky Graduate Committee, 2006 – present.
- National Bio & Agro Defense Laboratory Proposal Committee, University of Kentucky, 2006 – 2008.
- Member, Equine Diagnostic Research Seminar Series planning committee, 2006-present.
- Equine Biosafety Committee, University of Kentucky, 2005-present.
- Equine Initiative Committee, University of Kentucky, 2005-present.
- Equine Disease Committee, Kentucky Association of Equine Practitioners, 2005-Present.
- Gluck Equine Research Center Web Site Committee, 2005-2006..
- Community Development Data Base Coordinator, Texas A&M University---1996
- Member, Community Develop Task Force, Texas A&M University---1996-Present
- Task Force on Veterinary Informatics and Telecommunications, Texas Veterinary Medical Association---1995-1997
- Texas A&M Agricultural Program "Think Tank", Member---1993-1995
- **Chair**, Texas A&M Agricultural Awards in Excellence Selection Committee---1992-1996
- Texas A&M University CVM Teaching Methods and Problem-Solving Committee---1987-1988
- Texas A&M University CVM Dean Search Committee---1987-1988
- Teaching Excellence Committee, Texas A&M University, College of Veterinary Medicine--1987
- Veterinary Teaching Hospital Clinical Patient Data Availability Committee---1987-1989
- Organizational Committee, 3rd Symp. on Computer Applications in Vet. Medicine, Texas A&M University---1984
- Center for Strategic Technology, Biotechnology Working Group---1985
- Practice Management Committee, Texas Veterinary Medical Association---1982-1984
- Veterinary Teaching Hospital Computer Committee---Jan, 1984

COMMUNITY LEADERSHIP ACTIVITIES:

- **Ex Officio Member**, Kentucky Farm Bureau's *Beef Cattle, Dairy, Poultry, Equine, Swine, Sheep, Goat* Advisory Committee, 2014- present
- **Member**, Kentucky Livestock Care Standards Commission (Governor appointed), 2010 – present
- **Member**, Kentucky Equine Health and Welfare Council (Governor appointed), 2010 - present
- **Chair**, 1999-2002 and **Chairman Emeritus** (2002-Present), Brazos Valley Veterans Memorial Committee, (Memorial dedicated by George H. W. Bush on November 10, 2002).
- **Vice-Commander**, Veterans of Foreign Wars, Life Member, 1993-1994
- **Director**, Brazos Animal Shelter Board of Directors—1983-1986.
- **Founder & President**, Brazos Animal Shelter fund-raising/planning/construction committee—1974-1983 (named in the top twenty animal shelters in the US).

PROJECT MANAGER/CO-MANAGER, NEW VETERINARY FACILITIES CONSTRUCTION PROJECTS (\$30.5M 2002-Present)

Project Title: Livestock Disease Diagnostic Center, Renovation/Expansion project (34,000 sq. ft. additions). PI- (\$28,500,000 – Kentucky Legislative Appropriation), 2008-2012.

Project Title: Biosafety Level 3 laboratory; Texas Veterinary Medical Diagnostic Laboratory System, Co-PI, (\$2,000,000 USDA CSREES funding), 2002 – 2004.

RESEARCH ACTIVITY (\$6.2M 1984 – Present)

Project Title: Detection of Leptospiral DNA and Antibodies in Kidneys and Eyes of Horses Submitted to the University of Kentucky Veterinary Diagnostic Laboratory for Necropsy, Principal Investigator – Craig N. Carter, Co-Investigators—Gloria Gellin; Erdal Erol, Meg Steinman, Jacqueline Smith, Ashutosh Verma, John Timoney, Sridar Velineni, Carney Jackson, (\$36,400) – Zoetis Animal Health, 2016-2017.

Project Title: Equine Immune Response to Leptospiral Infection. Principal Investigator - Craig N. Carter, Co-Investigators – Gloria Gellin (\$11,967) – National Institute of Occupational Safety and Health, 2015-2016.

Project Title: Continuous Animal Health Monitoring, Field Testing. Principal Investigator - Craig N. Carter, Co-Investigators – Eric Vanzant, Jackie Smith, Agricola Odoi (\$175,000) – Department of Homeland Security, National Institute of Hometown Security, 2015-2016.

Project Title: Animal health sensing and surveillance - RFID for early detection – Principal Investigator - Craig N. Carter, Co-Investigators – Eric Vanzant, Jackie Smith, Agricola Odoi

(\$250,000) – Department of Homeland Security, Advanced Research Project Agency, Chemical and Biological Defense Research and Development, 2014-2016.

Project Title: FDA Vet-LIRN Veterinary Diagnostic Laboratory Cooperative Agreement Program funding to increase sample analysis in the event of animal food or drug-related illness – Principal Investigator - Cindy Gaskill; Co-investigators - Craig N. Carter, Erdal Erol (\$112,500), Food & Drug Administration, 2012-2017.

Project Title: Equine Placentitis, Principal Investigator - Mats Troedssen, Co-Investigators – Craig Carter, Barry Ball, Neil Williams, Erdal Erol (\$400,448) – Kentucky Thoroughbred Association and University of Kentucky, 2011-2013.

Project Title: National Serological-Survey for Equine Leptospirosis, Principal Investigator - Craig N. Carter, Co-Investigators - Noah Cohen, Erdal Erol, Jackie Smith (\$8,500) – Kentucky Thoroughbred Owners and Breeders, 2011.

Project Title: Wireless & Remote Diagnostic Computer Applications and Animal Health Briefing Capability in Support of Grazing Livestock Health. Principal Investigator – Craig Carter (\$440,206) – USDA NIFA), 2010-2012.

Project Title: Genetic Determinants Associated with Contracted Tendons in Foals. Principal Investigator – Teri Lear, Co-Investigator – Craig Carter (\$10,000 – Gluck Intramural Research Support), 2009-2010.

Project Title: Animal Health Data Warehousing and Data Mining System. Principal Investigator – Craig Carter (\$254,514 – USDA CSREES), 2009-2011.

Project Title: Diagnostic Laboratory Services for Farmers and Agribusiness. Principal Investigator – Craig Carter (\$400,000 – USDA CSREES), 2009-2010.

Project Title: Animal Health Sensing and Surveillance: Early Disease Detection for Food Supply and Public Health Protection . Principal Investigator – Eric Vanzant Co-Investigator – Craig Carter (\$900,000 – Department of Homeland Security), 2008-2010.

Project Title: Diagnostic Laboratory Services for Farmers and Agribusiness. Principal Investigator – Craig Carter, Co-Investigator – Wade Northington (\$400,000 – USDA CSREES), 2008-2009.

Project Title: Kentucky Statewide Food Animal Health Risk Surveillance and Disease Cluster Detection Initiative. Principal Investigator – Craig Carter, Co-Investigator – Wade Northington (\$271,315 – USDA CSREES), 2008-2009.

Project Title: Rhodococcus equi Pneumonia: Does the Magnitude of Airborne Exposure Predict Disease Development? Principal Investigator – Noah Cohen, Co-Investigator – Craig Carter (\$137,798 – Grayson-Jockey Club Research Foundation), 2008-2009.

Project Title: Molecular epidemiology of equine and bovine diseases utilizing Real-Time PCR, Principal Investigator – Craig Carter, Co-Investigator Steve Sells (\$98,546 – UKY Research Foundation), 2007.

Project Title: Animal Health and Grazing Systems, Primary Investigator – Craig Carter, Co-Investigator – Wade Northington (\$360,446 – USDA CSREES funding), 2006 – 2008.

Project Title: Animal Health Biosurveillance, Primary Investigator – Craig Carter (\$160,971, Department of Homeland Security), 2006-2007.

Project Title: Is the Environmental Burden of Rhodococcus equi a Cause or Effect of Disease? Principal Investigator – Noah Cohen, Co-Investigator – Craig Carter (\$30,000, Texas A&M University and University of Kentucky).

Project Title: Animal Health and Grazing Systems, Primary Investigator – Craig Carter (\$363,913 – USDA CSREES funding), 2005 – 2007.

Project Title: Continuous Health Monitoring and Lifetime Tracking of Beef Cattle. Principal Investigator – Eric Vanzant, Co-Investigator – Craig Carter, (\$894,923 - Department of Homeland Security), 2005 - 2007.

Project Title: Laboratory Information Management System for veterinary diagnostic laboratories. Primary Investigator – Craig Carter (\$200,000, Texas State Special Initiative), 1996 - 1999. This system was adopted for use at Indiana, Iowa, Michigan, Florida, Kentucky, and Wyoming, and Oregon veterinary diagnostic laboratories.

Project Title: Clinical Decision Support Systems for the Dog and Cat, Principal Investigator – Craig Carter (\$90,000, Texas Veterinary Medical Diagnostic Laboratories, Special Initiative), 1983-1989.

Project Title: Veterinary Knowledge Engineering Laboratory, Principal Investigator (\$30,000, funded by the TAMU Knowledge System Research Center), 1987-1989.

Project Title: Veterinary Laboratory Information Management Systems, Principal Investigator – Craig Carter (\$250,000, Texas Veterinary Medical Diagnostic Laboratories Special Initiative), 1981-1983.

Project Title: Information Systems for Animal Control, Principal Investigator – William McCulloch, Co-Investigator – Craig Carter (\$11,000, funded by the Texas A&M University Institute of Comparative Medicine), 1984-1985.

TEACHING/EDUCATIONAL ACTIVITY:

Team teach CVM 773, Introduction to Veterinary Diagnostic Medicine, all senior DVM students, Lincoln Memorial University College of Veterinary Medicine (2017 – Present).

Worked closely with the new Lincoln Memorial University (LMU) College of Veterinary Medicine, Harrogate, TN to establish a Diagnostic Veterinary Medicine senior student rotation (via cooperative agreement with the University of Kentucky) through the University of Kentucky Veterinary Diagnostic Laboratory in addition to summer student research opportunities. Assisted LMU with AVMA Council on Education visits to assess progress toward accreditation (2012 – Present).

Mentor, Summer Research DVM Student Interns from Lincoln Memorial University College of Veterinary Medicine: Paul Riedel (1st year); Ryan Lane (2nd year), Continuous Animal Health Monitoring project, summer, 2016.

Mentor, Summer Research DVM Student Intern from Auburn University College of Veterinary Medicine: Markie Dohrenwend (2nd year), Diagnostic Pathology Summer Internship, summer 2014.

Epidemiology and Biostatistics course, delivered to Afghan veterinarians and scientists, Ministry of Agriculture, FAO, Kabul, Afghanistan, Aug-Sep, 2009.

Full Professor, various invited lectures in undergraduate courses, College of Agriculture, Department of Veterinary Science, Department of Animal Science, University of Kentucky, 2005 – Present).

Visiting Professor, Ross University College of Veterinary Medicine (two semesters), St. Kitts, West Indies, taught courses in Epidemiology, Zoonoses, Public Health, and Food Hygiene (Oct-Nov, 1986 and Mar-Apr, 1989), Texas A&M University, College of Veterinary Medicine.

VTPH Senior Clerkship for Veterinary Students, Epidemiology, Computer Applications in Veterinary and Diagnostic Medicine; Laboratory Surveillance Topics; Diagnostic Veterinary Medicine Topics; Infectious Disease Topics (1984-1991), Texas A&M University, College of Veterinary Medicine.

VTPH 901, Team-taught, lectures on Disease Patterns and Trends, Computer Applications, Epidemiology, Effective Utilization of Diagnostic Laboratories, Disaster Medicine---1982-1991

VTPH 910, Application of Clinical Decision Support tools in veterinary practice (1989-1991), Texas A&M University, College of Veterinary Medicine.

Field Food Safety Training, 924th TAC Civil Engineering Squadron, Bergstrom AFB, Texas (1986-1991).

System Analysis and Computer Programming courses, Civil Service Computer Specialist (GS-11), U.S. Navy (1976-1977).

GRADUATE STUDENT COMMITTEES (16 students since 1988):

Graduate Committee member for **Dr. Michelle Arnold**, Ph.D. student, Epidemiology, College of Public Health, University of Kentucky, dissertation topic to be determined, committee formed in 2017.

Graduate Committee member for **Ms. Ashton B. Miller**, Ph.D. student, Veterinary Science, University of Kentucky, dissertation topic to be determined, committee formed July 2016.

Graduate Committee member for **Ms. Charlene Siza** DVM, candidate for Master's in Public Health, University of Kentucky, commenced 2014, successfully defended, March 29, 2016, Capstone: *Equine Leptospirosis Seroprevalence in the Central and Bluegrass Regions of Kentucky from 1993- 2015*. Will now complete training as an Epidemic Intelligence Officer, Centers for Disease Control.

Chair, Graduate Committee for **Ms. Gloria Gellin**, candidate for PhD Veterinary Science, commenced 2013. Passed qualifying examination on July 8, 2015.

Graduate Committee member for **Ms. Azia Ramirez**, candidate for Master's in Public Health, University of Kentucky, commenced 2012, successfully defended, July 23, 2015, Capstone: *Salmonellosis in Kentucky Cattle – 2003-2014*.

Graduate Committee member for **Ms. Amanda Stone**, candidate for PhD Animal and Food Sciences, commenced 2013, passed qualifying examination July 8, 2015, approved dissertation project *Evaluating the Use of Precision Dairy Farming Technologies to Detect Clinical and Subclinical Mastitis and Metabolic Diseases*.

Graduate Committee member for **Dr. Jennifer Janes**, candidate for Ph.D., Veterinary Science, University of Kentucky, *The roles of orthopaedic pathology and genetic determinants in equine cervical stenotic myelopathy, 2008-2014, successful defense May 29, 2014*.

Graduate Committee member for **Steffanie Burk**, Ph.D., Animal and Food Sciences, University of Kentucky, commenced 2011. *Detection of Antibodies Against Parascaris equorum Excretory-Secretory Antigens, 2011-2013, successful defense August 1, 2013.*

Graduate Committee member for **Ms. Jacqueline Smith**, Ph.D., Animal Science, University of Kentucky, commenced 2008. *Temporal Analysis of Electronically Collected Physical Activity Data to Assess Health Status of Beef Cattle, 2008-2012, successful defense July 11, 2012.*

Graduate Committee Chair for **Ms. Tamara Malm**, M.P.H. College of Public Health, Capstone completed July 29, 2011. *Nocardioform placentitis and abortion outbreak and farm-based risk factor study, 2010-2011.*

Graduate Committee member for **Dr. Barry Meade**, Ph.D., Veterinary Science, University of Kentucky, commenced 2005, successfully defended, Apr 19, 2012. *The Transmission Dynamics of Equine Herpesvirus Type 1 (EHV-1) Infection in Outbreaks Characterized Predmonately by Neurologic or Respiratory Illness.*

Graduate Committee member for **Ms. Gloria Gellin**, candidate for Master's in Public Health, University of Kentucky, commenced 2007, successfully defended, Oct, 2010, Capstone: *Serological Survey for Potential Occupational Exposure to Leptospirosis in Kentucky Horse Farm Workers and Veterinarians.*

Graduate Committee member for **Dr. Tracy Sturgill-Wright**, candidate for Ph.D., Veterinary Science, University of Kentucky, commenced 2005, graduated summer, 2008. Dissertation: *Vaccine Responses and Immune Modulation in the Neonatal Foal.*

Graduate Committee member for **Ms. Elizabeth T. Hewins**, Ph.D, Library and Information Science, Department of Library and Information Science, University of Texas, June 1998, Dissertation: *Impacts of Information on Veterinarian's Patient Care Decision Making: An Information-Seeking Model.*

Graduate Committee member for **Ms. Patricia Fazio**, Ph.D., Department of Recreation, Park and Tourism Sciences, Texas A&M University, Dec, 1988, Dissertation: *The Ecology and Welfare of the Equine Population in the Pryor Mountain Wild Horse Range, and the Creation of a Refuge.*

Graduate Committee member for **Mr. Jeff Gale**, M.S. Computer Science, Texas A&M University, June 1989, Theses: *The Use of Dempster-Schafer Probability Theory in a Veterinary Diagnostic Knowledge-Based System on Photosensitization in Cattle due to ingestion of Toxic Plants.*

SELECT CONSULTING EXPERIENCE:

Invited consultant, IDEXX Digital Animal Health Summit, June 6-8, 2016, IDEXX Headquarters, Westbrook, Maine.

Member, Zoetis Equine Leptospirosis Advisory Board, 2014-present.

Chair, USDA-ARS Animal Health National Program 103 Five-Year Research Review Panel, Apr-Jul, 2012.

Invited member, OIE ad hoc Expert Committee on Reference Laboratories and International Collaboration Centres, Paris, France, 16-21 Jan 2011.

San Diego Zoo and Wildlife Animal Park, external evaluation of veterinary diagnostic laboratories, medical records, and epidemiological surveillance, Mar, 2010.

ASM Research, respond to a D.o.D. request for proposal for a worldwide, web-based Veterinary Services Management System (VSSM for Military Working Dogs)—Medicine & Surgery, Electronic Health Record System awarded by D.o.D. to ASMR, Jul, 2008, consulting contract from Jan, 2008 – Present.

USDA-FAS CAFTA, Laboratory planning and capacity building, Central America, 2007 – Present.

Visiting lecturer, Honorary Research Associate, Jilin Research Institute, Changchun, China, Sep, 2005.

Veterinary Information Networks (VIN), Davis, CA, design and development of on-line clinical decision support and other medical information resources, 2000- 2005.

Institute of Informatics and Biomathematics, College of Veterinary Medicine of Parma, Italy, Computer-Aided Diagnostics---1986.

USDA Food Safety Inspection Service (FSIS), Washington, D.C., Statistical Evaluation of Meat Inspection Data---Dec, 1985

Ministry of Agriculture and Fisheries, New Zealand, Laboratory Information Management Systems consulting---July, 1985

University of California, Davis, College of Veterinary Medicine, Laboratory Information Management Systems for diagnostic laboratories, June, 1984.

SELECT INTERNATIONAL ACTIVITIES:

1. Presented Diagnostic Epidemiology of Nocardioform Placentitis and Abortion in Kentucky, 1991-2015 at the 10th International Equine Infectious Disease Conference, Buenos Aires, **Argentina**, April 6, 2016.
2. Invited speaker, bovine program moderator, 32nd World Veterinary Congress, Istanbul, **Turkey**, Sep 11-20, 2015.
3. Coordination for meeting planning and WAVLD Executive Director, XVII International Symposium of the World Association of Veterinary Laboratory Diagnosticians, Saskatoon, Saskatchewan, **Canada**, Jun 15-18, 2015.
4. Invited participant in the OIE 3rd Global Conference on Aquatic Animal Health, Ho Chi Minh City, **Vietnam**, Jan 18-25, 2015. Consulted with scientists on dioxin mitigation funded by USAID.
5. Attended the Executor Director's planning workshop for International Educational Meetings in support of the World Association of Veterinary Laboratory Diagnosticians, Cape Town, **South Africa**, Dec 8-12, 2014.
6. Attend 30th World Veterinary Congress meeting. Invited to co-accept the John Gamgee Award for Dr. James Steele, Prague, **Czech Republic**, Sep 24-28, 2013.
7. Invited speaker, coordination of meeting planning, and WAVLD Executive Director, XVI International Symposium of the World Association of Veterinary Laboratory Diagnosticians, Berlin, **Germany**, Jun 10-12, 2013.
8. Chair for the OIE ad hoc Brainstorming Committee on New Approaches to Diagnosis: Applied Genomics, with focus on high throughput sequencing, Paris, **France**, 9-13 Dec 2012.
9. Invited US delegate to the 2nd Symposium of the European Association of Veterinary Laboratory Diagnosticians (EAVLD), Kazimierz-Dolny, **Poland**, as Immediate Past President of the AAVLD and Executive Director of the WAVLD, 28 Jun – 5 Jul, 2012.
10. Invited member and Rapporteur for OIE ad hoc Expert Committee on Reference Laboratories and International Collaboration Centres, 2nd meeting, Paris, **France**, 15-20 Jan 2012.
11. Invited member for OIE ad hoc Expert Committee on Reference Laboratories and International Collaboration Centres, 1st meeting, Paris, **France**, 16-21 Jan 2011.
12. US delegate to the 1st Symposium of the European Association of Veterinary Laboratory Diagnosticians (EAVLD), Lelystad, **Netherlands**, as President Elect of the AAVLD and Executive Director of the WAVLD, 10-17 Sep, 2010.
13. US delegate to the 78th General Session, World Assembly, OIE, Paris, **France**, 23-28 May, 2010.
14. Building capacity to control animal disease in Afghanistan, taught course in epidemiology and biostatistics to Afghan veterinarians, USAID funding, USDA FAS consultant, U.S. Embassy, Kabul, **Afghanistan**, Aug 6 – 4 Sep, 2009.
15. Invited speaker, coordination of meeting planning, and WAVLD Executive Director, XIV International Symposium of the World Association of Veterinary Laboratory Diagnosticians, Madrid, **Spain**, Jun 17-20, 2009.
16. Veterinary laboratory capacity building, Livestock Meat and Marketing Initiative, USAID, **Ethiopia**, 30 Jan – 6 Feb, 2009.

17. Army Reserve Combat Support Deployment. Served as Veterinary Advisor for Task Force Ramadi, Camp Ramadi, Anbar Province, **Iraq**. Responsibilities included evaluation and capacity building for national Iraqi veterinary diagnostic laboratories and advising/responding to issues on food and water safety, Military Working Dog (MWD) health issues, and drought impact on rangeland and sheep farms, Feb-Aug, 2009.
18. Invited speaker, coordinator for meeting planning, and WAVLD Executive Director, XIII International Symposium of the World Association of Veterinary Laboratory Diagnosticians, Melbourne, **Australia**, Nov 11-14, 2007.
19. Invited consultant and lecturer, Regional Conference on Laboratory Management and Operations on Trade Sensitive Testing Procedures, Managua, **Nicaragua**, USDA Foreign Agricultural Service, Apr 17-19, 2007.
20. Invited consultant and lecturer, Workshop on Control Strategies for Infectious and Emerging Infectious Diseases in **Iraq** and **Jordan**, sponsored by the U.S. Army, Aug 17-26, 2006.
21. Invited lecturer, coordinator for meeting planning, and WAVLD Executive Director, 12th International Symposium of the World Association of Veterinary Laboratory Diagnosticians, Montevideo, **Uruguay**, Nov 14-24, 2005.
22. Invited lecturer, Jilin Veterinary Research Institute, Changchun, **China**, sponsored by the American Association of Veterinary Informatics, Sep 15-24, 2005.
23. Meeting co-planner and presenter, 1st International Veterinary Conference for Afghani, Kuwaiti, and Iraqi veterinarians, **Kuwait**, sponsored by the U.S. Army, Sep 19-21, 2004.
24. Invited lecturer, coordinator for meeting planning, and WAVLD Executive Director, 11th International Symposium of the World Association of Veterinary Laboratory Diagnosticians, Bangkok, **Thailand**, Nov 7-14, 2003
25. Army Reserve combat support deployment. Led the first veterinary services U.S. Army forces as Commander of the 994th Medical Detachment into **Afghanistan, Uzbekistan, Kyrgyzstan, Pakistan, Oman, Qatar, Bahrain, and Kuwait** in support of Operation Enduring Freedom, Jan-Sep, 2002.
26. Site survey and planning conference for the U.S. Navy New Horizons humanitarian construction project, **Barbados**, Jul 23-27, 2001.
27. Invited lecturer, coordinator for meeting planning, and WAVLD Executive Director, 10th International Symposium of the World Association of Veterinary Laboratory Diagnosticians, Parma, **Italy**, Jul 4-7, 2001.
28. Attended USAREUR Overseas Planning Conference, Heidelberg, **Germany**, Nov 6-10, 2000.
29. U.S. Army military advisor to **Colombia**, South America, Jun 25 – Jul 1, 2000.
30. Lead an Army Reserve veterinary team in Operation Arctic Care, Mar 18 - Apr 1, 2000 which provided preventive veterinary care for over 800 dogs, cats and other animals in small villages in Southwestern **Alaska**.
31. Consulted with the Pan American Health Organization regarding computer-aided diagnostics and laboratory information systems during the World Veterinary Congress, Rio de Janeiro, **Brazil**---Aug, 16-24, 1991

32. Plans for a New Board Specialty in Veterinary Informatics, 6th Symposium on Computer Applications in Veterinary Medicine, August 22, 1989, University of Guelph, Ontario, **Canada**.
33. Mass Casualty Field Exercise, Osan Air Base, **Korea**, June 1-15, 1989, served in the capacity of Environmental Health Officer, USAF Reserve.
34. Visiting Professor of Epidemiology, Zoonoses and Food Hygiene, Ross School of Veterinary Medicine, **St. Kitts**, West Indies---Mar-Apr, 1989
35. MASH Field Exercise, Zaragoza, **Spain**, August 15-27, 1988, served in capacity of Environmental Health Officer, USAF Reserve.
36. Visiting Professor of Epidemiology and Zoonoses, Ross School of Veterinary Medicine, **St. Kitts**, West Indies---Oct-Nov, 1986.
37. 1983-1984 Falls County Horse Disaster, 4th World Congress on Emergency and Disaster Medicine, Brighton, **England**---Jun, 1985.
38. **New Zealand** Ministry of Agriculture and Fisheries, purchased and implemented the VISTA software (copyright, 1984), oversaw development at Texas A&M University, November, 1985. A trip was made to New Zealand to demonstrate the software in July, 1985.
39. USAF Active Duty Deployment in the **Vietnam** theatre. Assigned as a 22nd Bomb Wing Combat Support Group Airman, Computer Specialist and Security Police Augmentee, home base, U-Tapao RTNAF, **Thailand** Sep, 1968-Sep, 1969.

REVIEWER:

- Journal of Veterinary Diagnostic Investigation
- Journal of Dairy Science
- Journal of the American Veterinary Medical Association
- American Journal of Veterinary Research
- USDA ad hoc Reviewer

EDITORIAL BOARDS:

- Bluegrass Equine Digest
- Veterinary Science Research, BioInfo Publications
- Equine Diagnostic & Research Seminar Advisory Board

PEER-REVIEWED ARTICLES, ABSTRACTS, POSTERS:

1. Smith J, Carter CN, Mason J, Johnson J. Use of interactive, near real-time GIS in veterinary diagnostic laboratories for increased situational awareness of confirmed animal diagnoses—is it time for a national map? Proceedings of the 60th Annual AAVLD meeting, San Diego, CA October 2017.
2. Erol E, Janes J, Jackson C, Cassone L, Decker B, Smith J, Carter C. Prevalence of equine hepacivirus in necropsied horses. 18th ISWAVLD, Sorrento, Italy, Jun, 2017.

3. Adams R, Smith J, Carter CN, Odoi A. A Descriptive Epidemiologic Study of Antimicrobial Resistance of *Staphylococcus* Isolated from Equine Samples Submitted to a Diagnostic Laboratory. A poster presentation given during the Conference of Research Workers in Animal Diseases (CRWAD) held at Chicago, Illinois, USA. Dec 4-6, 2016.
4. Carter CN, Erol E, Cohen ND, Smith JL. Diagnostic Epidemiology of Nocardioform Placentitis and Abortion in Kentucky, 1991-2015. *Journal of Equine Veterinary Science*, Vol 39, S59-60.
5. Erol E, Jackson C, Horohov D, Locke S, Smith J, Carter C. Elevated serum amyloid A levels in cases of aborted equine fetuses due to fetal and placental infections. *Theriogenology*. 2016. 86(4):971-5.
6. Erdal E, Cassone L, Jin Yoon K, Kelly N, Warner JK, Phillips E, Runyon A, Carter CN: Application of Multiplex Real-time PCR Panel for Detection of Microbiological Agents Causing Bovine Respiratory Disease Complex in Necropsy Cases, Proc. of the 32nd World Veterinary Congress, Istanbul, Turkey, Sep 2015, p 21.
7. Carter CN, Smith JL, Vanzant ES, Odoi A: Continuous Animal Activity Monitoring System for Early Detection of Health Problems in Cattle, Proc. of the 32nd World Veterinary Congress, Istanbul, Turkey, Sep 2015, p 46.
8. Burk SV, Dangoudoubiyam S, Brewster-Barnes T, Bryant UK, Howe DK, Carter CN, Vanzant ES, Harmon RJ, Kazacos KR, Rossano MG. In vitro culture of *Parascaris equorum* larvae and initial investigation of parasite excretory-secretory products. *Parasitol Res*. 2014 Nov;113(11):4217-24.
9. Erdal Erol, Carney Jackson, David Horohov, Stephen Locke, Naomi Kelly, Jacqueline Smith, Craig N. Carter: Elevated Serum Amyloid A levels in cases of aborted equine fetuses due to fetal and placental infections, submitted to JVDI for review, Sep 2015.
10. Jacqueline L. Smith, Eric S. Vanzant, Craig N. Carter, Carney B. Jackson: Discrimination of healthy versus sick steers utilizing continuous remote monitoring of animal activity. *AJVR*, Vol. 76 No. 8 August 2015.
11. A diagnostic evaluation of real-time PCR, fluorescent antibody, and microscopic agglutination tests in cases of equine leptospiral abortion. Erol E, Jackson CB, Steinman M, Meares K, Donahoe J, Kelly N, Locke S, Smith JL, Carter CN. *Equine Vet J*. 2015 Mar;47(2):171-4.
12. Kilcoyne I, Spier SJ, Carter CN, Smith JL, Swinford, AK, Cohen ND: Frequency of *Corynebacterium psuedotuberculosis* infection in horses across the United States during a 10-year period, *JAVMA*, 2014:245:3, pp. 309-314.
13. Carter CN, Smith J, Erol, E: Equine Monocytic Ehrlichiosis: Kentucky Case Series 2008-2013, *Equine Disease Quarterly*, Oct 2013, Vol. 22, No. 4, pp 3-4.
14. Erol E, Loynachan A, Locke S, Kelly N, Carter, C: Toxin genotypes and antimicrobial susceptibility patterns of *Clostridium perfringens* isolates recovered from horses. Proceedings of the 56th Annual AAVLD meeting, San Diego, CA October 2013, p 85.
15. Carter CN, Cassady J, Ronald N, Gaskill C, Arnold M, Smith J, Northington, W: Knowledge-based differential diagnostic and accessioning mobile application to improve ruminant laboratory case submissions. Proceed of the XVI International Symposium of the WAVLD, Jun, 2013, Berlin, Germany pp 58-59.

16. Erol, E, Cassone L, Kennedy L, Bryant U, Locke S, Carter CN: Infectious agents identified from equine neonatal fatalities between 2010 and 2012. Proceed of the XVI International Symposium of the WAVLD, Jun, 2013, Berlin, Germany p56.
17. Erol E, Jackson C, Locke S, Kelly N, Horohov D, Carter C: Investigation of Serum Amyloid A levels in fetal heart blood in aborted equine fetuses, Proceedings of the 57th Annual AAVLD meeting, Kansas City, MO, October 2012, p 98.
18. Erol E, Gertz RE, Cassone L, Locke S, Jackson C, Carter C, Genc Oktay, Beall B: Fatalities caused by *Streptococcus dysgalactiae* subsp. *Equisimilis* in horses, Proceedings of the 57th Annual AAVLD meeting, Kansas City, MO, October 2012, p 42.
19. Gellin G, Caldwell G, Steinman M, Timoney JF, Fettinger M, Sanderson W, Carter CN: Serological evidence of potential occupational exposure to leptospirosis in Kentucky horse farm workers and veterinarians. Proceedings of the American Public Health Association, 2012.
20. Erdal Erol, Neil M. Williams, Stephen F. Sells, Laura Kennedy, Stephen J. Locke, James M. Donahue, Craig N. Carter: Antibiotic susceptibility patterns of *Crossiella equi* and *Amycolatopsis* species causing nocardioform placentitis in horses. J Vet Diag Invest, 24(11) Nov 2012.
21. Cassady JC, Carter CN, Ronald NC, Arnold ML, Gaskill CL, Smith J, Northington CA: Development and evaluation of a mobile diagnostic computer application for veterinary diagnostic laboratories. Proceedings of the 55th Annual AAVLD meeting, Greensboro, NC, October 2012, p 168.
22. Erdal Erol, Neil M. Williams, Stephen F. Sells, Margaret Steinman, Judy Donahoe, Katherine Meares, Alan Loynachan, James M. Donahue, Craig N. Carter: Diagnostic investigation of real-time PCR, fluorescent antibody, and microscopic agglutination tests in cases of equine abortion. Proceedings of the 55th Annual AAVLD meeting, Greensboro, NC, October 2012.
23. Erdal Erol, Stephen F. Sells, Neil M. Williams, Laura Kennedy, Stephen J. Locke, David P. Labeda, James M. Donahue and Craig N. Carter: An investigation of a recent outbreak of Nocardioform placentitis caused abortions in horses. 2012 Vet Microbiol 158(3-4): 425-430.
24. Craig N. Carter, Noah Cohen, Meg N. Steinman, Jacqueline L. Smith, Erdal Erol, Stuart Brown: Seroepidemiology of equine leptospirosis utilizing diagnostic laboratory specimens from 29 states (US) and one Canadian province, Proceedings of the 55th Annual AAVLD meeting, Greensboro, NC, October 2012, p 51.
25. Noah D. Cohen, Kyle R. Kuskie, Jacqueline L. Smith, Nathan M., Slovis, Stuart E. Brown, Randolph S. Stepusin, M. Keith Chaffin, Shinji Takai, Craig N. Carter: Association of airborne concentrations of virulent *Rhodococcus equi* with location (foaling stall versus paddock) and month (January through June) at 30 breeding farms in central Kentucky. AJVR, Vol 73, No. 10, October 2012.
26. Craig N. Carter, Jacki C Cassady, Noah Cohen, Laura A Kennedy, Erdal Erol, Tamara Malm, Mike Donahue, Steve Sells, Neil Williams Jacqueline Smith, Roberta Dwyer. Equine Nocardioform Placentitis and Abortion Outbreak and Farm-Based Risk Factor

- Study, 2010-2011. Proceedings of the 2nd meeting of the European Association of Veterinary Laboratory Diagnosticians. Kazimierz-Dolny, Poland, S3-O-04.
27. Erol E, Locke SJ, Donahoe JK, Mackin MA, Carter, CN: Beta-hemolytic *Streptococcus spp.* from horses: A retrospective study (2000-2010). *J Vet Diag Invest*, 24(1) Jan 2012, 142-147.
 28. Erdal Erol, Laura Kennedy, Stephen Sells, Stephen Locke, Jacqueline Smith, Neil Williams, Craig N Carter. Nocardioform placentitis in Central Kentucky. Proceed 54th Conf. AAVLD, p 117, Sep, 2011.
 29. Laura Kennedy, Neil Williams, Craig Carter, Erdal Erol, Jacqueline Smith, Stephen Sells. Antimicrobial susceptibility patterns of Nocardioform bacteria causing placentitis in horses Proceed 54th Conf. AAVLD, p 82, Sep, 2011.
 30. Kyle R. Kuskie, Jacqueline L. Smith, Samiran Sinha, Craig N. Carter, M. Keith Chaffin, Nathan M. Slovis, Stuart E. Brown II, Randolph S. Stepusin, Shinji Takai, Noah D. Cohen: Associations between the Exposure to Airborne Virulent *Rhodococcus equi* and the Incidence of *R equi* pneumonia among Individual Foals. *J Equine Vet Sci*, 31 (2011) 463-469.
 31. Kyle R. Kuskie, Jacqueline L. Smith, Naisyin Wang, Craig N. Carter, M. Keith Chaffin, Randolph S. Stepusin, Anthony E. Cattoi, Shinji Takai, Noah D. Cohen: Effects of farm location and time of day on airborne concentrations of virulent *Rhodococcus equi* at two horse breeding farms. *Am J Vet Res* 2011;72:73-79.
 32. Carter CN, Vanzant E, Odoi A, Smith J, Dwyer R, Riley J, Stepusin R: Supercomputer-Based Animal Health Risk Forecasting, Proceed 147th American Veterinary Medical Association, July, 2010.
 33. Rios JJ, Fleming JG, Bryant UK, Carter CN, Huber JC, Long MT, Spencer TE, Adelson DL: OAS1 polymorphisms are associated with susceptibility to West Nile Encephalitis in horses. *PLOS One*, May 17, 2010.
 34. Buntain S, Carter CN, Kuskie, KR, Smith JL, Stepusin RS, Chaffin MK, Takai S, Cohen ND: Frequency of *Rhodococcus equi* in feces of mares in Central Kentucky. *Journal of Equine Veterinary Science*, Vol 30, No 4, 2010.
 35. Kuskie KR, Smith JL, Want N, Carter CN, Chaffin MK, Slovis NM, Stepusin RS, Cattoi TE, Takai S, Cohen ND: Effects of farm location and time of day on concentrations of virulent *Rhodococcus equi* at horse breeding farms, Accepted by AJVR, Oct 2009.
 36. Carter CN, Odoi A, Smith J, Dwyer R, Riley J, Stepusin R: Laboratory-based animal health event cluster detection systems: improving the outcome of disease outbreaks. Proceed of the XIV International Symposium of the WAVLD, Jun, 2009, p26.
 37. Odoi A, Carter CN, Riley, J, Smith J: Laboratory-based early warning syndromic surveillance system using a scan statistic: application on mare abortion outbreak in Kentucky, *Am J Vet Res*, 2009;70:247-256.
 38. Cohen ND, Carter CN, Scott HM, Chaffin MK, Smith JL, Grimm MB, Kuskie KR, Takai S, Martens RJ: Association of soil concentrations of *Rhodococcus equi* and incidence of pneumonia in foals on farms in central Kentucky. *Am J Vet Res*, Vol 69, No. 3, March 2008, pp 385-395.

39. Sturgill T, Carter CN: Causes of foal mortality, a one-year snapshot, *Equine Disease Quarterly*, Jan, 2008, Vol. 17, No. 1, p 6.
40. Rios, J.J., Perelygin, A.A., Brinton, M.A., Fleming, J.G.W., Long, M.T., Carter, C.N., Briant, U.K., Spencer, T.E. and Adelson, D.L. An Equine Model For SNP-Associated Susceptibility To Clinical West Nile Virus Disease, *Proceedings, International Plant and Animal Genomes XVI conference*, 2008, p 584.
41. Allen GP, Bolin DC, Bryant U, Carter CN, Giles RC, Harrison LR, Hong DB, Jackson CB, Poonacha K, Wharton R, Williams NM: Ultrasound-guided periarticular injections of the sacroiliac region in horses: a cadaveric study. *Equine Vet J.* 2007 Nov 7.
42. Carter CN, Odoi A, Riley J, Smith J, Stepusin R, Cattoi T, McCollum S: Laboratory-based early animal disease detection utilizing a prospective space-time permutation scan statistic. *Proceed of the XIII International Symposium of the WAVLD*, 2007, p96.
43. Carter CN, Odoi A, Riley J, Smith J, Cattoi T, McCollum S: Laboratory-based early animal disease detection utilizing a prospective space-time permutation scan statistic. *Proceed 50th Conf. AAVLD*, p 69, Oct, 2007.
44. Carter CN, Donahue M, Smith J, Steinman M, Donahoe J: Characteristics of an outbreak of equine leptospiral abortion in the Bluegrass region of Kentucky. *Proceed 50th Conf. AAVLD*, p 83, Oct, 2007.
45. Odoi A, Carter CN, Riley J, Smith J: Automated Surveillance Data Analysis System (ASDAS): A near real-time disease outbreak detection and alert system. *Proceedings of the annual meeting of the Can Assoc Vet Epi Prev Med Conf*, Jun 9, 2007.
46. Carter CN: The OIE and the World Association of Veterinary Laboratory Diagnosticians: A new Partnership. *Dev Biol (Basel)*; 2007;128:43-46..
47. Carter CN, Odoi A: Diagnostic Laboratory Surveillance and Epidemiology: Serving Agriculture and Public Health, *Proceed 143rd AVMA Convention*, CD-ROM, July, 2006.
48. Carter CN: Equine Disease Surveillance in Kentucky, *Equine Disease Quarterly*, Oct, 2005, Vol. 14, No. 4, pp 5-6.
49. Carter CN, Angulo A, Raleigh R, Ronald N, Arvizo E: 2003, Diagnostic epidemiology of canine leptospirosis in Texas, 2002, *Proceed 46th Conf. AAVLD*, p 97.
50. Carter CN, VisuaLab: 2000, A user configurable, graphical laboratory information management system for veterinary diagnostic laboratories. *Proceed 9th ISVEE Meet*, published on CD-ROM only.
51. Carter CN: 2000, Clinical decision support for small animal practice. *Proceed 9th ISVEE Meet*, published on CD-ROM only.
52. Carter CN, 2000, VisuaLab: A user configurable, graphical laboratory information management system for veterinary diagnostic laboratories. *Proceed 137th AVMA Convention*, pp 599-602.
53. Carter CN, James CB, Ronald NC et al: 1999, Laboratory information management for Y2K and the next millennia. *Proceed of the IX International Symposium of the WAVLD*, p 44.
54. Carter CN: 1998, Integration of veterinary clinical decision support systems with the electronic patient record--challenges and benefits. *Proceed AVMA convention*, pp. 118-119.

55. Carter CN, Ronald NC, Steele JH, et al: 1997, Knowledge-based patient screening for rare and emerging infectious/parasitic diseases: a case study of brucellosis and murine typhus. *Emerging Infectious Diseases*, 3:1, pp. 73-76.
56. Grimes JE, Arizmendi F, Carter CN: 1996, Diagnostic serologic testing of cage and aviary birds for chlamydiosis and suggested confirmatory testing, *J. Vet. Diag. Invest.* 8: pp. 28-34.
57. Crenshaw WE, Carter CN: 1995, Should dogs in an animal shelter be neutered early? *Veterinary Medicine*, 90:8, pp. 556-760
58. Carter CN, Steele JH, Ronald NC: 1991, Use of a zoonoses diagnostic inference engine in the clinical environment, *Proceed 24th World Veterinary Congress*, p191.
59. Steele JH, Carter CN: 1991, A computer-based zoonoses medical reference: tomorrow's technology for today's diseases, *Proceed 24th World Veterinary Congress*, p 189.
60. Carter CN: 1990, Animal population control: another decade without solutions? *JAVMA*, 197:2, pp. 192-195.
61. Cohen ND, Carter CN, et al: 1990, Epizootic association between feline immunodeficiency virus infection and feline leukemia virus seropositivity, *JAVMA*, 197:2, pp. 220-225.
62. Cohen ND, Carter CN, et al: 1990, Clinical and epidemiologic characteristics of dogs seropositive for *Borrelia burgdorferi* in eastern and central Texas, *JAVMA*, 197:7, pp 893-898.
63. Carter CN: 1987, The Texas A&M University veterinary knowledge engineering laboratory: *Proceed 5th Symposium on Computer Applications in Veterinary Medicine*, p 68.
64. Carter CN: 1987, Review of knowledge-based systems in veterinary medicine: *Proceed 5th Conference of the American College of Veterinary Internal Medicine*, pp 587-591.
65. Carter CN: 1987, Overview of artificial intelligence for practicing veterinarians: *Proceed 5th Conference of the American College of Veterinary Internal Medicine*, pp 583-586.
66. Carter CN: 1986, Knowledge-engineering in the veterinary school classroom: *Proceed 4th Symposium on Computer Applications in Veterinary Medicine*, pp 10.
67. Carter CN: 1986, Computer-aided differential diagnosis to include treatment and management advice, *Proceed 4th Symposium on Computer Applications in Veterinary Medicine*, p 11.
68. Carter CN, Lengel B: 1985, Computerized plotting of epidemiological maps for a veterinary diagnostic laboratory: *Proceed 3rd Symposium on Computer Applications in Veterinary Medicine*, p 68.
69. Carter CN: 1984, Veterinary information system to assist (VISTA): automated case reporting, data capture, and statistics for a modern veterinary diagnostic laboratory, *Proceed Second Symposium on Computer Applications in Veterinary Medicine*, pp 55-59.

BOOKS AND BOOK CONTRIBUTIONS:

Carter CN, Animal Health, Human Health, One Health: The Life and Legacy of Dr. James H. Steele, Copyright 2015, CreateSpace Press, ISBN-10 1511558016.

Carter CN, One Man, One Medicine, One Health: The James H. Steele Story, Copyright 2009, CreateSpace Press, ISBN 1-4392-4004-3.

Carter CN., Symptom Solver for the Dog and Cat, chief medical advisor, writer and contributor, Rodale Press, Jan, 1999.

Rubin J, Carter CN., Rubin's Canine Disease Desk Reference, AAHA Press, 1998.

Rubin J, Carter CN., Rubin's Feline Disease Desk Reference, AAHA Press, 1998.

Carter, CN, Review Questions and Answers for Veterinary Boards: Small Animal Medicine and Surgery, Chapter 12, Preventative Medicine, American Veterinary Publications, 1993

WHITE PAPERS, CONSULTING & LAY PUBLICATIONS:

1. Carter CN: *From the Director's Desk*, Kentucky Veterinary News, Spring, Summer, Fall, Winter, 2016-Present.
2. Carter CN: Editor, Diagnostic Laboratory Rounds. Kentucky Veterinary News, Spring, Summer, Fall, Winter, 2005-2015 editions.
3. Carter CN: From the Diagnostic Laboratory, Cattle Country News, September issue, 2010.
4. Carter CN: Building capacity to control animal disease in Afghanistan, prepared for USAID, Sep, 2009.
5. Carter CN: Feasibility of implementing a laboratory information system (LIMS) in support of Ethiopian agriculture, Borlaug Institute for International Agriculture, Feb, 2009.
6. Carter CN: From the Diagnostic Laboratory, Cattle Country News, September issue, 2009.
7. Carter CN: From the Diagnostic Laboratory, Cattle Country News, September issue, 2008.
8. Carter CN. Animal health at the crossroads: Benefits of veterinary diagnostic laboratories to the Commonwealth of Kentucky. Written for Richie Farmer, Kentucky Commissioner of Agriculture, Dec, 2007.
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58. Carter CN: 1982, Hardware and software, availability and costs: Proceed National Animal Control Conference, page numbers unknown.
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SCIENTIFIC PRESENTATIONS:

1. Invited Plenary Lecture—The Global Antimicrobial Resistance Predicament: One Health to the Rescue? Proceedings of the 60th Annual AAVLD meeting, San Diego, CA October 2017.
2. Invited Plenary Lecture-- The Global Role of Veterinary Diagnostic Laboratories in Promoting Animal Health and Food Security and Audience Interactive Panel. Public and Corporate Practice--AVMA Global Health Summit, Indianapolis, Indiana, July 23, 2017.
3. Diagnostic Epidemiology of Nocardioform Placentitis and Abortion in Kentucky, 1991-2015. International Equine Infectious Disease Conference, Buenos Aires, Argentina, April 6, 2016.
4. Equine Leptospirosis: We now have a vaccine! Presented to the 7th Annual Kentucky Breeders Short Course, Fayette County Extension Office, Lexington, KY Saturday January 20, 2016.
5. Public Health Contributions of Veterinary Diagnostic Laboratories, 1st annual meeting of the Center for Animal Health in Appalachia, Lincoln Memorial University College of Veterinary Medicine, Ewing, VA, Oct 2015.
6. Continuous Animal Activity Monitoring System for Early Detection of Health Problems in Cattle, 32nd World Veterinary Congress, Istanbul, Turkey, Sep 2015.
7. High Path Avian Influenza Diagnostic Laboratory Response, presented to the HPAI Kentucky Poultry Federation Planning Forum, Elizabethtown Tourism and Convention Bureau, Elizabethtown, KY, Sep 9, 2015.
8. Overview of the DVM Training Programs by the University of Kentucky in support of the Lincoln Memorial University (LMU) College of Veterinary Medicine. Presented to the LMU Dean, faculty and staff, Jul 28, 2015
9. Animal Health, Human Health, One Health: The Life and Legacy of Dr. James H. Steele: Presented to the Commemorative Session for James H. Steele at the American Public Health Association Annual meeting, New Orleans, LA, Nov 17, 2014.
10. A Memoriam for Dr. James H. Steele—One Health Leader: Presented at the J. V. Irons Luncheon at the Diseases in Nature Conference, Irving, TX, Jun 27, 2014.

11. Enhanced Veterinary Diagnostic Capabilities for the 21st Century: Presented to the Gluck Equine Research Center Foundation Board of Directors, Oct 7, 2014.
12. The Life and Career of Dr. James Steele: Contributions to Veterinary Public Health and One Health. Presented to the American Veterinary History Society, 40th Mid-America Veterinary Conference, Galt House Hotel, Louisville, KY Sep 28, 2013.
13. Continuous Animal Health Monitoring. Presented to the Animal Identification & Information Systems Council of the National Institute of Animal Agriculture meeting, Louisville, Kentucky April 17, 2013
14. The Future of Public Health and One Health. Presented to a forum of the School of Public Health and Medicine, Robert C. Byrd Medical Center, West Virginia University, Dec 3, 2012.
15. Seroepidemiology of equine leptospirosis utilizing diagnostic laboratory specimens from 29 states (US) and one Canadian province: Is it time to develop a vaccine? Presented to the Equine Diagnostic and Research Seminar Series (filmed for a webinar sponsored by The Horse), Aug 30, 2012, University of Kentucky, Lexington Kentucky.
16. Equine Nocardioform Placentitis and Abortion Outbreak and Farm-Based Risk Factor Study, 2010-2011. Presented to the 2nd meeting of the European Association of Veterinary Laboratory Diagnosticians. Kazimierz-Dolny, Poland, Jul 3, 2012.
17. Preliminary results of a nocardioform placentitis farm-based risk factor study, presented to the Kentucky Association of Equine Practitioners and Kentucky Thoroughbred Farm Managers Club, Jan 30, 2012.
18. Animal Health Research Contributions to the One Health Movement, presented to the annual meeting of the US Animal Health Association, Minneapolis, MN, Nov 16, 2010.
19. The National Animal Health Laboratory Network: A Valuable State and Federal Partnership, presented to the annual meeting of the Midwest Area Biosafety Network, Lexington, KY, Aug 10, 2010.
20. Patterns of Antibiotic Resistance in Food Animals, presented to the Buffalo Trace Morehead Clinic Days Veterinary Conference, Jun 5, 2010.
21. Afghanistan Ministry of Agriculture: An Overview, presented to Agriculture in Government undergraduate class, College of Agriculture, University of Kentucky, Nov 16, 2009.
22. Alkaline Digestion: An Economic Alternative for Carcass Disposal, presented to the Southern Animal Health Association meeting, Lexington, KY, Apr 28, 2009.
23. Veterinary Diagnostic Laboratories: Synergizing with Government Entities, presented to Agriculture in Government undergraduate class, College of Agriculture, University of Kentucky, Oct 6, 2008.
24. Food Animal Disease Update, presented to the Food Animal and Emergency Response Committee, Kentucky Veterinary Medical Association, Louisville, KY, Oct 5, 2008.
25. Laboratory-Based Syndromic Surveillance: Early Detection of Animal Disease Outbreaks? presented to the Animal Science Graduate Student Association, College of Agriculture, University of Kentucky, Sep 22, 2008.
26. Introduction to sheep flock health management, presented to the Provincial Reconstruction Team and USMC Civil Affairs MEF team, Camp Ramadi, Anbar Governorate, Iraq, Jun, 2008.

27. Laboratory-Based Animal Disease Outbreak Detection: Improved MRLS Outcome? Presented to the University of Kentucky Equine Diagnostic-Research Seminar Series, Jan 31, 2008 (co-presented with Dr. Agricola Odoi, University of Tennessee).
28. Animal Diseases, Homeland Security and National Defense. Presented to the Rotary Club of Lexington, KY, Nov 29, 2007.
29. Laboratory-based early animal disease detection utilizing a prospective space-time permutation scan statistic. Presented to the XIII International Symposium of the World Association of Veterinary Laboratory Diagnosticians. Melbourne, Australia, Nov 14, 2007.
30. Characteristics of an outbreak of equine leptospiral abortion in the Bluegrass region of Kentucky. Presented to the 50th Annual Conference of the American Association of Veterinary Laboratory Diagnosticians, Reno, NV, Oct 21, 2007.
31. Laboratory-based early animal disease detection utilizing a prospective space-time permutation scan statistic. Presented to the 50th Annual Conference of the American Association of Veterinary Laboratory Diagnosticians, Reno, NV, Oct 21, 2007.
32. Integration of diagnostic laboratory data for surveillance, cluster detection, and trending at local and state levels. Presented to the 50th Annual Conference of the American Association of Veterinary Laboratory Diagnosticians, Reno, NV, Oct 18, 2007.
33. Equine biosurveillance pilot. Presented to the Kentucky Thoroughbred Farm Managers Club, Oct 9, 2007.
34. One Man, One Medicine: The James H. Steele Story. Presented to the 144th AVMA Convention, Washington, D.C. Jul 16, 2007.
35. Introduction to LIMS for Animal, Plant Health, Residue, and Food Safety Laboratories. Presented to the Regional Conference on Laboratory Management and Operations on Trade Sensitive Testing Procedures, Managua, Nicaragua, Apr 17-19, 2007.
36. LIMS Systems—What Do We Want Out Of A Laboratory Information System? Presented to the Regional Conference on Laboratory Management and Operations on Trade Sensitive Testing Procedures, Managua, Nicaragua, Apr 17-19, 2007.
37. The Big Decision—Off-the-shelf LIMS or Custom Software Development? Presented to the Regional Conference on Laboratory Management and Operations on Trade Sensitive Testing Procedures, Managua, Nicaragua, Apr 17-19, 2007.
38. LIMS Implementation, Planning, Project Management and Beyond. Presented to the Regional Conference on Laboratory Management and Operations on Trade Sensitive Testing Procedures, Managua, Nicaragua, Apr 17-19, 2007.
39. Epidemiology and Diagnostic Laboratories: Status and Future Directions. Presented to the 49th Annual Conference of the American Association of Veterinary Laboratory Diagnosticians, Minneapolis, MN, Oct 13, 2006.
40. Prospects For Integrated State Laboratory Surveillance: A work in progress. Presented to the 49th Annual Conference of the American Association of Veterinary Laboratory Diagnosticians, Minneapolis, MN, Oct 13, 2006.
41. The Diagnostic Laboratory's Contributions to a National Animal Health Program. Presented to 80 representatives of the Iraqi veterinary profession, Erbil, Iraq, Aug 17-26, 2006.
42. Diagnostic Laboratory Surveillance and Epidemiology: Serving Agriculture and Public Health. Presented to the 143rd AVMA Convention, Honolulu, HI, Jul 17, 2006.

43. The UKY Livestock Disease Diagnostic Center: Unprecedented Commitment Toward Serving the Kentucky Equine Industry: Presented to the Kentucky Association of Equine Practitioners meeting, Nov 28, 2005.
44. A Comprehensive Surveillance System for the Early Detection of Endemic, Emerging and Foreign Animal Diseases. Presented to the 12th International Symposium of the World Association of Veterinary Laboratory Diagnosticians, Montevideo, Uruguay, Nov 17, 2005.
45. Biosecurity Measures for the Protection of Livestock Against Intentional or Natural Introduction of Diseases. Presented to the 12th International Symposium of the World Association of Veterinary Laboratory Diagnosticians, Montevideo, Uruguay, Nov 17, 2005.
46. History of the World Association of Veterinary Laboratory Diagnosticians. Presented to the 12th International Symposium of the World Association of Veterinary Laboratory Diagnosticians, Montevideo, Uruguay, Nov 17, 2005.
47. Overview of the OIE. Presented to the Jilin Veterinary Research Institute Seminar Series, Changchun, Jilin Province, China, Sep 20, 2005.
48. Electronic Health Records (EHR): Enabling Powerful Applications for Veterinary Medicine. Presented to the Jilin Veterinary Research Institute Seminar Series, Changchun, Jilin Province, China, Sep 20, 2005.
49. Veterinary Epidemiology and Near Real-Time Surveillance: An Overview. Presented to the Jilin Veterinary Research Institute Seminar Series, Changchun, Jilin Province, China, Sep 21, 2005.
50. Web-Based Clinical Decision Support Systems: Electronic Health Record Integration Concepts. Presented to the Jilin Veterinary Research Institute Seminar Series, Changchun, Jilin Province, China, Sep 21, 2005.
51. Agroterrorism Preparedness: Safeguarding Kentucky Animal Health: Presented to the Kentucky Cooperative Extension Professional Development Conference, Lexington, KY, Feb 9, 2005.
52. U. S. Army Veterinary Corps Support of the War On Terrorism In Afghanistan: Presented to the Brazos Valley Veterinary Medical Association, Nov 11, 2003.
53. Diagnostic Epidemiology Of Canine Leptospirosis in Texas, 2002: Presented to the 46th Meeting of the American Association of Veterinary Laboratory Diagnosticians, San Diego, CA, Oct 12, 2003.
54. Libal MC, Carter CN: 2001, Epidemiology and in vitro susceptibility testing of Salmonella spp isolated from animals in Texas. Poster presented at the X Annual Meeting of the World Association of Veterinary Laboratory Diagnosticians, Parma, Italy, July 4-7, 2001.
55. Anthrax Outbreak, Texas, Summer of 2001: Presented (co-author) to the 44th Meeting of the AAVLD, Hershey, PA, Nov 4, 2001.
56. Web-based clinical decision support in the veterinary practice exam room: Presented to the 138th AVMA Convention, Boston, MA Jul 15, 2001.
57. Internet-Based Clinical Decision Support for Military Medicine: Presented to the Annual VETCOM Conference, San Antonio, TX, Mar 6, 2001.
58. Epidemiological Trends of Salmonellosis in Texas for the Year 2000. Presented to the Southwest Veterinary Symposium, Houston, TX, Feb 3, 2001.

59. VisuaLab: A user configurable, graphical laboratory information management system for veterinary diagnostic laboratories. Presented to the 9th ISVEE Meeting, Breckenridge, CO, Aug 7, 2000.
60. Clinical decision support for small animal practice. Presented to the 9th ISVEE Meeting, Breckenridge, CO, Aug 7, 2000.
61. VisuaLab: A user configurable, graphical laboratory information management system for veterinary diagnostic laboratories. Presented to the 137th AVMA Convention, Salt Lake City, UT, Jul 23, 2000.
62. An on-line veterinary community--the Texas experiment. Central States Veterinary Conference, Kansas City, KS, August 23, 1999.
63. Clinical decision support for veterinary medicine. American Veterinary Medical Association Annual Meeting, New Orleans, LA, July 12, 1999.
64. VisuaLab: Laboratory information management for Y2K and the next millennia. Meeting of the World Association of Veterinary Laboratory Diagnosticians, College Station, TX, June 3, 1999.
65. Integration of veterinary clinical decision support systems with the electronic patient record--challenges and benefits. American Veterinary Medical Association annual meeting, Baltimore, MD July 25, 1998.
66. TexVetMed: A free information network linking veterinarians and the allied health professions in Texas, 48th Annual southwest Conference on Diseases in Nature Transmissible to Man, June 3, 1998, College Station, Texas.
67. TexVetMed: A Listserv for Texas Veterinary Medicine, presented to the Texas Veterinary Medical Association Annual Meeting, February 15, 1998.
68. Computer-Assisted Diagnosis in the Exam Room: Where it needs to be! Texas Veterinary Medical Association Summer Seminar, Austin, Texas, August 1, 1997.
69. A Glimpse of the Computerized Veterinary Practice of the Future, presented to the 92nd Annual Conference and Scientific Exposition of the Texas Veterinary Medical Association, February 12, 1994, Houston, Texas.
70. Using Computer-Assisted Diagnosis Programs in Clinical Practice, presented to the 92nd Annual Conference and Scientific Exposition of the Texas Veterinary Medical Association, February 11, 1994, Houston, Texas.
71. Use of Computers to Diagnose Breed Problems in Dogs, presented to the Brazos Valley Kennel Club, January 11, 1994.
72. Computer-Assisted Diagnosis for the Dog and Cat: A Total Species Approach, poster session for the 97th Annual Meeting of the AAVLD, Oct. 23-29, 1993, Las Vegas, Nevada.
73. Impact of Computers on Veterinary Medical Education and Practice, presented to session on Alternatives to the Use of Animals, the 130th meeting of the American Veterinary Medical Association, July 20, 1993, Minneapolis, Minnesota.
74. Computer-Assisted Screening for Brucellosis, Murine Typhus, and St. Louis Encephalitis, presented to the Diseases in Nature Transmissible to Man Conference, April 9, 1993, Austin, Texas.

75. Computer-Assisted Screening for Brucellosis, Murine Typhus, and St. Louis Encephalitis and other Zoonotics, presented to the Texas Public Health Association meeting, March 23, 1993, Lubbock, Texas.
76. Computer-Assisted Diagnosis for Zoonotic Diseases in the Public Health Setting, presented to the Texas Public Health Association meeting, March 17, 1992, Beaumont, Texas.
77. Computer-Based Diagnosis of Zoonoses, presented to the 42nd Annual Southwest Conference on Diseases in Nature Transmissible to Humans, June 5, 1992, College Station, Texas.
78. The Future of Computers in Veterinary Medicine, presented to the 129th meeting of the American Veterinary Medical Association, August 1, 1992, Boston, Mass.
79. Computer-Aided Diagnostic Tests, Table Topic, Scientific Program of the 64th Western Veterinary Conference, February 12, 1992, Las Vegas, Nevada.
80. Computer-Aided Diagnostic Tests, presented to the Technician Program of the 64th Western Veterinary Conference, February 12, 1992, Las Vegas, Nevada.
81. Computer-Aided Differential Diagnosis and Medical Information Management, presented to the 64th Western Veterinary Conference, February 12, 1992, Las Vegas, Nevada.
82. Telecommunications as a Practice Aid, presented to the 64th Western Veterinary Conference, February 11, 1992, Las Vegas, Nevada.
83. Futuristic Walk Through a Veterinary Practice, presented to the 64th Western Veterinary Conference, February 12, 1992, Las Vegas, Nevada.
84. Computer-Aided Medical Decision-Making, presented to the 64th Western Veterinary Conference, February 11, 1992, Las Vegas, Nevada.
85. Use of a Computer-Based Zoonoses Diagnostic Inference Engine in the Clinical Environment, presented to the 89th TVMA Conference, February 1, 1992, San Antonio, Texas.
86. Canine and Feline Associate: Computer-Based Differential Diagnosis and Medical Reference System for the Dog and Cat, presented to the 89th TVMA Conference, February 1, 1992, San Antonio, Texas.
87. An Introduction to Computer-Aided Diagnostic Tools for Practice, presented to the 89th TVMA Conference, February 1, 1992, San Antonio, Texas.
88. Use of Zoonoses Diagnostic Inference Engine in the Clinical Environment, 24th World Veterinary Congress, Rio de Janeiro, Brazil, August 20, 1991.
89. Anatomy of the 1983-84 Falls County, Texas Horse Disaster, 128th Annual Meeting of the American Veterinary Medical Association, Seattle, Washington, July 28, 1991.
90. Spreadsheets and Integrated-Applications, Eastern States Veterinary Conference, January 15, 1991, Orlando, Florida.
91. Telecommunications and Information Retrieval for Veterinarians, Eastern States Veterinary Conference, January 15, 1991, Orlando, Florida.
92. Applications of Artificial Intelligence for the Army Veterinary Corps, 1991 Army Veterinary Corps Conference, Fort Sam Houston, San Antonio, Texas, January 8, 1991.
93. Zoonoses in Texas, Montgomery County Veterinary Medical Association, November 27, 1990.

94. Computer-Aided Diagnostic for Veterinary Technicians, Brazos Valley Veterinary Technician Society, November 15, 1990.
95. The Future of Computing in Diagnostic Laboratories, 14th Symposium on Computer Applications in Medical Care, November 5, 1990, Washington, D.C.
96. Veterinary Informatics for the Decade, 127th Annual AVMA Meeting, Regulatory Medicine Scientific Session, July 25, 1990, San Antonio, Texas.
97. The Future of Computers in Veterinary Practice, 1990 Student AVMA Symposium, March 14, 1990, Texas A&M University.
98. Introduction to Telecommunications in Veterinary Practice, 62nd Western Veterinary Conference, February 20-22, 1990, Las Vegas, Nevada.
99. Introduction to Data Bases in Veterinary Practice, 62nd Western Veterinary Conference, February 20-22, 1990, Las Vegas, Nevada.
100. Introduction to Spreadsheets in Veterinary Practice, 62nd Western Veterinary Conference, February 20-22, 1990, Las Vegas, Nevada.
101. A Walk Through the Veterinary Practice of the Future, 62nd Western Veterinary Conference, February 20-22, 1990, Las Vegas, Nevada.
102. Applications of Artificial Intelligence in Veterinary Practice, 87th Texas VMA Annual Convention, February 3-4, 1990, Dallas, Texas.
103. The Future of Computers in Veterinary Practice, 87th Texas VMA Annual Convention, February 3-4, 1990, Dallas, Texas.
104. Plans for a New Board Specialty in Veterinary Informatics, 6th Symposium on Computer Applications in Veterinary Medicine, August 22, 1989, University of Guelph, Ontario.
105. Telecommunications and Computer-Aided Diagnostics for Veterinary Practice, 18th Seminar for Veterinary Technicians, 61st Western States Veterinary Conference, February 19-23, 1989, Las Vegas, Nevada.
106. Computer-Aided Diagnostic Software for Veterinarians, 61st Western States Veterinary Conference, February 19-23, 1989, Las Vegas, Nevada.
107. Telecommunications in Veterinary Practice, 61st Western States Veterinary Conference, February 19-23, 1989, Las Vegas, Nevada.
108. Introduction to Data Bases for Veterinary Practice, 61st Western States Veterinary Conference, February 19-23, 1989, Las Vegas, Nevada.
109. Introduction to Word Processing for Veterinary Practice, 61st Western States Veterinary Conference, February 19-23, 1989, Las Vegas, Nevada.
110. Chronic Brucellosis in a Veterinarian-Disease Overview and Case Report, presented to the 38th Annual Southwest Conference on Diseases in Nature Transmissible to Humans, College Station, Texas, May 19, 1988.
111. Practice Management Software and Beyond, East Texas Veterinary Medical Association, Beaumont, Texas, April 21, 1988.
112. On-Line Information Services for Veterinarians, Western States Veterinary Conference, Las Vegas, Nevada, February 15-17, 1988.
113. Zoonoses-A Diagnostic Laboratory Perspective, Student Chapter of the AVMA, Texas A&M University, January 29, 1988.

114. Clinical Decision Support Systems for the Practicing Veterinarian, Annual Veterinary Homecoming, College of Veterinary Medicine, Texas A&M University, November 1, 1987.
115. Veterinary Aspects of the Chernobyl, USSR Incident, AVMA National Meeting, Chicago, Illinois, July 22, 1987.
116. Knowledge Engineering and its Application to Veterinary Diagnostics, Symposium on Artificial Intelligence in Agriculture, Texas A&M University, May 27, 1987.
117. Communications with a Veterinary Diagnostic Laboratory, Western States Veterinary Conference, February 17, 1987.
118. Communications Through the American Veterinary Computer Society, Western States Veterinary Conference, February 17, 1987.
119. Computer-Aided Diagnostic in Veterinary Practice, presented to the Permian Basin Veterinary Medical Association, January 22, 1987.
120. Computerization of a veterinary diagnostic laboratory, Presented to the U.S. Animal Health Association, Milwaukee, WI, Oct 28, 1985.
121. 1983-84 Falls County Horse Disaster, Veterinary Academy on Disaster Medicine, AVMA Annual Meeting, Las Vegas, Nevada, July, 1985.
122. Computer Applications in Animal Control, National Animal Control Conference, Texas A&M University, November, 1984, Proceedings.
123. Computer Applications in Veterinary Medicine, presented to the Corpus Christi Veterinary Medical Association, January 17, 1984.
124. VISTA: Automated Case Reporting, Data Capture and Statistics for a Modern Veterinary Diagnostic Laboratory, presented to the second Symposium on Computer Applications in Veterinary Medicine, Mississippi State University, May, 1984.
125. Computer Applications in Animal Control, presented to the American Public Health Association National Meeting, Dallas, Texas, November 16, 1983.
126. Hardware and Software-Availability and Costs, presented to the National Animal Control Conference, College Station, Texas, November, 1982.
127. The Evolution of Computing at the Texas Veterinary Medical Diagnostic Laboratory, presented to the first Symposium on Computer Applications in Veterinary Medicine, Mississippi State University, October, 1982.

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Copyright disclosure filed with the University of Kentucky, Mobile Veterinary Diagnostic Application, Dec, 2013.

U.S. Provisional patent UKRF1821, PD13103, USPO App. #61/755,356, docket #13177N1821US – “Continuing Animal Health Monitoring System”; Craig Carter, Eric Vanzant, Jacqueline Smith, Agricola Odoi, Cris Anderson, Feb 2013.

Copyright disclosure filed with Texas A&M University, Associate® clinical decision-support system developed for diagnosing infectious and parasitic diseases in man, distributed worldwide, 1995.

Copyright disclosure and Trademark filed with Texas A&M University, Associate® clinical decision-support system developed for the canine and feline species distributed worldwide, 1990.

HOBBIES AND PERSONAL INTERESTS/ACTIVITIES:

Physical fitness; guitar & vocals; flying (fixed wing aircraft and helicopters); motorcycling; writing; maintaining a farm.

1st Degree Blackbelt & Instructor, Tae Kwon Do, American Blackbelt Association (2005).

Mount Kilimanjaro, successful climb to Uhuru peak, Machame route, **Tanzania**, (2011).