

Curriculum Vitae

Name: John M. Gay January, 2007

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Education: BS in Mechanical Engineering University of Washington
DVM 6/78 Washington State University
Large Animal Clinical Sciences Residency 1983-1987 University of Minnesota
1985 Squibb Resident Research Award
PhD in Veterinary Science 12/88 University of Minnesota
Thesis Title: The Effects of Subclinical Paratuberculosis in Dairy Cattle: An Epidemiological Study

Professional Licensure: Idaho, Oregon, Montana, Washington

Board Certification: American College of Epidemiology, 1996
American College of Veterinary Preventive Medicine, 1996

Honor Societies: Phi Kappa Phi, Phi Zeta

Bibliographic Statement:

Dr. John Gay is an associate professor in the Field Disease Investigation Unit of the Department of Veterinary Clinical Sciences, College of Veterinary Medicine, Washington State University and is responsible for clinical epidemiology. His research interests are in infectious and production diseases of the bovine and in zoonotic diseases related to food safety. He was raised on his family's commercial cow-calf ranch in Montana and acquired a DVM degree from Washington State University in 1978. He specialized in beef and dairy practice in the northwest for five years before returning to the University of Minnesota to obtain a Ph.D. in veterinary epidemiology and production medicine.

Present Position: Associate Professor, Epidemiology
Field Disease Investigation Unit
Department of Veterinary Clinical Sciences
College of Veterinary Medicine
Washington State University

Professional Positions:

Private Practice: 5/78 to 2/79	Animal Management Services	Foam Lake, Saskatchewan
2/79 to 6/80	Mount Vernon Veterinary Clinic	Mount Vernon, Washington
6/80 to 1/82	Valley Herd Health Services	Mount Vernon, Washington
1/82 to 8/83	North Valley Veterinary Clinic	Gooding, Idaho

Academic:	8/83 to 10/87	Large Animal Clinical Sciences Residency, University of Minnesota
	11/87 to 6/90	Assistant Professor, Veterinary Medicine Teaching and Research Center (Tulare), University of California, Davis
	7/90 to 7/97	Assistant Professor, Washington State University
	7/97 to date	Associate Professor, Washington State University

Professional Society Memberships and Service:

American Association for the Advancement of Science	1995 to date
American Association of Bovine Practitioners	1974 to date
AABP Information Management Committee	1996 to 2002
American Association of Food Hygiene Veterinarians	1994 to date

American Dairy Science Association	1980 to date
American Society for Microbiology	1989 to date
American Veterinary Medical Association	1974 to date
AVMA Council on Biologic and Therapeutic Agents	2003 to date
Evidence-based Veterinary Medicine Association (charter)	2006 to date
National Mastitis Council	1980 to date
Society for Theriogenology	1978 to date
Washington State Veterinary Medical Association	1994 to date

Academic Committees and Service: (Washington State University)

CAHE Sustainable Food Systems Design Team for Strategic Planning, Member, 2000 to 2001
CVM Information Technology Advisory Committee, Member, 1990 to 1999, Chair 1996 to 1998,
CVM Research Scholars Steering Committee, Member, 1991 to 2000
CVM International Veterinary Education Committee, Member, 1993 to 2001
CVM 14th Annual Western Food Animal Disease Research Conference Organizing Committee, 1992-93
CVM Veterinary Student Mentor Program, 1996 to 2003t
CVM Search Committee for Infectious Disease Epidemiologist, Member, 1999 to 2000
CVM Search Committee for Molecular Epidemiologist, Member, 1999 to 2000
U of Idaho Search Committee for Dairy Production Medicine Clinician, Member, 2000 to 2002
VMP Search Committee for Veterinary Bacteriologist, Member, 1991
VCMS Telephone/Computer Sub-committee of New Hospital Building Committee, Member, 1990-92
VCS Hospital Bio-safety Committee, Member 1997 to 2001.
VCS Search Committee for Department Chair, Member and Chair, 1999 to 2000
VCS Ad Hoc Research Committee for Strategic Planning, Member, 2000 to 2002
WSU/UI Northwest Consortium for Food Safety and Quality, 1994 to present
WSU/UM Planning Committee for 8th Congress of International Society for Animal Hygiene, 1992
WSU Health Sciences Library Committee, Member, 2001 to present
WSU Advisory Committee to the Science Libraries, Member, 2002 to present
U of Idaho Search Committee for Dairy Production Medicine Clinician - Caine, Member, 2003 to 2004
U of Idaho Search Committee for Dairy Production Medicine Clinician - Moscow, Member, 2003 to 2004
VCS Pretenure Advisory Committee, Dr. Bonnie Campbell, 2003 to date
VCS Pretenure Advisory Committee, Dr. Janean Fidel, 2003 to date
CVM Search Committee for Professor/Baily Endowed Chair, Member, 2004 to 2005
VCS Search Committee for Associate/Full Professor & FDIU Director, Member, 2005
VCS Search Committee for Population Medicine Clinician, FDIU, Member, 2005 to date
VCS Search Committee for Veterinary Outreach Specialist (DVM), Chair, 2005 to date
CVM Dean's Task Force to Develop a Program in Agricultural Animal Health, Member, 2005 to date
WSU Faculty Senate, 2005 to date
WSU Institutional Animal Care and Use Committee, 2006 to date

Graduate School Status and Committees: (Washington State University)

Graduate Faculty of the Program in Veterinary Science, Member, 1995 to date

Dr. Alvin L. Forar,	M.S. in Veterinary Science, Member	(M.S., 1993)
Dr. Mark L. Kinsel,	M.S. in Veterinary Science, Member	(M.S., 1993)
Dr. Jerry R. Roberson,	Ph.D. in Veterinary Science, Member	(Ph.D., 1993)
Dr. Tendai Ushe,	M.S. in Veterinary Science, Member	(M.S., 1994)
Dr. M. I. Kamaruden,	M.S. in Animal Science, Member	(M.S., 1994)
Dr. Mike W. Sanderson,	M.S. in Veterinary Science, Advisor	(M.S., 1995)
Dr. Mahmoudou Diall,	M.S. in Veterinary Science, Member,	(M.S., 1997)
Monica Hiner	MS in Fisheries, U of Idaho, Member	(M.S., 1999)
Dr. John Middleton,	PhD. in Veterinary Science, Member	(Ph.D., 2001)
Dr. Andy McKnight	M.S. in Veterinary Science, Member, 1995 to 1996.	
Dr. Mike McDole,	Ph.D. in Veterinary Science, Advisor, 1995 to 1997	

Dara Nunn	PhD in Entomology, Member, 1998 to 2000
Dr. Jongmin Jeon	M.S. in Veterinary Science, Member, 1998 to 1999
Dr. Andrew Allen	PhD in Veterinary Science, Member, 2003 to date.
Dr. Bijay Akhikari	PhD in Veterinary Science, Member, 2003 to date
Bar Church	M.S. in Animal Science, Member, 2005 to date
Dr. Veerasak Punyanmwithaya	PhD in Vet Science, Member, 2005 to date
Dr. Bhim Thapa	M.S. in Veterinary Science, Advisor, 2006

Other Professional Service:

Note: Does not include service as anonymous reviewer of manuscripts as part of the peer review process, review of grant proposals for national and international agencies or review of tenure and promotion packets for other institutions.

- 2001-3 National Academy of Sciences National Research Council Committee on the Diagnosis and Control of Johne's Disease, panel member.
- 2000 USDA Review Panel for Program 108: Pre-harvest Pathogen Food Safety Program, panel member.
- 2002 to date Washington State Johnes Advisory and Education Committee, Member

Funding:

Current Research and Instructional Support:

- 2006 Pathogen reduction in a community based anaerobic digester. Co-director with Joe Harrison. USDA NRCS, 9/06 to 8/09, \$870,001.
- 2006 Perinatal beef calf mortality: An emerging syndrome? WSU CVM Intramural, principal investigator, \$19,003
- 2003 Regional Dissemination of Food and Water-borne Zoonotic Enteropathogens in the Pacific Northwest. Co-principal investigator with Dale Hancock, PI, Tom Besser, Doug Call, Rowland Cobbold, Larry Fox, Clive Gay, Frank Loge, NIH NIAID DMID-04-03 Food and Waterborne Disease Integrated Research Network Initiative, \$9,926,693.
- 2002 Identifying host-specific markers for fecal pollution using mixed genome microarrays. Co-principal investigator with Doug Call and Frank Loge. USDA NRICGP, \$324,906.
- 1993 Students in Health Professional School. Co-investigator. NIH-National Center for Research Resources. T35 RR007049 \$2200 per year for support of qualified minority veterinary student.

Pending Research and Instructional Support:

None

Previous Research and Instructional Support (Washington State University):

- 2003 Identifying the niches of *Listeria monocytogenes* and the risk factors associated with strain maintenance and dissemination on selected dairy farms: A pilot study. Principal investigator, WSU CVM Intramural funds, \$20,328. (not used due to NIH award)
- 2001 CD4+ T-cell IFN- γ expression in bovines infected with *M. paratuberculosis*. Co-principal investigator with George Barrington, Bill Davis, Inge Eriks. USDA NRICGP, \$117,208.
- 2001 Factors Affecting the Resistance Profile of Domestic Pet Commensal Enteric Flora. Morris Animal Foundation, \$59,837. Principal investigator with K Mealey.
- 2001 CD4+ T-cell IFN-g expression in bovines infected with *M. paratuberculosis*. WSU CVM Intramural, Co-investigator with George Barrington, \$19,140.
- 2000 Investigation of a novel use of PCR for the detection of *Mycobacterium avium* subsp. *paratuberculosis* in subclinically infected cattle. WSU CVM Intramural, Co-investigator with George Barrington, \$20,023.

- 1998 On-farm risk factors for zoonotic enteropathogens associated with cattle feed and water. FDA, Co-principal investigator with Dale Hancock, Tom Besser, \$484,484.
- 1998 DT104 *Salmonella*: Emerging Impacts on Cattle, Farm Families and the Environment. Fund for Rural America Standard Grant Program. Co-principal Investigator with C. Gay and T. Besser. \$400,000.
- 1998 VMS 261 Accidents and Diseases distance education course conversion. Tri-State Agricultural Distance Degree Alliance, \$9,000. Co-principal investigator with Jim Evermann.
- 1998 PCR Detection assay and application in a pilot field study. CVM Intramural Grant. Co-principal investigator with Inge Eriks. \$30,000.
- 1998 Detection of *Salmonella enterica* serotype Typhimurium by the polymerase chain reaction. American Veterinary Medical Foundation, \$14,311. Co-principal Investigator with Dr. Michael Konkel.
- 1997 Prevalence and Impact of Bovine Neosporosis in Washington Dairy Herds (3rd yr. continuation). Principal Investigator, Washington Dairy Products Commission, \$5,200.
- 1996 The prevention of *Neospora* abortion, phase 1: Identification of vaccine antigens. Co-investigator, WSU intramural funds, \$30,000.
- 1996 Prevalence and Impact of Bovine Neosporosis in Washington Dairy Herds (2nd yr. continuation). Principal Investigator, Washington Dairy Products Commission, \$57,637.
- 1996 Sixth Annual Agriscience Leadership Experience (ASLE) "Agriculture: Real Science, Real Solutions" 10/27/96-10/28/96. \$510 for bovine neosporosis laboratory exercise.
- 1994 The colonization of cattle with *Escherichia coli* serotype O157:H7. Co-Principal Investigator with Besser and Hancock, USDA National Research Initiative Competitive Grants Program, \$294,675.
- 1994 Prevalence and Impact of Bovine Neosporosis in Washington Dairy Herds. Principal Investigator, Washington Dairy Products Commission, \$21,117.
- 1994 Prevalence of and risk factors for herd *Neospora caninum* titers: A between herd case-control study. Principal Investigator, WSU CVM Adler funds, \$9,650.
- 1993 Quality Assurance and Animal Care Youth Educational Program. Co-investigator. USDA Pre-harvest Food Safety and Quality Initiative Program. \$109,615.
- 1992 Lesotho Highlands Water Project Survey Task 5.1: Livestock Disease and Productivity Assessment. Principal Investigator. Lesotho Highlands Development Authority, \$148,444. (102 pp. report under "Other")
- 1991 Cull Dairy Cow *Salmonella* Prevalence and Isolate Relationship to Animal and Human Salmonellosis Cases. Principal Investigator. Intramural CVM funds, \$15,000.
- 1990 An Initial Study of the Use of Serum D-lactic Acid Levels to Assess Rumen Maladaptation and Feed Management Errors. Principal Investigator. California Milk Advisory Board, \$4,950.

Refereed Publications:

Published:

- Mealey, KL, JM Gay, LG Martin, DK Waiting. Comparison of the hypothalamic-pituitary-adrenal axis in MDR1-1Δ and MDR1 wildtype dogs. *J Vet Emerg Crit Care* (in press)
- 2006 Gay, JM. Neosporosis in Dairy Cattle: An update from the epidemiology perspective. *Theriogenology* 66:629-632.
- 2006 Gay, JM. Theriogenology and Developments in Epidemiology: Future Opportunities? *Theriogenology* 66:526-533.
- 2006 Soule M, Kuhn E, Loge F, Gay J, Call DR. Using DNA microarrays to identify library-independent markers for bacterial source tracking. *Appl Environ Microbiol* 72(3):1843-51.

- 2004 Gay CC, Panter KE, Mealey KL, Gay JM, Hjartarson, SW, Tibary A, Motteram ES, Wierenga T, James LF. Comparison of plasma disposition of alkaloids after lupine challenge in cattle that had given birth to calves with lupine-induced arthrogryposis or clinically normal calves. *AJVR* 65:1580-1583.
- 2004 Rothschild CM, Sellon DC, Bryan GM, Gay JM, Hines MT. Effects of trimethoprim-sulfadiazine on tear production and the fluctuations of Schirmer tear test values in horses. *Vet Ophthalmol* 7:385-90.
- 2004 Rothschild CM; Hines MT; Breuhaus B; Gay J; Sellon DC. Effects of trimethoprim-sulfadiazine on thyroid function of horses. *J Vet Intern Med* 18:370-373.
- 2003 Moore, BC, E Martinez, JM Gay, DH Rice. Survival of *Salmonella enterica* in freshwater and sediments and transmission by the aquatic midge, *Chironomus tentans* (Chironomidae: Diptera). *Appl Environ Microbiol.* 69:4556-60.
- 2003 Bergsten C, PR Greenough, JM Gay, WM Seymour, CC Gay. Effects of biotin supplementation on performance and claw lesions in dairy cows on a commercial farm. *J dairy Sci.* 86:3953-3962.
- 2003 Mealey, KL; SA Bentjen; JM Gay; HL Hosick. Dexamethasone treatment of a canine, but not human, tumour cell line increases chemoresistance independent of P-glycoprotein and MRP expression. *J Vet Compar Oncol* 1:67-75.
- 2003 Barrington, GM, JM Gay, IS Eriks, WC Davis, JF Evermann, C Emerson, JL O'Rourke, MJ Hamilton, DS Bradway. Temporal patterns of diagnostic results in serial samples from cattle with advanced paratuberculosis infections. *J Vet Diagn Invest* 15:195-200.
- 2002 Middleton JR, Fox LK, Gay JM, Tyler JW, Besser TE. Use of pulsed-field gel electrophoresis for detecting differences in *Staphylococcus aureus* strain populations between dairy herds with different cattle importation practices. *Epidemiol Infect.* 129:387-395.
- 2002 McDole MG, Gay JM. Seroprevalence of antibodies against *Neospora caninum* in diagnostic equine serum samples and their possible association with fetal loss. *Vet Parasitology* 105:257-260.
- 2002 Middleton JR, Fox LK, Gay JM, Tyler JW, Besser TE. Influence of *Staphylococcus aureus* strain-type on mammary quarter milk somatic cell count and N-acetyl-beta-D-glucosaminidase activity in cattle from eight dairies. *J Dairy Sci.* 85:1133-40.
- 2001 Mealey KL, Bentjen SA, Gay JM, Cantor GH. Ivermectin sensitivity in collies is associated with a deletion mutation of the *mdr1* gene. *Pharmacogenetics.* 11:727-33.
- 2001 Fransson BA, Bagley RS, Gay JM, Silver GM, Gokhale S, Sanders S, Connors RL, Gavin PR. Pneumonia after intracranial surgery in dogs. *Vet Surg.* 30:432-9.
- 2001 Bagley RS, ML Harrington, JM Gay, GM Silver. Effects of changes in power setting of an ultrasonic aspirator on amount of damage to the cerebral cortex of healthy dogs. *Am J Vet Res* 62:248-251.
- 2000 Pritchett LC, ME Konkel, JM Gay, TE Besser. Identification of DT104 and U302 phage types among *Salmonella enterica* serotype typhimurium isolates by PCR. *J Clin Microbiol.* 38:3484-8.
- 2000 Davis MA, Hancock DD, Besser TE, Rice DH, Gay JM. Reply to Drs. Angulo and Collignon. *Emerg Infect Dis.* 6:437-8.
- 2000 Sanderson, MW, JM Gay, TV Baszler. *Neospora caninum* seroprevalence and associated risk factors in beef cattle in the northwestern United States. *Vet Parasitol* 90:15-24.
- 2000 Besser TE, M Goldoft, LC Pritchett, R Khakhria, DD Hancock, DH Rice, JM Gay, W Johnson, CC Gay. Multiresistant *Salmonella* Typhimurium DT104 infections of humans and domestic animals in the Pacific Northwest of the United States. *Epidemiol Infect* 124:193-200.
- 1999 Davis MA, DD Hancock, TE Besser, DH Rice, JM Gay, C Gay, L Gearhart, R DiGiacomo. Changes in antimicrobial resistance among *Salmonella enterica* serovar Typhimurium isolates from humans and cattle in the Northwestern United States, 1982-1997. *Emerg Infect Dis* 5:802-6.

- 1999 Sanderson MW, TE Besser, JM Gay, CC Gay CC, DD Hancock. Fecal *Escherichia coli* O157:H7 shedding patterns of orally inoculated calves. *Vet Microbiol* 69:199-205.
- 1999 Tyler JW, DD Hancock, JG Thorne, CC Gay, JM Gay. Partitioning the mortality risk associated with inadequate passive transfer of colostral immunoglobulins in dairy calves. *J Vet Intern Med* 13:335-337.
- 1998 Bergsten, C, DD Hancock, JM Gay, CC Gay, LK Fox. Claw diseases: The most common cause of dairy lameness. *Bovine Proceedings* 31:188-194.
- 1998 Tyler, JW, DD Hancock, SE Wiksie, SL Holler, JM Gay, CC Gay. Use of serum protein concentration to predict mortality in mixed-source dairy replacement heifers. *J Vet Int Med* 12:79-83.
- 1998 Krytenburg, DS, DD Hancock, DH Rice, TE Besser, CC Gay, JM Gay. A pilot survey of *Salmonella enterica* contamination of cattle feeds in the Pacific northwestern USA. *Anim Feed Sci Tech* 75:75-79.
- 1998 Roberson, JR, LK Fox, DD Hancock, JM Gay, TE Besser. Sources of intramammary infections from *Staphylococcus aureus* in dairy heifers at first parturition. *J Dairy Sci* 81:687-683.
- 1997 Panter, KE, DR Gardner, CC Gay, LF James, R Mills, JM Gay, TJ Baldwin. Observations of *Lupinus sulphureus*-induced "crooked calf disease". *J Range Mangmt.* 50:587-592.
- 1997 Besser, TE, CC Gay, JM Gay, DD Hancock, D Rice, LC Pritchett, ED Erickson. Salmonellosis associated with *S. typhimurium* DT104 in the USA. *Vet Rec* 140:75.
- 1996 Gay JM, Ebel ED, Kearley WP. Commingled grazing as a risk factor for trichomonosis in Idaho beef herds. *JAVMA* 209:643-646.
- 1996 Kamarudin, MI, LK Fox, CT Gaskins, JM Gay. Adherence of *Serratia marcescens*, *Escherichia coli*, *Streptococcus agalactiae*, and *Staphylococcus aureus* to bovine mammary gland epithelial cells. *Malaysian J Anim Sci* 2:23-27.
- 1996 Baszler TV, DP Knowles, JP Dubey, JM Gay, BA Mathison, TF McElwain. Serological diagnosis of bovine neosporosis by *Neospora caninum* monoclonal antibody-based competitive inhibition enzyme-linked immunosorbent assay. *J Clinical Microbiology* 34:1423-1428.
- 1996 Forar, AL, JM Gay, DD Hancock, CC Gay. Fetal loss frequency in ten Holstein dairy herds. *Theriogenology* 45:1505-1513.
- 1996 Burmeiser, JE, LK Fox, DD Hancock, CC Gay, JM Gay, SM Parish, JW Tyler, CT Gaskins. Transdermal water loss of bovine teats. *J Dairy Res* 63:623-628.
- 1996 Dubey, JP, DS Lindsay, DS Adams, JM Gay, TV Baszler, P Thulliez. Serologic responses of cattle and other animals infected with *Neospora caninum*. *Am J Vet Res* 57:329-336.
- 1996 Sanderson, MW, JM Gay. Veterinary involvement in management practices of beef cow-calf producers. *JAVMA* 208:488-491.
- 1996 Roberson, JR, LK Fox, DD Hancock, JM Gay, TE Besser. Prevalence of coagulase-positive staphylococci, other than *Staphylococcus aureus*, in bovine mastitis. *Am J Vet Res* 57:54-58.
- 1996 Kamarudin, MI, LK Fox, CT Gaskins, JM Gay. Environmental reservoirs for *Serratia marcescens* intramammary infections in dairy cows. *JAVMA* 208:555-558.
- 1995 Forar, AL, JM Gay, DD Hancock. The frequency of endemic fetal loss in dairy cattle: A review. *Theriogenology* 43:989-1000.
- 1995 Bagley, RS, SJ Wheeler, JM Gay. Effects of age on temperature-related variation in motor nerve conduction velocity in healthy chickens. *Am J Vet Res* 56:819-821.
- 1995 Carpenter, LV, JM Gay, ED Ebel, DD Hancock. A case-control study of Washington dairy herds experiencing drug residue violations in market calves. *Prev Vet Med* 23:143-151.

- 1995 Burmeister, JE, LK Fox, DD Hancock, CC Gay, JM Gay, SM Parish, JW Tyler. Survey of dairy managers in the Pacific Northwest identifying factors associated with teat chapping. *J Dairy Sci* 78:2073-2082.
- 1995 Sanderson, MW, JM Gay, TE Besser, DD Hancock, LK Fox, CC Gay. Sensitivity of bacteriologic culture for detection of *Escherichia coli* O157:H7 in bovine feces. *J Clin Micro* 33:2616-2619.
- 1994 Roberson, JR, LK Fox, DD Hancock, JM Gay, TE Besser. Ecology of *Staphylococcus aureus* isolated from various sites on dairy farms. *J Dairy Sci* 77:3354-3364.
- 1994 Gay, JM, GL Upham. Effect of exogenous prostaglandin F₂ α in clinically normal post-parturient dairy cows with palpable corpus luteum. *JAVMA* 205(6):870-873.
- 1994 Charlton, DD, DD Hancock, JM Gay, SL Holler, WJ Foreyt, JE Lagerquist, RC Dixon, D Warnock. *Fasciola hepatica* prevalence and management in Kittitas County, Washington, beef cow-calf herds. *Bovine Practitioner* 28:146-149.
- 1994 Gay, JM, DH Rice, JH Steiger. Prevalence of salmonella shedding by cull dairy cattle marketed in Washington state. *J Food Protection* 57(3):195-197.
- 1993 Deluyker HA, JM Gay, LD Weaver. Interrelationships of somatic cell count, mastitis, and milk yield in a low somatic cell count herd. *J Dairy Sci* 76(11):3445-3452.
- 1993 Sherman, DM, TD Arendt, JM Gay, V Maefsky. Comparison of four colostrum preparations: Effects on serum immunoglobulin concentration in newborn kids. *Etudes et Syntheses de l'IEMVT* 42:122-130.
- 1993 Gay, JM, ME Hunsaker. Isolation of multiple *Salmonella* serovars from a dairy two years after a clinical salmonellosis outbreak. *JAVMA* 203(9):1314-1320.
- 1992 Ruegg, PA, W Guterbock, CA Holmberg, JM Gay, LD Weaver, RW Walton. Microbiologic investigation of an epizootic of mastitis caused by *Serratia marcescens* in a dairy herd. *JAVMA* 200(2):184-189.
- 1992 Gay, JM, DM Sherman. Factors in the epidemiology and control of ruminant paratuberculosis. *Vet Med* 87(11):1133-1139.
- 1992 El-Rashidy, AA, LK Fox, JM Gay. Diagnosis of *Staphylococcus aureus* intramammary infection by detection of specific antibody titer in milk. *J Dairy Sci* 75(6):1430-1435.
- 1991 Deluyker, HA, JM Gay, LD Weaver, AS Azari. Relationship Between Milk Yield and Clinical Diseases in a High Producing Herd. *J Dairy Sci* 74(2):436-445.
- 1990 Sherman, DM, JM Gay, DS Bouley, GH Nelson. Comparison of the agar gel immunodiffusion and complement fixation tests for the diagnosis of subclinical bovine paratuberculosis. *Am J Vet Res* 51(3):461-465.
- 1990 Sherman, DM, TD Arendt, JM Gay, VA Maefsky. Comparing the effects of four colostrum preparations on serum Ig levels of newborn kids. *Vet Med* 85(8):908-913.
- 1989 Reeves, MJ, JM Gay, BJ Hilbert, RS Morris. Association of age, sex and breed factors and acute equine colic: A retrospective study of 320 cases admitted to a veterinary teaching hospital in the USA. *J Prev Vet Med* 7:149-160.
- 1989 Parker, NR, PA Walter, J Gay. Diagnosis and surgical management of esophageal perforation. *J Am Anim Hosp Assoc* 25(5):587-594.
- 1989 Sherman, DM, B Bray, JM Gay, F Bates. Evaluation of the agar gel immunodiffusion test for the diagnosis of subclinical bovine paratuberculosis. *Am J Vet Res* 50:525-530.

Accepted:

Brigitte French, David Hird, Patrick Romano, Rick Hayes, Ard Nijhof, Frans Jongejan, Dominic Mellor, Randall Singer, Amanda Fine, John Gay, Radford Davis, and Patricia Conrad. Virtual International Experiences in Veterinary Medicine: An Evaluation of Students' Attitudes toward Computer-Based Learning. *J Vet Med Educ*

Submitted:

None

Book Chapters:

- 2006 Gay, JM. Determining Cause and Effect in Herds. *Vet Clinics NA: Food Animal* 22(1):124-147.
- 2004 Gay, JM. INFORMATICS: Veterinary Epidemiology. (accepted - The 5-Minute Veterinary Consult: Ruminant).
- 2004 Gay, JM. DIFFERENTIAL DIAGNOSIS: A quantitative approach to test usage. (accepted - The 5-Minute Veterinary Consult: Ruminant).
- 2004 Gay, JM. CONDUCTING A DISEASE OUTBREAK INVESTIGATION. (accepted - The 5-Minute Veterinary Consult: Ruminant).
- 2003 Diagnosis and Control of Johne's Disease. Member, Committee on Diagnosis and Control of Johne's Disease, National Research Council. 244 pages, ISBN 0-309-08611-6.
- 2002 Barrington GL, Gay JM, Evermann JF. Biosecurity for neonatal gastrointestinal diseases. *Vet Clinics NA: Food Animal*. 18:7-34.
- 2002 McNamara, JM, JM Gay. Metabolic Diseases (#302):Acidosis/Laminitis. Pp. 843-849 in: Encyclopedia of Dairy Science, Academic Press, London.
- 2000 Hancock, D, T Besser, J Gay, D Rice, M Davis, C Gay. The global epidemiology of multiresistant *Salmonella enterica* serovar Typhimurium DT104. pp. 217-243 in: Brown, C, CA Bolin, eds. Emerging Diseases of Animals. ASM Press, Washington, DC.
- 1998 Gay, JM. The ecology of resistance on the farm. Pg. 52 in: Harrison, PF, J Lederburg, Ed. Antimicrobial Resistance: Issues and Options. National Academy Press, Washington, DC.
- 1993 Fox, LK, JM Gay. Contagious Mastitis. pp. 475-487 in: Anderson, KL (ed.). Update on Bovine Mastitis. *Vet Clinics of N Am: Food Anim Pract*. 9(3).

Full Text Proceedings:

- 2004 Gay, JM, KL Mealey. Compounded Drugs - The Good, the Bad, and the Useless. 6 pgs. Proceedings of the 2004 Washington State Veterinary Medical Association Meeting, October 1-2, 2004, Yakima, WA.
- 2002 LeJeune, J, JM Gay. Microbiological Water Quality for Optimal Livestock Production and Health: An absence of data? Pgs. 77-82 in 35th Annual Proceedings of the American Association of Bovine Practitioners, Sept. 26-28, Madison, WI. (invited)
- 2002 Gay, JM. Salmonella and Beyond: A Bigger Picture. Academy of Veterinary Consultants Spring Meeting, April 4 -6, 2002, Kansas City, MS. (invited)
- 1999 Gay, JM. Salmonella DT104 and Dairy Farms: Lessons from an Emerging Pathogen. 1999 Dairy Farm Food Safety and Quality Assurance Symposium, Sept. 14, 1999, Burlington, VT. (invited)
- 1999 Besser, TE, D Hancock, D Rice, C Gay, J Gay. The ecology of shigatoxic *E. coli* O157 and prospects for on-farm control. Pgs 6-8 in 32nd Annual Proceedings of the American Association of Bovine Practitioners, Sept. 23-26, Nashville, TN.
- 1999 Gay, JM. Basic Concepts for Cow-Calf Herd Health Programs. WSU Beef Information Days, April 15-16, 1999, Pullman, WA.
- 1999 Gay, JM. Salmonella DT104: An Emerging Problem for the Bovine Industries? 1999 SAVMA Symposium, March 18-20, 1999, Pullman, WA.
- 1999 Gay, JM. Salmonella, Including DT104. pp. 18-24 in Proceedings of the Food and Water Safety Symposium, 32nd Joint Annual Meeting of Midwestern ADSA-ASAS Sections, March 15-17, 1999, Des Moines, IA. (invited)

- 1997 Gay, JM. Veterinarians and the Internet: *Surfing or Drowning?* Pp. 85-93 in Proceedings of the University of Minnesota College of Veterinary Medicine 50th Anniversary Celebration, October 23-25, 1997 St. Paul, Minnesota.
- 1997 Gay, JM. Tackling herd salmonellosis problems. Proceedings of the 1997 Minnesota Dairy Health Conference, May 22, 1997, St. Paul, Minnesota.
- 1997 Gay, JM. Managing Cryptosporidiosis: An Update. Proceedings of the 1997 Minnesota Dairy Health Conference, May 22, 1997, St. Paul, Minnesota.
- 1995 Ebel, ED, JM Gay, W Kearley, K Eyre. Risk factor studies of bovine trichomoniasis in Idaho. Proceedings of the Jackson Hole Veterinary Rendezvous, June 19-21, 1995, Jackson Hole, Wyoming.
- 1995 Ebel, ED, JM Gay, W Kearley, K Eyre. Risk factor studies of bovine trichomoniasis in Idaho. Proceedings of the Veterinary Epidemiology and Economics Symposium, May 31- June 2, 1995, College Station, Texas.
- 1995 Gay, JM. *Neosporosis*: Current Status. 6 pp. Handout for the WSU College of Veterinary Medicine Annual Conference for Veterinarians and Veterinary Technicians, March 24-25, 1995.
- 1994 Gay, JM. Neosporosis: How big of a problem is it?. 8 pp. in Proceedings of the WSU College of Veterinary Medicine Annual Conference for Veterinarians and Veterinary Technicians, March 25-26, 1994.
- 1994 Gay, JM. Digital Dermatitis in Dairy Cattle. Presentation to Yakima Valley dairy veterinarians, extension and allied industry personnel. January 6, 1994, Tillacum Inn, Sunnyside, WA.
- 1993 Fox, LK, JM Gay. *Staphylococcus aureus*: The role of specific antibody testing in a control program. 1993 Northwest and Lower Columbia Dairy Shortcourses.
- 1993 Gay, JM. The Epidemiology of Coliform Mastitis: An Overview. pp. 10-15 in Fox, LK, CC Gay (eds.) 1993 Coliform Mastitis Symposium, March 27, 1993, Pullman, WA.
- 1993 Gay, JM, LK Fox. *Staphylococcus aureus*: Where does the Staph Antibody test fit? pp.12-18 in Proceedings of the 32nd Annual Meeting of the National Mastitis Council, Kansas City, Missouri, February 15-17, 1993.
- 1990 Gay, JM. Applied Clinical Epidemiology. pp. 88-150 in: Upham, GL (ed.). Measuring and Managing Dairy Herd Reproductive Performance. Am Assoc Bovine Pract Seminar 13, Sept 12, 1990, Indianapolis, IN.
- 1989 Sherman, DM, TD Arendt, JM Gay, V Maefsky. Comparison of Four Colostral Preparations: Effect on Serum Immunoglobulin Concentration in Newborn Kids. in: Proceedings of the Second International Colloquium in Niort: Goat Diseases and Production. June 26-29, 1989, Niort, France.
- 1985 Gay, JM. Clinical Epidemiology. pp. 97-109 in: Proceedings of the Dairy Herd Health Programming Conference. June 5-6, 1985, University of Minnesota, St. Paul, MN.

Abstracts and Posters:

- 2007 Martin, L, EN Behrend, K Mealey, J Gay, K Hickey. Plasma disposition of cosyntropin after administration of low doses in clinically healthy dogs. ACVIM (submitted)
- 2005 Kuhn, E, D Call, J Gay, F Loge, M Soule. Identifying Host-specific Markers of Fecal Pollution Using Mixed-genome Microarrays. WSU World Class Showcase 2005, April 1, 2005.
- 2005 Call DR, M Soule, F Loge, J Gay. Identifying host-specific markers of fecal pollution using mixed-genome microarrays. USDA-CSREES National Water Quality Conference, La Jolla, CA, Feb. 7-9, 2005.
- 2004 Call, D.R., Soule, M., Loge F., and Gay, J.M. Identifying host-specific markers of fecal pollution using mixed-genome microarrays. USDA-CSREES National Water Quality Conference, Clearwater, FL, Jan. 11-14, 2004.
- 2003 Call DR, Soule, M Oatley, Krug, LaFrentz, JM Gay. Identifying host-specific markers of fecal pollution using mixed-genome microarrays. Poster, WSU Center for Integrated Biotechnology, First Annual Retreat, Moscow, ID, Sept 11-12, 2003.

- 2001 Hancock DD, Besser T, Call D, Lejeune J, Davis M, Gay, JM, and Rice D. Investigations of the role of animal feed hygiene in the epidemiology of foodborne diseases in humans. The Science of Pre-Harvest Food Safety - Bringing Sound Science to the Table, May 8-10, National Food Safety and Toxicology Center, Michigan State University, East Lansing, Michigan.
- 2001 Crandall KD, Gay JM. Evidence of the transmission of antibiotic resistance from humans to wild and domestic animal populations. The Science of Pre-Harvest Food Safety - Bringing Sound Science to the Table, May 8-10, National Food Safety and Toxicology Center, Michigan State University, East Lansing, Michigan.
- 2001 Leckie, RK, Gay JM. *Salmonella enterica* var Typhimurium mr-DT104 Calf Inoculation Study. The Science of Pre-Harvest Food Safety - Bringing Sound Science to the Table, May 8-10, National Food Safety and Toxicology Center, Michigan State University, East Lansing, Michigan.
- 2000 Crandall, K, JM Gay. Evidence of the transmission of antibiotic resistance from humans to wild and domestic animal populations. CVM Research Symposium, Oct. 4, 2000.
- 1999 Bergsten, C, PR Greenough, JM Gay, RC Dobson, CC Gay. A controlled field trial of the effects of biotin supplementation on milk production and hoof lesions. 94th Annual Meeting of the American Dairy Science Association, Memphis, TN, June 20-23, 1999. *J Dairy Sci* 82 (suppl 1):34.
- 1999 Pritchett, L, M Konkel, J Gay, T Besser. Identification of a novel sequence in *Salmonella typhimurium* DT104. First Annual CVM Student Research Symposium, October 6, 1999.
- 1997 Gay, CC, JM Gay, T Besser, D Hancock, D Rice, L Pritchett. *Salmonella typhimurium* DT104: An Emerging Salmonella in Livestock and Humans. Poster Session, 30th Annual Conference of the American Association of Bovine Practitioners, Sept. 18-20, 1997, Montreal, Quebec.
- 1996 Baszler, TV, DP Knowles, JP Dubey, JM Gay, BA Mathison, TF McElwain. Serological diagnosis by *Neospora caninum* monoclonal antibody-based competitive inhibition ELISA. VIIIth International Symposium of Veterinary Laboratory Diagnosticians, Jerusalem, Israel, August 4-9, 1996.
- 1995 Baszler, TV, TF McElwain, JP Dubey, JM Gay, DP Knowles. Serological diagnosis by *Neospora caninum* antibody-based competitive inhibition ELISA. 76th Annual Mtg of Conference of Research Workers in Animal Diseases, Chicago, IL, November 13-14, 1995.
- 1995 Besser, T, J Gay, C Gay, R Collins. Increasing prevalence of *Salmonella typhimurium* in animals and humans in Washington state. 76th Annual Mtg of Conference of Research Workers in Animal Diseases, Chicago, IL, November 13-14, 1995.
- 1994 Sanderson, MW, TE Besser, JM Gay, DD Hancock. Sensitivity of detection of *E. coli* O157:H7. 75th Annual Mtg of Conference of Research Workers in Animal Diseases, Chicago, IL, November 14-15, 1994.
- 1994 Kamaruden, MI, LK Fox, CH Gaskins, JM Gay. Potential environmental reservoir(s) of *Serratia marcescens* isolated from intramammary infections in a dairy herd. *J Dairy Sci* 77 (suppl 1):312.
- 1993 Pare, J, SK Hietala, JM Gay, MC Thurmond. Serological diagnosis of *Neospora*-like infection in cattle. 14th Annual Western Food Animal Disease Research Conference, Moscow, Idaho, March 28-29, 1993.
- 1993 Fox, LK, JM Gay. *Staphylococcus aureus*: The Role of Specific Antibody Testing in a Control Program. pp. 18-23 in: Proceedings of the 1993 Northwest and Lower Columbia Dairy Shortcourses, January 21-22, 1993, Everett, WA, and January 25-26, Portland, OR.
- 1992 Kinsel, ML, WE Marsh, DD Hancock, JM Gay. A Computer Record Based Study of Non-Infectious Factors Associated with Abortion in Dairies. Society of Theriogenology Annual Meeting, San Antonio, TX, August 13-15, 1992.
- 1992 Fox LK, JM Gay, AA El-Rashidy. Specificity and sensitivity in diagnosis of *Staphylococcus aureus* intramammary infection (IMI) by measurement of antibody titer. *J Dairy Sci* 75(suppl 1):259.

- 1992 Kinsel, ML, WE Marsh, DD Hancock, JM Gay. A Computer Record Based Observational Study of the Epidemiology of Abortion in Dairies. 13th Annual Western Food Animal Disease Research Conference, Davis, CA, April 1-3, 1992.
- 1992 Guterbock, WM, PL Ruegg, CA Holmberg, JM Gay, LD Weaver, RW Walton. Investigation of Subclinical and Clinical Mastitis Caused by *Serratia marcescens* in a Large California Dairy Herd. 13th Annual Western Food Animal Disease Research Conference, Davis, CA, April 1-3, 1992.
- 1991 El-Rashidy, AA, LK Fox, JM Gay. Relationship between *Staphylococcus aureus* milk antibody titer and intramammary infection by *Staphylococcus aureus*. 30th Annual Mtg of the National Mastitis Council, Reno, NV, Feb 11-13, 1991.
- 1986 Gay, JM, DM Sherman. An Overview of Bovine Paratuberculosis Research at the University of Minnesota. in: Callihan, DM, ed. Proceedings of the Third Northeast Regional Meeting on Paratuberculosis. Sept. 8-9, 1986, Cornell University, Ithaca, NY.

Authored Internet Web Materials: (Website index page < <http://www.vetmed.wsu.edu/courses-jmgay/> . . . >)

Basic Concepts for Cow-Calf Herd Health Programs	< . . . /FDIUCowCalfHH.htm >
Clinical Epidemiology & Evidence-Based Medicine Glossary	< . . . /GlossClinEpiEBM.htm>
Conditions for Producers' Use of Livestock Drugs	< . . . /VMADProducerDrugs.htm >
Epidemiology Concepts for Disease in Animal Groups	< . . . /EpiMod2.htm>
Guide for Herd Problem Investigations	< . . . /OutBGuide.htm>
Guidelines for Assessing Professional Information	< . . . /EvalGuide.htm>
Introduction to Epidemiology	< . . . /EpiMod1.htm>
Introduction to Herd Production Medicine	< . . . /PMIntroduction.htm>
Introduction to the Beef Cattle Industry and the Veterinarian's Role	< . . . /POEBeefIndustry.htm>
Veterinary Medicine and the Philosophy of Science	< . . . /EpiPhil.htm>

Assembled Web Materials: (Website index page < <http://www.vetmed.wsu.edu/courses-jmgay/> . . . >)

Other:

- 2000 Gay, JM, JF Evermann. Update on Johnes Disease. Washington Dairy Newsletter, December.
- 1993 Gay, JM, ME Goe, S Ryland. LHDA Contract No. 74 Baseline Epidemiological Survey Sub-task 5.1 Livestock Disease and Productivity Survey Final Report. 102 pages. Accepted by Lesotho Highlands Development Authority, Maseru, Lesotho, May, 1993.
- 1986 Gay, JM. TI-59 Program for DHIA-Type Statistics. in: Kirk, JH. "Programmable Calculator Uses in Herd Reproductive Health Programs for Dairy Cattle", pp. 418-422 in: Morrow, DA (ed). Current Therapy in Theriogenology, 2nd ed., WB Saunders Co., 1986.

Presentations and Seminars:

- 2006 Theriogenology and Developments in Epidemiology: Future Opportunities?. Annual Conference & Symposia, Society for Theriogenology / American College of Theriogenologists, St. Paul, MN August 22-26. (invited)
- 2006 Neosporosis in Dairy Cattle: An update from the epidemiology perspective. Annual Conference & Symposia, Society for Theriogenology / American College of Theriogenologists, St. Paul, MN August 22-26. (invited)
- 2006 Why EBVM? An approach to understanding why from the human cognition perspective. 2nd Symposium on EBVM: Incorporating Evidence-Based Principles into Veterinary Medicine, Mississippi State University, Starkville, MS, June 14-15. (invited)
- 2006 An Overview of Biosecurity in Beef and Dairy Herds. 15th Annual Conference of the Western Canadian Association of Bovine Practitioners, Calgary, Alberta, January 19-21. (invited)
- 2005 Herd Biosecurity: Underlying Principles and Problems. Okanogan Cattlemen's Association, Okanogan, WA, December 3, 2005

- 2005 The Wide World of Epidemiology. Explore 2005: Veterinary Medicine. (invited high achieving high school students). September 24, 2005.
- 2003 Observations on the Infectious Disease War: *A New Paradigm!* Dairy Health Management Certificate Program. Module 6: Infectious Disease, University of Guelph, Guelph, Ontario, Oct. 7-12.
- 2003 Herd Biosecurity: *Underlying Principles and Problems*. Dairy Health Management Certificate Program. Module 6: Infectious Disease, University of Guelph, Guelph, Ontario, Oct. 7-12.
- 2003 Getting Beyond: *Where do we need to go from here? How do we get there?* Dairy Health Management Certificate Program. Module 6: Infectious Disease, University of Guelph, Guelph, Ontario, Oct. 7-12.
- 2003 Dairy Herd Salmonellosis. Dairy Health Management Certificate Program. Module 6: Infectious Disease, University of Guelph, Guelph, Ontario, Oct. 7-12.
- 2003 How to Approach Herd Outbreaks. Dairy Health Management Certificate Program. Module 6: Infectious Disease, University of Guelph, Guelph, Ontario, Oct. 7-12.
- 2003 Herd Biosecurity: *Underlying Principles and Problems*. 2003 Annual Conference for Veterinarians and Veterinary Technicians, Pullman, WA, April 4-5.
- 2001 Dairy Producer 2001 Enteric Disease Research Update. Washington-Idaho Dairy Producer Study Group Meeting, November 13-14, Moscow, Idaho.
- 2001 NAS Study on the Diagnosis and Control of Johne's Disease. US Animal Health Association Annual Meeting, November 1-8, Hershey, Pennsylvania.
- 2001 Rural Water: Potential impacts on Human Health. 2001 Food Safety Farm to Table Conference, Northwest Food Safety Consortium, May 30-31, Moscow, ID.
- 2001 *E. coli* O157:H7 in well water: How does it happen and what can be done about it? 2001 Annual Conference for Veterinarians and Veterinary Technicians, April 6-7, 2001 - Pullman, Washington
- 2000 Update on Johne's Disease. Central Washington Dairy Management Committee, November 14, 2000.
- 1999 Epidemiology of *Salmonella typhimurium* DT104 on dairy farms. 94th Annual Meeting of the American Dairy Science Association, Memphis, TN, June 20-23, 1999. (invited)
- 1999 Salmonella, Including DT104. Dairy Health Management Certificate Program Annual Update Meeting, Ontario Veterinary College, Guelph, Ont, CA, June 1-3, 1999. (invited)
- 1998 Salmonella, including DT104. 31st Annual Conference of the American Association of Bovine Practitioners, Spokane, WA, Sept. 21-26, 1998.
- 1998 Seminar 25: Looking Forward to Practice. Seminar coordinator and moderator. 31st Annual Conference of the American Association of Bovine Practitioners, Spokane, WA, Sept. 21-26, 1998.
- 1998 *Salmonella typhimurium* DT104. Northwest Food Safety Consortium 6th Annual Farm to Table Food Safety Conference, Moscow, ID, May 27, 1998.
- 1998 An epidemiological critique of bovine lameness research: Where do we go from here? WSU CVM Annual Conference for Veterinarians and Veterinary Technicians, Pullman, WA, April 4, 1998.
- 1997 Bullet-proofing Your Herd: Concepts for Avoiding Nasty Wrecks. WSU Managing for Profitability Seminar Series. Animal Transmitted Diseases: How Safe is Your Farm? October 13, Chehalis, WA, October 14, Lynden, WA, October 15, Monroe, WA, October 16, Sunnyside, WA, October 17, Moses Lake, WA.
- 1997 Preventing and Controlling Salmonellosis on the Farm. Managing for Profitability Seminar Series. Animal Transmitted Diseases: How Safe is Your Farm? October 13, Chehalis, WA, October 14, Lynden, WA, October 15, Monroe, WA, October 16, Sunnyside, WA, October 17, Moses Lake, WA.

- 1997 Managing Cryptosporidiosis. Managing for Profitability Seminar Series. Animal Transmitted Diseases: How Safe is Your Farm? October 13, Chehalis, WA, October 14, Lynden, WA, October 15, Monroe, WA, October 16, Sunnyside, WA, October 17, Moses Lake, WA.
- 1997 Digital Dermatitis. Managing for Profitability Seminar Series. Animal Transmitted Diseases: How Safe is Your Farm? October 13, Chehalis, WA, October 14, Lynden, WA, October 15, Monroe, WA, October 16, Sunnyside, WA, October 17, Moses Lake, WA.
- 1997 Salmonella DT104 on the Farm. National Academy of Sciences Forum on Emerging Diseases. July 30-31, Washington, D.C. Invited presentation.
- 1997 Tackling herd salmonellosis problems. 1997 Minnesota Dairy Health Conference, May 22, 1997, St. Paul, Minnesota.
- 1997 Managing Cryptosporidiosis: An Update. 1997 Minnesota Dairy Health Conference, May 22, 1997, St. Paul, Minnesota.
- 1997 Salmonella DT104 in Animals and Humans in Washington State. Salmonella Typhimurium DT104 Workshop, CDC, Atlanta, Georgia, May 1, 1997.
- 1997 Crohn's Disease: A foodborne zoonoses? Emerging Food and Waterborne Pathogens. 5th Annual Food Safety Farm to Table Conference, Moscow, ID. March 12-13, 1997.
- 1996 Developing an on-farm quarantine program to prevent disease transmission. 1st Annual Cattle Health Seminar, Pullman, WA, November 9, 1996.
- 1996 Neosporosis in Washington dairy herds. WSU Dairy Council Meeting, Pullman, WA, May 21, 1996.
- 1995 Risk Factors for Trichomoniasis in Idaho Beef Herds: A Preliminary Investigation Based on Secondary Data. June 30, 1995, The Ohio State University, Columbus, Ohio.
- 1995 Risk Factors for Trichomoniasis in Idaho Beef Herds: A Preliminary Investigation Based on Secondary Data. June 29, 1995, Ohio Agricultural Research and Development Center, Wooster, Ohio.
- 1995 Research Topics: Neospora Update. WSU CVM Annual Conference for Veterinarians and Veterinary Technicians, Pullman, WA, March 25, 1995.
- 1994 Fecal *Salmonella* Shedding by Cull Dairy Cattle. Northwest Center for the Safety and Quality of Meat and Dairy Products Seminar Series, Pullman, WA, April 7, 1994.
- 1994 Abortions Due to Neospora spp: How Big a Problem is It? WSU CVM Annual Conference for Veterinarians and Veterinary Technicians, Pullman, WA, March 25-26, 1994.
- 1994 Digital Dermatitis in Dairy Cattle. Presentation to Yakima Valley dairy veterinarians, extension and allied industry personnel. January 6, 1994, Tillacum Inn, Sunnyside, WA.
- 1993 The Epidemiology of Coliform Mastitis: An Overview. WSU CVM Coliform Mastitis Symposium, Pullman, WA, March 27, 1993.
- 1992 Foodborne Salmonellosis. Cooperative Extension Workshop on Food Safety from Farm to Table. Pullman, WA, November 9-10, 1992.
- 1992 FDIU Dairy Research Update. 1992 WSU Dairy Council Meeting, Puyallup, WA, January 6-7, 1992.
- 1991 ECONOMAST: A Monte Carlo Simulation Model of Dairy Herd Mastitis. Ecology of Infectious Disease Seminar, Pullman, WA, October 16, 1991.
- 1991 Biostatistics and Epidemiology for Practitioners. Masters of Swine Medicine Program, University of Minnesota, St. Paul, MN, May 3 to May 12, 1991. Invited.
- 1991 Clinical Trials for Food Animal Practitioners. WSU College of Veterinary Medicine Annual Conference for Veterinarians, Pullman, WA, April 5-7, 1991.

- 1990 Selecting Computer Hardware and Software. Homecoming Weekend CVM CE course "Making the Most of Your Practice Computer (for Other Than Business Management)", Pullman, WA. September 29, 1990.
- 1990 Using Cornell Consultant. Homecoming Weekend CVM CE course "Making the Most of Your Practice Computer (For Other Than Business Management)", Pullman, WA. September 29, 1990.
- 1990 Endemic Subclinical Multi-serotype *Salmonella* Infections in a Large Commercial Dairy Herd. UCD VMTRC Seminar Series, Tulare, CA. March 17, 1990.
- 1988 The Effects of Subclinical Paratuberculosis on the Dairy Cow. Kansas State University, Manhattan, Kansas, December 13, 1988.
- 1988 Cattlemen's Workshop: Animal Health - Ideas to Grow With. 1988 Annual Meeting of the California Cattlemen's Association, Sacramento, CA. December 2, 1988.
- 1988 Beef Cattle Health Seminar. 4-H Leader's Animal Health Day, Davis, CA. Nov. 19, 1988.
- 1988 Cattlemen's Workshop: General Principles Behind the Use of Drugs and Vaccines. Cattlemen's Day, Midstate Fair, Paso Robles, CA. August 5, 1988.
- 1986 Studies of Johne's Disease in Dairy Herds. 90th Annual Meeting of the United States Animal Health Association, Louisville, Kentucky, October 16-21, 1986.
- 1986 The Impact of Fecal Sample Handling and Processing on Johne's Culture Results. 90th Annual Meeting of the United States Animal Health Association, Louisville, Kentucky, October 16-21, 1986.
- 1986 An Overview of Bovine Paratuberculosis Research at the University of Minnesota. Third Northeast Meeting on Paratuberculosis, New York State College of Veterinary Medicine, Cornell University, Ithaca, NY, September 8-9, 1986.
- 1985 Clinical Epidemiology. 1985 Dairy Herd Health Programming Conference, University of Minnesota, June 5-6, 1985.