

James A. Roth, DVM, PhD, DACVM
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Personal Data:

Date of birth: March 1, 1951 Place of birth: Grinnell, Iowa
Spouse: Jeanne R. Roth
Children: Claire Elizabeth Roth, Born: 8-07-76
David William Roth, Born: 1-23-80
Emily Marie Roth, Born: 2-08-90

Education:

<i>Institution</i>	<i>Degree</i>	<i>Date</i>	<i>Major</i>
Iowa State University	D.V.M.	1975	Veterinary Medicine
Iowa State University	M.S.	1979	Veterinary Microbiology (Immunology)
Iowa State University	Ph.D.	1981	Veterinary Microbiology (Immunology)

Licensure:

Licensed to practice Veterinary Medicine in Iowa

Professional Experience:

1975-1977 Employed as a practicing veterinarian in a general veterinary practice in Belle Plaine, Iowa.

1977-1995 Adjunct Instructor, Instructor, Assistant Professor, Associate Professor, Professor, Department of Veterinary Microbiology and Preventive Medicine, College of Veterinary Medicine, Iowa State University, Ames, Iowa.

1987-2002 Professor-in-Charge, Ames Center for Animal Health (formerly the Center for Immunity Enhancement in Domestic Animals), Iowa State University, Ames, Iowa.

1990-1992 Professor and Interim Chairman, Department of Veterinary Microbiology and Preventive Medicine, (aka Department of Microbiology, Immunology, and Preventive Medicine), Iowa State University, Ames, Iowa.

1991-1994 Chairman, Biotechnology Research and Development Corporation, Animal Health Care Division, Scientific Advisory Board.

- 1993-2003 Board of Directors, Veterinary Resources, Inc., Ames, Iowa. Veterinary Resources, Inc. is a private company that conducts contract research and testing. It is an affiliate member of the Iowa State Innovation System at the ISU Research Park.
- 1995-Present Clarence Hartley Covault Distinguished Professor, Department of Veterinary Microbiology and Preventive Medicine, Iowa State University, Ames, Iowa.
- 1995-Present Executive Director, Institute for International Cooperation in Animal Biologics. An OIE Collaborating Center for Diagnosis of Animal Disease and Vaccine Evaluation in the Americas. The IICAB was jointly formed by Iowa State University, USDA/APHIS and USDA/ARS.
- 2001-2004 Assistant Dean of International Programs and Public Policy, College of Veterinary Medicine, Iowa State University, Ames, Iowa.
- 2002-Present Director, Center for Food Security and Public Health. An OIE Collaborating Center for Day One Veterinary Competencies and Continuing Education
- 2006-Present Adjunct Professor, Department of Epidemiology, College of Public Health, University of Iowa, Iowa City, Iowa.
- 2008-Present President, Transboundary Animal Biologics, Inc., A not-for-profit corporation with a mission to enhance the availability of veterinary biologics for transboundary diseases.

Advisory Panels:

International:

United Nations Food and Agriculture Organization (FAO) Technical Working Group (TWG) for the revision of the FAO Guide on Good Emergency Management Practices. (2018–2019)
World Organization for Animal Health (OIE) ad hoc Group on Compartmentalisation for African swine fever. Dec 2019 – 2020.

Federal:

Interagency Weapons of Mass Destruction (WMD) Counter Measures Working Group – Animal Pathogens Research and Development Subgroup (2003-2004)
White House Office of Science and Technology Policy (OSTP) Blue Ribbon Panel on the Threat of Biological Terrorism Directed Against Livestock (Dec 2003- March 2004), (Chair, Immunotherapeutics Working Group)
National Science Advisory Board for Biosecurity (NSABB) (2005-2014 (Level 2 Secret Security Clearance)
Farm Bill Section 12101, National Animal Disease Preparedness and Response Program (NADPRP) Consultation Board, 2020 to 2023.

Other:

Project ARGUS Senior Advisory Board, Georgetown University, Washington, DC. (2008-2010)
National Veterinary Stockpile Nipah Virus Countermeasures Workshop. Geelong, Victoria, Australia. March 17-19, 2009
National Academies of Science, National Research Council Committee on Evaluation of a Site-Specific Risk Assessment for the Department of Homeland Security's Planned National Bio- and Agro-Defense Facility in Manhattan, Kansas. 2010
National Academies of Science, National Research Council Committee on Evaluation of the Updated Site-Specific Risk Assessment for the Department of Homeland Security's Planned National Bio- and Agro-Defense Facility in Manhattan, Kansas. 2011-2012
National Academies of Science, National Research Council, Institute for Laboratory Animal Research Advisory Council. 2011-2018
USDA National Animal Disease Preparedness and Response Program (NADPRP) Consultation Board. 2020-2022.

Invited Presentations, Washington DC:

“Review of Biosecurity Preparedness and Efforts to Address Agroterrorism”. Testimony before the US Senate Committee on Agriculture, Nutrition, and Forestry, Senate Russell Building, Washington, DC. July 20, 2005

"Our vulnerability to animal diseases: Zoonotic diseases and their potential for infecting humans", AAVMC/National Coalition for Food and Agriculture Research Seminar, Longworth House Office Building, Washington, DC. July 16, 2007.

“Biodefense, Agriculture, and Food Security: Progress, Vulnerabilities and Needs”, AAAS Center for Science, Technology and Security Policy; Understanding President Bush’s FY2009 Budget Request for Biodefense: Round Table Discussion, Rayburn House Office Building, Washington, DC. June 11, 2008.

“Impact of an Outbreak of Foot and Mouth Disease (FMD) in the United States and the Urgent Need for an Adequate Stockpile of FMD Vaccine”. Testimony before the U.S. House of Representatives Agriculture Subcommittee on Livestock and Foreign Agriculture, Longworth House Office Building, Washington, DC. February 11, 2016.

“Vulnerability of U.S. Animal Agriculture and Food Production to Accidental or Intentional Disease Introduction”. President’s Council of Advisors on Science and Technology. National Academy of Sciences Building, Washington, DC. November 18, 2016.

Honors and Awards:

Diplomate, American College of Veterinary Microbiologists, 1982

Norden Distinguished Teacher Award, Iowa State University, 1983

Outstanding Young Alumnus, Iowa State University, 1985

Beecham Award for Research Excellence, College of Veterinary Medicine, Iowa State University, 1986

Member: Phi Zeta, Gamma Sigma Delta, Phi Kappa Phi

Basic Science Teaching Award, Student Chapter American Veterinary Medical Association, Iowa State University, 1991, 1997, 2001

Norden Distinguished Teacher Award, Iowa State University, 1993

Faculty Citation, Iowa State University, 1993

Award for Mid-Career Achievement in Research, Iowa State University Foundation, 1994

Clarence Hartley Covault Distinguished Professor, Iowa State University, 1995

R&D 100 Award, SC-54 Vaccine, T. Kramer, M. Roof, and J. Roth, 1996

Distinguished Veterinary Immunologist Award, American Association of Veterinary Immunologists, 1997

John G. Salsbury Endowed Chair in Veterinary Medicine, 1998-2001

International Service Award, Iowa State University, 2000

AVMA 12th International Veterinary Congress Prize, 2001

Change Agent of the Year, Iowa State University Minority Student Association, 2004

AVMA Public Service Award, 2006

Distinguished Veterinary Microbiologist Award, American College of Veterinary Microbiologists, 2009

USDA APHIS Administrator’s Award for Contributions in Animal Health, 2013

Exemplary Faculty Mentor, Iowa State University, 2014

Elected to membership, National Academy of Medicine, 2016
AAVMC Senator John Melcher, DVM Leadership in Public Policy Award, 2018
2018 Oscar W. Schalm Lecturer, UC Davis Alumni Reunion Weekend
2020 Elected as an AAAS Fellow for: Distinguished contributions to the field of immunology,
particularly for control of infectious diseases in food producing animals.
2021 Keynote presentation at the American Association of Veterinary Colleges National Summer
Scholars Program
2021 American Association for the Advancement of Science Charles Valentine Riley Memorial
Lecture
Iowa State University College of Veterinary Medicine Stange Award 2022

Professional Organizations:

American Association for the Advancement of Science (Fellow 2020)
American Veterinary Medical Association
American Society for Microbiology,
Public and Scientific Affairs Board, (2015 to 2017)
American Association of Veterinary Immunologists (President, 1989)
American Association of Swine Veterinarians
American Association of Bovine Practitioners
Conference of Research Workers in Animal Disease
Iowa Veterinary Medical Association
Iowa Public Health Association
US Animal Health Association
American College of Veterinary Microbiologists, (Board of Governors, 1990-1993, 2001-2004;
President, 2004-2008)
International Association for Biologicals (Veterinary Scientific Conference Committee, 2001-
present)
National Institute for Animal Agriculture
National Academy of Medicine

Teaching Responsibilities:

VMPM 380.*Veterinary Immunology*. Cr. 2. Structure and function of the immune system in animals. I give half the lectures.

Education and Training Offered by CFSPH and IICAB

<http://www.cfsph.iastate.edu/education-and-training.php>

Transboundary and Emerging Diseases of Animals for Veterinary Students

<https://www.cfsph.iastate.edu/product/eeda-course/>

The Transboundary and Emerging Diseases of Animals (EEDA) web-based course is currently used at all United States veterinary colleges. The course fulfills the Initial Accreditation Training requirement of the USDA National Veterinary Accreditation Program. The course has been used since 2002 to raise awareness of foreign, emerging, and exotic animal diseases and to prepare veterinarians to recognize and appropriately respond to unusual animal diseases. Veterinary students access the course through a portal on the Association of American Veterinary Medical Colleges website www.aavmc.org. The CFSPH developed the course content with other academic institutions and manages and continuously updates the course. The USDA APHIS provides support for veterinary colleges to offer the course and distribute a companion textbook. The course is

available for continuing education and has been translated into Spanish as well. Email eeda@iastate.edu for more information.

Emerging and Exotic Diseases of Animals for Continuing Education

The EEDA web-based course, used at all U.S. veterinary colleges is also available for continuing education credit for graduate veterinarians (up to 18 RACE approved, non-interactive, continuing education hours).

Enfermedades Transfronterizas de los Animales

<https://www.cfsph.iastate.edu/es/course/enfermedades-transfronterizas-de-los-animales/>

Spanish language version of the EEDA course above. Used by more than 3800 individuals in Central and South America 2013 to 2018.

National Veterinary Accreditation Program (NVAP)

The CFSPH, working with USDA-APHIS has developed APHIS-approved supplemental training materials for the National Veterinary Accreditation Program (NVAP). Veterinarians seeking to renew their USDA accreditation can choose from 30 different modules in three different supplemental training formats. There are approximately 65,000 accredited veterinarians in the U.S who are required to have APHIS-approved supplemental training.

Zoonoses: Protecting People and Their Pets

<https://www.cfsph.iastate.edu/product/zoonoses-course-rural/>

Available for veterinary and human healthcare professionals and students to refresh and gain knowledge of key zoonotic diseases. The course includes lessons, case studies, a discussion board, and online resources to assist in conveying zoonotic disease prevention measures to clients.

IICAB Veterinary Biologics Training Program

<https://www.cfsph.iastate.edu/IICAB/>

The Veterinary Biologics Training Program has been offered every year since 1996 (except 2020 due to COVID-19). Almost 2100 individuals, including more than 600 attendees from 89 countries, have attended the program. The course gives participants an overview of the scientific principles of vaccines and vaccination and of the USDA regulatory process for assuring the purity, safety, potency and efficacy of veterinary biologics.

Veterinary Immunology & Principles of Vaccination

<https://www.cfsph.iastate.edu/product/veterinary-immunology-courses/>

This is a web-based course presented by Dr. Jim Roth. This course (containing over 17 hours of lectures) is the same as that formerly delivered at Block 1 of the IICAB Veterinary Biologics Training Program.

Introduction to Veterinary Immunology & Principles of Vaccination

<https://www.cfsph.iastate.edu/product/veterinary-immunology-courses/>

This web-based course provides a high-level overview of the above-listed longer course. Dr. Jim Roth in 4.5 hours of lectures introduces how the immune system works, how vaccines prevent disease and why vaccines sometimes fail to protect from disease and occasionally cause adverse reactions.

Introduction to Animal Emergency Management

A 10 part course to provide USDA Animal Care employees with foundational information and skills to support USDA APHIS Animal Care's emergency planning and response roles.

Currently serving as major or co-major professor for 2 graduate students:

<i>Student</i>	<i>Degree Sought</i>	<i>Major</i>	<i>Co-Major Professor</i>
Carly Kanipe, DVM	PhD	Vet Micro	

Graduate degrees awarded (for which J. Roth served as major or co-major professor):

<i>Student</i>	<i>Degree Received</i>	<i>Major</i>	<i>Semester of Graduation</i>
Dagmar E. Frank, DVM	MS	Vet Micro	Spring 1985
Peter C. Canning, BS	PhD	Imbio	Fall 1985
Deborah S. A. Webb, MS	PhD	Imbio	Fall 1986
Xiaoling Zhu, BS	MS	Imbio	Spring 1987
Marla S. Steinbeck, MS	PhD	Imbio	Fall 1987
Robert Briggs, DVM	MS	Vet Micro	Spring 1988
Belinda Lawler Goff, MS	PhD	Imbio	Spring 1988
Marcus Kehrli, DVM	PhD	Imbio	Spring 1989
Gail Kuhlman, BS	PhD	An Sci	Fall 1989
Gayle B. Brown, DVM	MS	Imbio	Fall 1989
Michael Roof, BS	PhD	Vet Micro/Imbio	Fall 1991
Bradley Bosworth, DVM	PhD	Imbio	Fall 1991
Nancy Coe, DVM	PhD	Vet Micro	Summer 1992
Karen Hehnke, MS	PhD	Imbio	Fall 1993
Lori Hutchinson, BS	MS	Imbio	Fall 1993
Chih Chuan Lee, BS	MS	MCDB	Spring 1994
Kevan P. Flaming, DVM, MS	PhD	Imbio	Spring 1995
Anna Rovid, DVM	PhD	Imbio	Summer 1995
Eun Kyung Lee, BS	PhD	Imbio	Summer 1996
Mark Quade, DVM	MS	Imbio	Summer 1996
Jeffrey Issacson, DVM	PhD	Imbio	Fall 1996
W. Ray Waters, DVM	PhD	Imbio	Fall 1996
Lisa Pelan, BS	MS	Imbio	Spring 1998
Mark Quade, DVM	PhD	Imbio	Summer 1998
Gayle B. Brown, DVM	PhD	Imbio	Spring 1999
Janice Endsley, MS	PhD	Imbio	Fall 2000
Mohammad Heidari, BS	PhD	Imbio	Spring 2000
Anton Roach, DVM	MS	Imbio	Spring 2000
Cameron Schmidt, DVM	MS	Vet Micro	Spring 2002
Carolyn Hammer, DVM	PhD	An Sci	Spring 2003
Ruth Osmundson	PhD	Imbio	Summer 2003
Matt Sandbulte	PhD	Imbio	Fall 2003
Jasbir Singh, DVM	MS	Vet Micro	Spring 2004
Dusan Palic, DVM	PhD	Imbio	Spring 2005
Crystal Loving	PhD	Imbio	Spring 2006
Wasin Charentantanakul	PhD	Imbio	Summer 2006
Nyssa Ann Levy	MS	Imbio	Spring 2008

<i>Student</i>	<i>Degree Received</i>	<i>Major</i>	<i>Semester of Graduation</i>
Alaina Ingebritson	MS	Vet Micro	Spring 2009
Matt Kappes	MS	Imbio	Spring 2009
Amanda Scherer	MS	Imbio	Summer 2009
Danelle Bickett-Weddle	PhD	Vet Micro	Summer 2009
Wesley Johnson	MS	Micro	Fall 2009
Alejandro Ramirez	PhD	Vet Micro	2011
Phil Gauger	PhD	Vet Micro	Spring 2012
Robert Schaut	PhD	Imbio	Fall 2012
Randall Levings	PhD	Vet Micro	Fall 2012
Brian Vander Ley	PhD	Vet Micro	Fall 2012
Rachel Tell	PhD	Imbio	Summer 2012
Josh Ellingson	MS	Vet Micro	Spring 2013
Zahra Olson	MS	Imbio	Fall 2014
Unity Jeffrey	PhD	Imbio	Summer 2016
Nicholas Van Engen	PhD	Vet Micro	Summer 2017
Jennifer English	MS	Vet Micro	Fall 2017
Charles Lewis	PhD	Vet Micro	Spring 2022

University Councils and Committees:

Immunobiology Interdepartmental Program Supervisory Committee (1984-1987) *Chairman*
Faculty Council (1981-1984) *Executive Committee member*
Biotechnology Council (1984-1987)
Provost Search Committee (1987)
Center for Advanced Agriculture (1987)
Molecular Biology Building Committee (1987-1989)
Animal Facilities Long-Range Planning Committee (1987) *Chair*
President's Task Force on Budget Priorities (1991)
Faculty Senate Committee on University Planning (1993-1997)
University Strategic Planning Committee (1994)
ISU Research Foundation, Board of Directors (1994-1998), Vice President (1995-1997)
University Strategic Planning Committee (1999)
Council on International Programs (2001)
Provosts Promotion and Tenure Committee (2001)
University Distinguished Professor Selection Committee (2000-2004) (2008-2011) *Chair* 2004
Executive VP and Provost Search Committee (2006)
Pandemic Influenza Planning Committee (2006-2009)
Presidential Initiative Subcommittee: Membership in the National Academies (2012-2015)
University Faculty Review Board (2013-2016)
CVM Dean Search Committee (2018)
Executive Committee for Fall Planning for COVID (2020) (daily meetings during the summer)
President's Advisory Committee on Naming University Property (2019-2023)

College of Veterinary Medicine Committees

Chair, CVM Promotion and Tenure Committee (2012-2018)
CVM Safety Committee (2019-present)

Citation indices for J. A. Roth on Google Scholar, (August, 2023)

All Since 2018

[Citations](#) 12185 3221

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Peer-Reviewed Print Publications:

1. Roth, J.A., L.G. Lomax, N. Altszuler, H. Hampshire, M.L. Kaeberle, M. Shelton, D.D. Draper, and A.E. Ledet. 1980. Thymic abnormalities and growth hormone deficiency in dogs. *Am J Vet Res*, 41:1256-1262.
2. Roth, J.A., and M.L. Kaeberle. 1980. Chemiluminescence by *Listeria monocytogenes*. *J Bacteriol*, 144:752-757.
3. Roth, J.A., M.L. Kaeberle, and R.W. Griffith. 1981. Effects of bovine viral diarrhea virus infection on bovine polymorphonuclear leukocyte function. *Am J Vet Res*, 42:244-250.
4. Roth, J.A., and M.L. Kaeberle. 1981. Evaluation of bovine polymorphonuclear leukocyte function. *Vet Immunol Immunopathol*, 2:157-174.
5. Roth, J.A., and M.L. Kaeberle. 1981. Effects of *in vivo* dexamethasone administration on *in vitro* bovine polymorphonuclear leukocyte function. *Infect Immun*, 33:434-441.
6. Roth, J.A., and M.L. Kaeberle. 1981. Isolation of neutrophils and eosinophils from the peripheral blood of cattle and comparison of their functional activities. *J Immunol Methods*, 45:153-164.
7. Roth, J.A., M.L. Kaeberle, and W.H. Hsu. 1982. Effects of ACTH administration on bovine polymorphonuclear leukocyte function and lymphocyte blastogenesis. *Am J Vet Res*, 43:412-416.
8. Roth, J.A., and M.L. Kaeberle. 1982. Effects of glucocorticoids on the bovine immune system. *J Am Vet Med Assoc*, 180:894-901.
9. Roth, J.A., M.L. Kaeberle, and W.H. Hsu. 1982. Effect of estradiol and progesterone on lymphocyte and neutrophil function in steers. *Infect Immun*, 35:997-1002.
10. Grier, R.L., D.F. Merkley, J.A. Roth, and M.A. Mouw. 1982. Clinical trial of benzaldehyde in pets with solid tumors: preliminary study. *Am J Vet Res*, 43:2270-2271.
11. Löfstedt, J., J.A. Roth, R.F. Ross, and W.C. Wagner. 1983. Depression of polymorphonuclear leukocyte function associated with experimentally induced *Escherichia coli* mastitis in sows. *Am J Vet Res*, 44:1224-1228.

12. Roth, J.A., M.L. Kaeberle, L.H. Appell, and R.F. Nachreiner. 1983. Association of increased estradiol and progesterone blood values with altered bovine polymorphonuclear leukocyte function. *Am J Vet Res*, 44:247-253.
13. Roth, J.A., and M.L. Kaeberle. 1983. Suppression of neutrophil and lymphocyte function induced by a vaccinal strain of bovine viral diarrhea virus with and without the concurrent administration of ACTH. *Am J Vet Res*, 44:2366-2372.
14. Dopson, L.C., S.M. Reed, J.A. Roth, L.E. Perryman, and P. Hitchcock. 1983. Immunosuppression associated with lymphosarcoma in two horses. *J Am Vet Med Assoc*, 182:1239-1241.
15. Hagemoser, W.A., J.A. Roth, J. Lofstedt, and J.A. Fagerland. 1983. Granulocytopenia in a Holstein heifer. *J Am Vet Med Assoc*, 183:1093-1094.
16. Roth, J.A., M.L. Kaeberle, R.L. Grier, J.G. Hopper, H.E. Spiegel, and H.A. McAllister. 1984. Improvement in clinical condition and thymus morphology associated with growth hormone treatment of immunodeficient dwarf dogs. *Am J Vet Res*, 45:1151-1155.
17. Ryu, H., M.L. Kaeberle, J.A. Roth, and R.W. Griffith. 1984. Effect of type A *Pasteurella multocida* fractions on bovine polymorphonuclear leukocyte functions. *Infect Immun* 43:66-71.
18. Coignoul, F.L., T.A. Bertram, J.A. Roth, and N.F. Cheville. 1984. Functional and ultrastructural evaluation of neutrophils from foals and lactating and nonlactating mares. *Am J Vet Res*, 45:898-902.
19. Roth, J.A., and M.L. Kaeberle. 1984. Effect of levamisole on lymphocyte blastogenesis and neutrophil function in dexamethasone-treated cattle. *Am J Vet Res*, 45:1781-1784.
20. Grier, R.L., D.F. Merkley, and J.A. Roth. 1984. Pilot study on the treatment with thioproline of 24 small animals with tumors. *Am J Vet Res*, 45:2162-2166.
21. Roth, J.A., M.L. Kaeberle, and R.D. Hubbard. 1984. Attempts to use thiabendazole to improve the immune response in dexamethasone-treated or stressed cattle. *Immunopharmacology*, 8:121-128.
22. Kaeberle, M.L., and J.A. Roth. 1984. Effects of thiabendazole on dexamethasone-induced suppression of lymphocyte and neutrophil function in cattle. *Immunopharmacology*, 8:129-136.
23. Ellenberger, M.A., M.L. Kaeberle, and J.A. Roth. 1984. Effect of *Rhodococcus equi* on equine polymorphonuclear leukocyte function. *Vet Immunol Immunopathol*, 7:315-324.
24. Ellenberger, M.A., M.L. Kaeberle, and J.A. Roth. 1984. Equine cell-mediated immune response to *Rhodococcus (Corynebacterium) equi*. *Am J Vet Res*, 45:2424-2427.
25. Ellenberger, M.A., M.L. Kaeberle, and J.A. Roth. 1984. Equine humoral immune response to *Rhodococcus (Corynebacterium) equi*. *Am J Vet Res*, 45:2428-2430.
26. Roth, J.A., and M.L. Kaeberle. 1985. Enhancement of lymphocyte blastogenesis and neutrophil function by avridine in dexamethasone-treated and nontreated cattle. *Am J Vet Res*, 46:53-57.

27. Lukacs, K., J.A. Roth, and M.L. Kaeberle. 1985. Activation of neutrophils by antigen-induced lymphokine with emphasis on antibody-independent cytotoxicity. *J Leukoc Biol*, 38:557-572.
28. Canning, P.C., J.A. Roth, L.B. Tabatabai, and B.L. Deyoe. 1985. Isolation of components of *Brucella abortus* responsible for inhibition of function in bovine neutrophils. *J Infect Dis*, 152:913-921.
29. Roth, J.A., and M.L. Kaeberle. 1985. In vivo effect of ascorbic acid on neutrophil function in healthy and dexamethasone-treated cattle. *Am J Vet Res*, 46:2434-2436.
30. Monroe, W.E., and J.A. Roth. 1986. The thymus as part of the endocrine system. *Compend Contin Educ*, 8:24-32.
31. Hauser, M.A., M.D. Koob, and J.A. Roth. 1986. Variation of neutrophil function with age in calves. *Am J Vet Res*, 47:152-153.
32. Hubbard, R.D., M.L. Kaeberle, J.A. Roth, and Y.-W. Chiang. 1986. *Haemophilus somnus*-induced interference with bovine neutrophil functions. *Vet Microbiol*, 12:77-85.
33. O'Brien, S.E., J.A. Roth, and B.L. Hill. 1986. Response of pups to modified live canine parvovirus component in a combination vaccine. *J Am Vet Med Assoc*, 188:699-705.
34. Steinbeck, M.J., J.A. Roth, and M.L. Kaeberle. 1986. Activation of bovine neutrophils by bovine recombinant gamma interferon. *Cell Immunol*, 98:137-144.
35. Roth, J.A., S.R. Bolin, and D.E. Frank. 1986. Lymphocyte blastogenesis and neutrophil function in cattle persistently infected with bovine viral diarrhea virus. *Am J Vet Res*, 47:1139-1141.
36. Bertram, T.A., P.C. Canning, and J.A. Roth. 1986. Preferential inhibition of primary granule release from bovine neutrophils by an extract from *Brucella abortus*. *Infect Immun*, 52:285-292.
37. Chiang, Y.-W., M.L. Kaeberle, and J.A. Roth. 1986. Identification of suppressive components in *Haemophilus somnus* fractions which inhibit bovine polymorphonuclear leukocyte function. *Infect Immun*, 52:792-797.
38. Canning, P.C., J.A. Roth, and B.L. Deyoe. 1986. Release of 5'-guanosine monophosphate and adenine by *Brucella abortus* and their role in the intracellular survival of the bacteria. *J Infect Dis*, 154:464-470.
39. Frank, D.E., and J.A. Roth. 1986. Factors secreted by untreated and hydrocortisone-treated monocytes that modulate neutrophil function. *J Leukoc Biol*, 40:693-707.
40. Webb, D.S.A., and J.A. Roth. 1987. Relationship of glucocorticoid suppression of arachidonic acid metabolism to alteration of neutrophil function. *J Leukoc Biol*, 41:156-164.
41. Monroe, W.E., J.A. Roth, R.L. Grier, L.H. Arp, and P.H. Naylor. 1987. Effects of growth hormone on the adult canine thymus. *Thymus*, 9:173-187.

42. Goff, B.L., J.A. Roth, L.H. Arp, and G.S. Incefy. 1987. Growth hormone treatment stimulates thymulin production in aged dogs. *Clin Exp Immunol*, 68:580-587.
43. Bolin, S.R., J.A. Roth, E.K. Uhlenhopp, and J.F. Pohlenz. 1987. Immunologic and virologic findings from a case of chronic bovine viral diarrhea. *J Am Vet Med Assoc*, 190:1015-1017.
44. Morrison, W.B., D.E. Frank, J.A. Roth, and N.J. Wilsman. 1987. Assessment of neutrophil function in two dogs with primary ciliary dyskinesia. *J Am Vet Med Assoc*, 191:425-430.
45. Canning, P.C., B.K. Deyoe, and J.A. Roth. 1988. Opsonin-dependent stimulation of bovine neutrophil oxidative metabolism by *Brucella abortus*. *Am J Vet Res*, 49:160-163.
46. Roth, J.A., B.L. Goff, and W.E. Monroe. 1988. Immunodeficient dwarfism in dogs: a model for neuroimmunomodulation. *Int J Neurosci*, 38:443-454.
47. Roth, J.A. 1988. How cattle defend themselves against *Pasteurella haemolytica* pneumonia. *Vet Med*, 83:1067-1072.
48. Kuhlman, G.B., J.A. Roth, P.J. Flakoll, M.J. Vande Haar, and S. Nissen. 1988. Effects of dietary leucine, alpha ketoisocaproate and isovalerate on antibody production and lymphocyte blastogenesis in growing lambs. *J Nutr*, 118:1564-1569.
49. Kehrli, M.E., B.J. Nonnecke, and J.A. Roth. 1989. Alterations in bovine neutrophil function during the periparturient period. *Am J Vet Res*, 50:207-214.
50. Kehrli, M.E., B.J. Nonnecke, and J.A. Roth. 1989. Alterations in bovine lymphocyte function during the periparturient period. *Am J Vet Res*, 50:215-220.
51. Kehrli, M.E., B.J. Nonnecke, R.L. Wood, and J.A. Roth. 1989. In vivo effects of a thymosin alpha 1-containing colostrum whey product on neutrophils and lymphocytes from lactating cows without and with experimentally induced *Staphylococcus aureus* mastitis. *Vet Immunol Immunopathol*, 20:149-163.
52. Steinbeck, M.J., and J.A. Roth. 1989. Neutrophil activation by recombinant cytokines. *Rev Infect Dis*, 11:549-568.
53. Roth, J.A., and D.E. Frank. 1989. Recombinant bovine interferon gamma as an immunomodulator in dexamethasone-treated and non-treated cattle. *J Interferon Res*, 9:143-151.
54. Roth, J.A., J.A. Jarvinen, D.E. Frank, and J.E. Fox. 1989. Alteration of neutrophil function associated with coccidiosis in cattle: influence of decoquinat and dexamethasone. *Am J Vet Res*, 50:1250-1253.
55. Steinbeck, M.J., S.A. Webb, and J.A. Roth. 1989. Role for arachidonic acid metabolism and protein synthesis in recombinant bovine gamma interferon induced activation of bovine neutrophils. *J Leukoc Biol*, 46:450-460.

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11. Emerging and Exotic Diseases of Animals. 4th edition, A. Rovid Spickler, J.A. Roth, J. Galyon and J. Lofstedt, (eds.) Center for Food Security and Public Health, Iowa State University, 2010, 383 pages. ISBN 0-978-0-9745525-8-3
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Peer Reviewed Web Based Publications

1. **Foreign Animal Disease Preparedness & Response Plan (FAD PReP); National Animal Health Emergency Management System (NAHEMS) Guidelines: Vaccination for Contagious Diseases**. 2010. J. A. Roth, A. Stumbaugh, A. Rovid-Spickler, and D. Bickett-Weddle, 63 pages.
Appendix A: Foot-And-Mouth Disease. 2011. A. Rovid Spickler and J.A. Roth, 93 pages.

Appendix B: Vaccination For Classical Swine Fever. 2017. K. Leedom Larson, P. K. Zaabel, A. Rovid Spickler and J.A. Roth, 68 pages.

Appendix C: Vaccination for High Pathogenicity Avian Influenza. 2011. A. Rovid Spickler and J.A. Roth, 140 pages.

2. **FAD PReP Strategy Document, Classification of Phases and Types of a Foot-And-Mouth Disease Outbreak and Response.** 2012. J. A. Roth. 16 pages. <http://www.cfsph.iastate.edu/pdf/phases-and-types-of-an-fmd-outbreak>
3. **Inactivation of Foot-and-Mouth Disease Virus in Milk Products,** 2012. A. Rovid Spickler and J.A. Roth, 94 pages. <http://www.cfsph.iastate.edu/pdf/inactivation-of-foot-and-mouth-disease-virus-in-milk-products>
4. **FMD Vaccine Surge Capacity for Emergency Use in the United States,** 2014. J.A. Roth and A. Rovid Spickler, 134 pages. <http://www.cfsph.iastate.edu/pdf/fmd-vaccine-surge-capacity-for-emergency-use-in-the-US>
5. Foreign Animal Disease Preparedness & Response Plan (FAD PReP); National Animal Health Emergency Management System (NAHEMS) **Guidelines: Vaccination for Contagious Diseases; Appendix C: Vaccination For High Pathogenicity Avian Influenza.** 2015. A. Rovid Spickler and J.A. Roth, 195 pages. <http://www.cfsph.iastate.edu/pdf/fad-prep-nahems-appendix-c-vaccination-for-high-pathogenic-avian-influenza>
6. Foreign Animal Disease Preparedness & Response Plan (FAD PReP); National Animal Health Emergency Management System (NAHEMS) **Guidelines: Vaccination for Contagious Diseases; Appendix A: Foot-And-Mouth Disease.** 2015. A. Rovid Spickler and J.A. Roth, 135 pages. <http://www.cfsph.iastate.edu/pdf/fad-prep-nahems-appendix-a-vaccination-for-foot-and-mouth-disease>
7. Guidelines for classification of phases and types of a classical swine fever outbreak and response – DRAFT_March 2015. J. A. Roth, 11 pages. <http://www.cfsph.iastate.edu/pdf/phases-and-types-of-a-csf-outbreak>

Patents:

J.A. Roth, Y.-W. Chiang and P.C. Canning: "Vaccines for counteracting inhibition of neutrophil degranulation." Patent number 4,701,323 issued October 20, 1987.

Invited Presentations (since 1989): (*International presentations in bold*): **1989**

Indiana Veterinary Medical Association, Indianapolis, Indiana. "Immunosuppression and Immunomodulation in Cattle" (2 hours) January 31, 1989.

Rhone Poulenc Decco Seminar, **Vancouver, B.C.** "Effect of Coccidiosis and Decoquate on the Immune System" (1 hour) July 14-15, 1989.

Seventh International Conference on Production Disease in Domestic Animals, Ithaca, New York. Keynote Lecture: "Immunology and Production Diseases" July 25-27, 1989.

Central Veterinary Conference, Kansas City, Missouri. "Basic Immunology" (2 hours), "Recent Advances in Immunosuppression and Immunomodulation" (2 hours) and "Principles of Vaccination" (1 hour) September 5-8, 1989.

Symposium on Veterinary Clinical Immunology, Chicago, Illinois. "Primary Immunodeficiency Diseases in Domestic Animals" November 4, 1989.

American Association of Bovine Practitioners, 22nd Annual Conference, Kansas City, Missouri. "Immunology of the Stressed Calf" (2 hours) and "Immunomodulation of Bovine Respiratory Disease" (1 hour) November 15, 1989.

1990

Seventh Annual Frank W. Jordan Seminar, Manhattan, Kansas. "Immunity Enhancement for Disease Prevention and Therapy" (8 hours; 150 participants) April 22, 1990.

American Veterinary Medical Association, 127th Annual Meeting, San Antonio, Texas. "Bovine Viral Induced Immunosuppression" July 23, 1990.

American Society for Animal Science, Ames, Iowa. "Suppression of Phagocytic Cell Function By Glucocorticoids and its Reversal by Immunomodulators" August 1, 1990.

American Association of Bovine Practitioners, Northwest Region, Post Falls, Idaho. "Basic and Clinical Immunology", "Vaccination Principles and Practices" and "Immunosuppression and Immunomodulation" (8 hours) August 8-9, 1990.

Colorado Veterinary Medical Association Annual Meeting, Keystone, Colorado. "Basic Immunology and Immunity Enhancement for Disease Prevention and Therapy" (4 hours) September 24-26, 1990.

Veterinary Education Seminars, Chicago, Illinois. "Immunology, Disease Resistance, and Vaccination" (6 hours) November 6, 1990.

National Cancer Institute, Bethesda, Maryland. "Bovine Immunodeficiency-like Virus; Animal Models of Retrovirus-Associated Malignancies" November 15, 1990.

The American Society of Animal Science. Biotechnology for Control of Growth and Product Quality in Meat Production: Implications and Acceptability, Rockville, Maryland. "Influence of Somatotropin on Disease Resistance in Food-Producing Animals" December 4-7, 1990.

1991

Sanofi Animal Health, Lenexa, Kansas. "Basic Immunology and Principles of Vaccination" (4 hours) February 11, 1991.

Universidad Nacional, Bogota, **Colombia**. "Basic and Clinical Immunology and Principles of Vaccination" (6 hours) April 10-11, 1991.

Federation of American Societies of Experimental Biology, Atlanta, Georgia. "Bovine Retroviruses as Models for Human Retroviral Infections" (30 minutes); American Association of Immunologists and American Association of Pathologists Symposium on Animal Models of HIV/HTLV-1, April 24, 1991.

American Association of Industrial Veterinarians, Kansas City, Missouri. "Current Concepts of Basic Immunology" (1 hour) August 24, 1991.

Academy of Veterinary Consultants, Denver, Colorado. "Basic Immunology, Immunosuppression" (3 hours) December 6, 1991.

1992

Great Plains Veterinary Education Center, Clay Center, Nebraska. "Basic Immunology and Principles of Vaccination" (8 hours) February 6-7, 1992.

Western States Veterinary Conference, Las Vegas, Nevada. "Basic Immunology and Principles of Vaccination" (4 hours) February 10, 1992.

Louisiana Veterinary Medical Association, Lafayette, Louisiana. "Basic Immunology and Principles of Vaccination" (8 hours) February 14, 1992.

American Association of Swine Practitioners, Nashville, Tennessee. "Immunity in the Neonatal Piglet" March 2, 1992.

Smith-Kline Beecham Animal Health, Lincoln, Nebraska. "Basic Immunology and Principles of Vaccination" (12 hours) April 21-22, 1992.

Characterization and Quantitation of Immunogens in Veterinary Biologics, Ames, Iowa. "Characterization of the Protective Immune Response" May 5-6, 1992.

11th International Symposium Society of Toxicologic Pathologists, Phoenix, Arizona. "Evaluation of Neutrophil Function" May 30-June 1, 1992.

American Dairy Science Association, Columbus, Ohio. "Synthetic Immunomodulators for use in Dairy Cattle" June 23, 1992.

Symposium on Immunomodulation in Poultry: 43rd North Central Avian Disease Conference, Minneapolis, Minnesota. "Potential Benefits of Immunomodulators in Reducing Immunodepression" October 4, 1992.

California-Nevada Chapter of the American Registry of Professional Animal Scientists, Minden, Nevada. "Immunology and Susceptibility to Infectious Diseases" (3 hours) October 15, 1992.

1993

Nebraska Veterinary Medical Association, Kearney, Nebraska. "Immunology: Disease Resistance and Vaccination" (4.5 hours) January 19, 1993.

Iowa Society of Medical Technologists, Des Moines, Iowa. "Immunology" (2 hours) April 1, 1993.

Korean Society of Veterinary Science, Taegun, **Korea**. "Use of Cytokines in Domestic Animals" May 14, 1993.

University of Illinois, Veterinary Swine Consultant's Workshop, Monticello, Illinois. "Basic Immunology and Principles of Vaccination" (8 hours) June 8, 1993.

South Dakota Veterinary Medical Association Annual Meeting, Sioux Falls, South Dakota. "Immunosuppression and Immunomodulation" August 16, 1993.

American Veterinary Medical Association Annual Meeting, Minneapolis, Minnesota. "Methods and Therapies for Enhancing or Inhibiting Regulation of Neutrophil Function" July 19, 1993.

American Association of Bovine Practitioners, Albuquerque, New Mexico. "The Immunologic Basis for Effective Vaccines" (2 hours) September 17, 1993.

American Aging Association Annual Meeting, Montreal, **Canada**. "Cytokine Influence on Neutrophils in an Animal Model System" October 8-12, 1993.

1994

Oxford's Swine Production Medicine Seminar, Worthington, Minnesota. "Practical Application of Immunology" May 3, 1994.

Panhandle Veterinary Summer Meeting, Taos, New Mexico. "Basic and Applied Bovine Immunology" (4 hours) July 29, 1994.

Northern Illinois Veterinary Medical Association, Rockford, Illinois. "Basic Immunology and Principles of Vaccination" (6 hours) September 21, 1994.

1995

Elanco Animal Health, Greenfield, Indiana. "Respiratory Immunity in Swine" January 11, 1995.

Western Nebraska Veterinary Medical Association, Alliance, Nebraska. "Immunology of the Calf" February 5, 1995.

A.L. Bortree Lecture, Pennsylvania State University, State College, Pennsylvania. "Bovine Immunodeficiency-like Virus Infection in Cattle" March 27, 1995.

Oregon Veterinary Medical Association, "Basic Immunology and Principles of Vaccination." (13 hours) June 16-18, 1995.

International Workshop on Novel Approaches to the Control of Diseases in Animals, Tokyo, **Japan**. "Application of Recombinant Cytokines in Veterinary Medicine" September 10-11, 1995.

Colorado Veterinary Medical Association, Snowmass, Colorado. "Basic Immunology and Principles of Vaccination" (6 hours) September 25-26, 1995.

Mississippi Valley Veterinary Medical Association, Peoria, Illinois. "Basic Immunology and Principles of Vaccination" (6 hours) November 1, 1995.

Iowa Biotechnology Association Conference, Des Moines, Iowa. "Industry-University Research: A Synergistic Approach" October 26, 1995.

Upjohn Technical Services Group, Kalamazoo, Michigan. "Immunology and Principles of Vaccination" (4 hours) December 4, 1995.

Mallinckrodt Veterinary, Inc. Sales Training Program, Mundelein, Illinois. "Immunology and Principles of Vaccination" (4 hours) December 5, 1995.

Swine Disease Conference for Swine Practitioners, Ames, Iowa. "All Immune Responses are Not Created Equal" November 10, 1995.

1996

Arkansas Veterinary Medical Association, Little Rock, Arkansas. "Basic Immunology and Principles of Vaccination" (7 hours). January 13-14, 1996.

Animal Health Institute, Biologics Division, Vail, Colorado. "Activities of the Institute for International Cooperation in Animal Biologics" June 13, 1996.

American Association of Veterinary Medical Colleges, Athens, Georgia. "Activities of the Institute for International Cooperation in Animal Biologics" June 30, 1996.

National Cattlemen's Beef Association. Calf Performance and Health Seminar Series (Televised via satellite uplink), Fort Worth, Texas. "Practical Immunology - Applications to the Postweaning and the Early Feeding Period" July 2, 1996.

Association of Veterinary Biologics Companies, Annapolis, Maryland. "Activities of the Institute for International Cooperation in Animal Biologics" July 11, 1996.

Optimizing Cattle Performance - Understanding Science to Increase Beef Production, Beaver Creek, Colorado. "The Immunologic Basis for Protective Immunity Against Bovine Respiratory Disease Pathogens" August 23, 1996.

Elanco Animal Health, Greenfield, Indiana. "Interaction Between Phagocytic Cells and Macrolide Antibiotics in Swine Respiratory Immunity" September 26, 1996.

Ensminger - Iowa State University International Agricultural Technical School, Kiev, **Ukraine**. "Livestock Disease and Current Methods of Disease Control" and "Biotechnology in Animal Health Research" September 2-5, 1996.

Biologics and Pharmaceuticals for Improved Animal Production in Ukraine, Kiev, **Ukraine**. "The Institute for International Cooperation in Animal Biologics" September 2-5, 1996.

Harmonization of Veterinary Biologics in the Americas, Campo Grande, MS, **Brazil**. "Opening Remarks" October 1996.

Harmonization of Veterinary Biologics in the Americas, Campo Grande, MS, **Brazil**. "IICAB Veterinary Biologics Training Program." October 1996.

1997

American Association of Swine Practitioners 28th Annual Meeting, Quebec City, **Quebec**. "Respiratory Immunology" (Plenary lecture) and "Vaccines: Selection and Usage" (Workshop) March 2-3, 1997.

Third Seminar on Harmonization of Standards and Regulations for Veterinary Drugs and Biologics Registration for Latin America, Cancun, **Mexico**. "Role for the Institute for International Cooperation in Animal Biologics (IICAB) in Harmonization of the Regulations Regarding Veterinary Biologics in the Americas" April 9, 1997.

USDA APHIS Veterinary Biologics Public Meeting, Ames, Iowa. "The Institute for International Cooperation in Animal Biologics: Activities in International Harmonization of Regulations Regarding Veterinary Biologics" April 16, 1997.

ISU Graduate College Commencement Address. Ames, Iowa. "Opportunities in International Cooperation" May 9, 1997.

Minnesota Dairy Health Conference, St. Paul, Minnesota. "Basic Bovine Immunology and Principles of Vaccination" May 22, 1997.

USDA APHIS Veterinary Services Managers Conference, Ames, Iowa. "Institute for International Cooperation in Animal Biologics: A Resource for Veterinary Services" June 25, 1997.

Seminar on Harmonization of Veterinary Biologics in the Americas: Quality Control, Control Laboratories, and Analysis of Risk Associated with Importation, Lima, **Peru**. "Opening Remarks: The Importance of International Harmonization" July 2-4, 1997.

First International Veterinary Vaccines and Diagnostics Conference. Madison Wisconsin. "Mechanistic Basis for Adverse Vaccine Reactions and Vaccine Failure" July 30, 1997.

Central Veterinary Conference. Kansas City, Missouri. "Basic Bovine Immunology and Principles of Vaccination" (9 hours) August 24-25, 1997.

Foreign Agriculture Service staff, Washington, DC. "The Institute for International Cooperation in Animal Biologics" August 1997.

Southern and Eastern African Veterinary Drug Regulatory Affairs Conference on Harmonization, Pretoria, **South Africa**. "Distribution and Use of Veterinary Biologics in the US" November 17-18, 1997.

Southern and Eastern African Veterinary Drug Regulatory Affairs Conference on Harmonization, Pretoria, **South Africa**. "Harmonization of Regulations Regarding Veterinary Biologics: An

Overview of Organizations, Meetings and IICAB=s Role in Harmonization” November 17-18, 1997.

Veterinary Medicine Student Visions Conference, Ames, Iowa.”Opportunities and Challenges in Research, Academia, and International Veterinary Medicine” November 1997.

CRWAD Distinguished Immunologist Lecture, Chicago, Illinois. “A Global Perspective on Veterinary Immunology and Infectious Disease” November, 1997.

Provost=s Meeting on Ukraine, Ames, Iowa. “Challenges in Building Cooperation Between Government Industry and a University in Ukraine” December 1997.

Pfizer Technical Services Veterinarians, Indianapolis, Indiana. “Basic Porcine Immunology” (4 hours) December 16, 1997.

1998

OIE Regional Office for the Americas, Buenos Aires, **Argentina**. “Proposal for use of RB51 vaccine for *B. abortus* eradication in the Americas” February 10-12, 1998.

Canadian Veterinary Medical Association, Toronto, **Canada**. “Principles of Vaccination and Immunity” July 9, 1998.

IV OIE Seminar on Harmonization for Registration and Control of Veterinary Medicines in Latin America, Salvador, **Brazil**. “Use of the RB51 Vaccine for *Brucella abortus* Control and Eradication: Introductory Comments” August 5, 1998.

USDA, IICAB, OIE: Nucleic Acid-Mediated Vaccines in Veterinary Medicine, Ames, Iowa. “Closing Remarks” September 23, 1998.

USDA APHIS Veterinary Biologics Public Meeting, Ames, Iowa. “The Institute for International Cooperation in Animal Biologics: Activities in International Harmonization of Regulations Regarding Veterinary Biologics” September 24, 1998.

Virginia Maryland Regional College of Veterinary Medicine, Blacksburg, Virginia. “Suppression of Neutrophil Function as a Predisposing Factor for Infectious Diseases of Cattle” November 16, 1998.

Academy of Veterinary Consultants Meeting, Denver, Colorado. "Pasteurella Vaccines: A Literature Review" and "The Future of Vaccine Technology" December 3-5, 1998.

1999

Colorado State University, 60th Annual Conference for Veterinarians, “Basic Immunology and Optimizing Vaccination in Calves” (5 hours) January 9-10, 1999.

V OIE Seminar on Harmonization for Registration and Control of Veterinary Medicines in Latin America, Havana, **Cuba**. “Regulation of Biotechnology Derived Biologics by the USDA” August 11, 1999.

Elanco Midwest Beef Practitioner Seminar, Dubuque, IA. "Vaccination and Immunity to BRD Pathogens" August 20, 1999.

Iowa Veterinary Medical Association Annual Meeting, Ames, Iowa. "Basic Immunology and Vaccination" September 17, 1999.

National Veterinary Congress of Costa Rica, San Jose, **Costa Rica**. "Safety and Efficacy of Veterinary Vaccines" November 11, 1999.

American College of Veterinary Pathologists Annual Meeting, Chicago, Illinois. "Evaluation of Neutrophil Function" Keynote Address November 16, 1999.

American College of Veterinary Clinical Pathologists Annual Meeting, Chicago, Illinois. "Evaluation of Antigen Specific T Cell Subset Responsiveness" November 16, 1999.

Academy of Veterinary Consultants Meeting, Denver, Colorado. "Antigen Specific T cell Subset Responsiveness to BVDV and BHV1" December 2, 1999.

2000 Invited Presentations

Pfizer Technical Services in the New Millennium Meeting, Phoenix, Arizona. "Immunology Update" (2.5 hours) January 18, 2000.

Iowa Veterinary Medical Association Winter Meeting, Ames, Iowa. "Vaccinology-general Immune System Concepts" February 2, 2000.

Merial-Key Cow/Calf Practitioner Educational Symposium, Orlando, Florida. "IBR Research Update" February 26, 2000.

Veterinary Research Institute, **Ipoh, Malaysia**. "T Cell-mediated Immunity to BVDV and BHV1" March 9, 2000.

American Association of Veterinary Medical Colleges, Associate Deans for Academic Affairs Meeting, Washington, DC. "Web-Based Curriculum for Exotic Animal Disease Training" March 19, 2000.

Agri-Labs Seminar for Dairy Practitioners, Gainesville and Okeechobee, Florida. "Cell-mediated Immunity to Bovine Viral Pathogens" March 22-23, 2000.

University of Nebraska Graduate Seminar, Lincoln, Nebraska. "International Aspects of Veterinary Vaccines and Diagnostics" April 20, 2000.

Merial-Key Feedlot Practitioner Educational Symposium, New Orleans, Louisiana. "Immunologic Protection Against Bovine Respiratory Pathogens" June 2, 2000.

Agri-Labs Seminar for Beef Practitioners, Breckenridge, Colorado. "Cell-mediated Immunity to Bovine Viral Pathogens" June 28, 2000.

USDA-ISO Symposium on Pestivirus Infection of Swine: Impact, Detection, Prevention and Control, Ames, Iowa. "Closing Remarks" July 7, 2000.

VI OIE Seminar on Harmonization for Registration and Control of Veterinary Medicines in Latin America, **San Jose, Costa Rica**. "Comments Regarding Formation of the CAMEVET" August 7-11, 2000.

USDA-APHIS Meeting: Veterinary Pseudorabies Certification Training: Final Steps to Eradicating PRV from Iowa, Ames, Iowa. "Swine Immunology Relating to Pseudorabies Vaccinology" August 16, 2000.

Association of Veterinary Biologics Companies, Arlington, Virginia. "Global Positions on International Harmonization: Latin America" September 19, 2000.

USDA-AHPIS/ARS Biocontainment Committee, Fort Collins, Colorado. "ISU/USDA Biosafety Level 3 Agriculture Livestock Infectious Disease Isolation Facility" September 23, 2000.

US Animal Health Association Committee and Foreign Animal Diseases and Epizootic Attacks, Birmingham, Alabama. "Educational Programs and Digital Libraries for Foreign Animal Diseases" October 23, 2000.

XXI World Buiatrics Congress, **Punta del Este, Uruguay**. "Safety and Efficacy of Bovine Respiratory Disease Viral Vaccines" December 8, 2000.

2001 Invited Presentations

Iowa Veterinary Medical Association Winter Conference, Ames, Iowa. "Vaccinology: General Immune System Concepts" February 7, 2001.

American Association of Swine Veterinarians Annual Meeting, Nashville, Tennessee. "Pulmonary Immunology" February 27, 2001.

Academy of Veterinary Consultants, Omaha, Nebraska. "Cell-mediated Immunity to BVDV, BHV1, and BRSV" April 5, 2001.

American Association of Laboratory Animal Science Midwest Branch Meeting, Ames, Iowa. "Emerging Animal Diseases" April 26, 2001.

Pestivirus Contamination of Bovine Sera and Other Bovine Virus Contamination, **Paris, France**. "Immunity to BVDV in the Absence of Antibody: Considerations for Vaccine Evaluation" March 29, 2001.

American College of Veterinary Internal Medicine Annual Meeting, Denver, Colorado. "Overview of Pulmonary Immunity: Processing Information and Determining Response" May 15, 2001.

AgriLabs Veterinary Conference, Breckenridge, Colorado. "T Cell-mediated Immunity to BVDV and BRSV" July 11, 2001.

OIE Seminar on Harmonization and Control of Veterinary Medicines, **Lima, Peru**. “GMP Applied to Biologic Production APHIS-USDA Norms” (Presentation with Dr. Rick Hill - USDA) August 8, 2001.

US Agency for International Development, Washington, DC. “Biotechnology Derived Vaccines for Control of Animal Diseases” September 5, 2001.

Association of Veterinary Biologics Companies, Ames, Iowa. “IICAB International Role” October 9, 2001.

2002 Invited Presentations

16th Conference of the Commission of the OIE Region of the Americas, Puerto Montt, **Chile**. “Report on IICAB Activities” March 5-8, 2002.

Association of American Veterinary Medical Colleges, Washington, DC. “Web-Based Foreign Animal Disease Curriculum for Veterinary Students” March 10, 2002.

New Models for a New Reality: Improving Iowa=s Preparedness Capacity, Iowa City, Iowa. “Agroterrorism Preparedness” April 8, 2002.

Case Media Fellowship, Ames, Iowa. “Animal Disease Outbreaks and their Impact on Society” April 22, 2002.

Vaccinology Course, Lincoln, Nebraska. “International Aspects of Veterinary Vaccines and Diagnostics” April 25, 2002.

Intervet Technical Services Meeting, Fort Collins, Colorado. “Immunology and Principles of Vaccination” (4 hours) June 18, 2002.

American Association of Avian Pathologists Annual Meeting, Nashville, Tennessee. “Vaccination: Protective Antigens and the Protective Immune Response” July 14, 2002.

Midwest Governor=s Conference: “Agroterrorism Summit, Omaha, Nebraska. “Activities of Ames Animal Health Institutions in Protecting Animal Agriculture” July 30, 2002.

VIII Seminar on Harmonization and Control of Veterinary Medicines, Merida, Yucatan, **Mexico**. “Activities of the Institute for International Cooperation in Animal Biologics” August 11-16, 2002.

Vaccines for OIE List A Diseases, Ames, Iowa. “World-wide Production and Availability of Vaccines for OIE List A Diseases” September 16-18, 2002.

Agribusiness Forum, Kansas City, Missouri. “Agroterrorism: Vulnerability of US Agriculture to Exotic Animal Diseases” October 9, 2002.

XVIII Panamerican Congress of Veterinary Sciences, Havana, **Cuba**. “Evaluation of Cell-Mediated Immunity to Bovine Respiratory Disease Viruses” November 18-22, 2002.

2003 Invited Presentations

University of Minnesota, St. Paul, Minnesota. "Overview of an Internet Course: Exotic and Emerging Diseases of Animals" January 27, 2003.

American Association of Swine Veterinarians, Orlando, Florida. "Using Vaccines to Control an Exotic Disease Outbreak" March 8, 2003.

Centers for Disease Control and Prevention, Epidemic Intelligence Service, Atlanta, Georgia. "Bioterrorism Awareness Education" March 31, 2003.

Society for Tropical Veterinary Medicine, Iguazu Falls, **Brazil**. "Overview of Vaccine Availability and Development of Vaccines for Emerging Diseases of Animals" June 24, 2003.

Society for Tropical Veterinary Medicine, Iguazu Falls, **Brazil**. "Prospects for Development of a Marker Vaccine and Companion Diagnostic Test for the Nipah Virus" June 24, 2003.

Diseases at the Interface between Domestic Livestock and Wildlife Species, Ames, Iowa. "Closing Remarks" July 18, 2003.

American Veterinary Medical Association, Denver, Colorado. "Adjuvants in Veterinary Medicine: Modes of Action to Enhance the Immune Response and Potential Adverse Effects" July 21, 2003.

Intervet Veterinary Services Advisory Committee, Desoto, Kansas. "Update on Immune Response and Adjuvants in Vaccines" July 30, 2003.

National Cattlemen's Beef Association, Ames, Iowa. "Advances in Bovine Immunology: Evaluation of Cell-Mediated Immunity" October 1, 2003.

Cornell University, Ithaca, New York. "Evaluation of Cell-Mediated Immunity to Bovine Respiratory Disease Viral Pathogens" October 29, 2003.

American College of Veterinary Pathologists, Banff, **Canada**. "Emerging and Exotic Diseases of Animals: An Internet Course" November 17, 2003.

American College of Veterinary Pathologists, Banff, **Canada**. "Vaccine Availability and Future Challenges and Research Needs for Foreign and Emerging Diseases of Animals" November 18, 2003.

2004 Invited Presentations

Association of American Veterinary Medical Colleges, San Antonio, Texas. "Global Veterinary Opportunities and Responsibilities Workshop" January 4-6, 2004.

University of Iowa Grand Rounds, Iowa City, Iowa. "Remembering the Zebras: Tools for Public Health Officials and Veterinarians" February 12, 2004.

Western States Veterinary Conference, Las Vegas, Nevada. "Overview of Awareness Education Training Materials" February 15, 2004.

Western States Veterinary Conference, Las Vegas, Nevada. "Adjuvants in Veterinary Medicine:

Modes of Action to Enhance the Immune Response and Potential Adverse Effects” February 16, 2004.

USDA/ IICAB Technology and Approaches to Reduce, Refine and Replace Animal Testing, Ames, Iowa. “Overview of the Immune Response and it’s Relevance to Efficacy of a Vaccine” April 5-7, 2004.

OIE International Conference on the Control of Infectious Animal Diseases by Vaccination, Buenos Aires, **Argentina**. “Foot and Mouth Disease Vaccination to Live: Possibilities and Constraints” April 13-16, 2004.

OIE International Conference on the Control of Infectious Animal Diseases by Vaccination, Buenos Aires, **Argentina**. “The Role of OIE in Harmonization” April 13-16, 2004.

University of Iowa, Iowa City, Iowa. “Nipah Virus: A novel paramyxovirus infection in pigs and people” April 21, 2004.

Iowa Community Conference, Ames, Iowa. “Activities of the Center for Food Security and Public Health” May 27, 2004.

Plum Island Animal Disease Center, Plum Island, New York. “Role for Evaluation of Cell-Mediated Immunity in Development of FAD Vaccines” June 9, 2004.

USDA Office of the Inspector General’s Professional Development Conference, Orlando, Florida. “Animal and Plant Biosecurity” June 15, 2004.

Governor’s Homeland Security Conference, Des Moines, Iowa. “Mad Cow Disease: Prevention and Control” July 14, 2004.

Governor’s Homeland Security Conference, Des Moines, Iowa. “Safeguarding American Agriculture from Foreign Animal Diseases” July 15, 2004.

American Veterinary Medical Association, Philadelphia, Pennsylvania. “Web-based Training in Emerging and Exotic Diseases of Animals” July 26, 2004.

American Veterinary Medical Association, Philadelphia, Pennsylvania. “National Specialty Centers for Food Security and Bioterrorism Preparedness” July 27, 2004.

National Milk Producers Federation, FMD Task Force, Plum Island, New York. “FMD Vaccination to Live, Possibilities and Constraints” August 25, 2004.

Allen D. Leman Swine Conference, Agroterrorism Pre-Conference Symposium, Saint Paul, Minnesota. “Resources and Training Available for Veterinarians” September 19, 2004.

Allen D. Leman Swine Conference, Saint Paul, Minnesota. “Cell-Mediated Immunity in Infectious Diseases” September 20, 2004.

Homeland Security, Agriculture, and Veterinary Medicine, Ames, Iowa. “Development of Vaccines

and Anti-Viral Compounds for High Priority Foreign Animal Diseases for the National Veterinary Stockpile” October 22, 2004.

US Animal Health Association, National Assembly of State Animal Health Officials and the Extension Veterinarians meeting, Greensboro, North Carolina. “Training Resources in Emerging and Exotic Diseases of Animals” October 23, 2004.

ISU Swine Diseases Conference, Ames, Iowa. “Bioterrorism Awareness Programs in Iowa” November 11, 2004.

National Multihazard Symposium: One Medicine, Raleigh, North Carolina. “Clinical Aspects of Zoonotic Diseases” December 8, 2004.

National Multihazard Symposium: One Medicine, Raleigh, North Carolina. “Vaccines for Control of Zoonotic Diseases” December 9, 2004.

2005 Invited Presentations

Anti-Terrorism Advisory Council, Northern and Southern Districts of Iowa, Des Moines, Iowa. “Domestic Terrorism, Preparedness and Awareness” January 25, 2005.

Western Veterinary Conference, Las Vegas, Nevada. “Advances in Cell-Mediated Immunity I and II”, “New Generation Vaccines and Adjuvants” and “Vaccines for Foreign Diseases of Cattle” February 21, 2005.

American Association of Swine Veterinarians, Toronto, **Canada**. “The Porcine Innate Immune System” March 9, 2005.

American Animal Hospital Association, Baltimore, Maryland. “Introduction to Biological Risk Management for Veterinarians” March 23, 2005.

USDA Center for Veterinary Biologics Public Meeting, Ames, Iowa. “Update on the Activities of the Institute for International Cooperation in Animal Biologics” April 7, 2005.

FBI International Symposium on Agroterrorism, Kansas City, Missouri. “Hazards to Livestock and Public Health” May 3-5, 2005.

IICAB Veterinary Biologics Training Program, Ames, Iowa. “Basic Immunology and Principles of Vaccination” (20 hours) May 1-13, 2005.

Iowa Veterinary Rapid Response Team training, Carroll, Ames, and Corralville, Iowa. “Safeguarding American Agriculture from Foreign Animal Diseases” June 6, 8, 10, 2005.

Intervet Vista Vaccine Launch, San Diego, California. “Cell Mediated Immunity to Bovine Respiratory Disease Viruses” July 6-12, 2005.

American Veterinary Medical Association Annual Meeting, Minneapolis, Minnesota. “Preparedness Activities of the Center for Food Security and Public Health” July 16-19, 2005.

Testimony before the United States Senate Committee on Agriculture, Nutrition, and Forestry, Washington, DC. July 20, 2005.

Connecticut State Animal Response Team Training, Avon, Connecticut. "Safeguarding Animal and Public Health from Emerging and Exotic Diseases" August 8-9, 2005.

LEPC Conference, Kansas City, Missouri. "Safeguarding American Agriculture and Public Health from Foreign Animal Diseases" August 19, 2005.

Central Veterinary Conference, Kansas City, Missouri. "Cell-mediated Immunity to Infectious Diseases", "Evaluation of Cell-mediated Immunity to Vaccines", "New Generation Vaccines and Adjuvants", "Bioterrorism and Agroterrorism Agents Affecting Domestic Animals", "Vaccines for Foreign Diseases of Cattle and Swine", "Biological Risk Management for Beef and Dairy Operations", "Considerations in Vaccine Safety and Efficacy" August 28-30, 2005.

Pfizer Employees Continuing Education, Kalamazoo, Michigan. "Basic Immunology and Principles of Vaccination" (20 hours) September 26-29, 2005.

Pfizer Management Team, New York, New York. "Principles of Immunology: Modulation of Immune Function" October 12-13, 2005.

Pfizer Employees Continuing Education, Sandwich, **England**. "Basic Immunology and Principles of Vaccination" (20 hours) October 16-21, 2005.

Illinois Veterinary Emergency Response Team Training, Springfield, Illinois. "Preparing Ourselves: The Role of Veterinary Emergency Response Teams", "Foot and Mouth Disease" November, 3-4, 2005.

Academy of Veterinary Consultants, Denver, Colorado. "Immunity to Bovine Respiratory Disease Viruses" December, 2, 2005.

2006 Invited Presentations

Intervet, Phoenix, Arizona. "Bovine Immunology Round Table," January 23-24, 2006.

Ontario Veterinary Conference, Ontario, **Canada**. "Vaccination for Control of a Foreign Animal Disease Outbreak" January 26-28, 2006.

BVD 2006: The Future is Now, Kansas City, Missouri. "Immunology of BVDV Vaccination" January 30-31, 2006.

American Association of Swine Veterinarians, Kansas City, Missouri. "Foreign Animal Diseases of Swine: A Review," and "Foreign Animal Disease Educational Opportunities" March 4-5, 2006.

Understanding Biological Threats to Agriculture, MITRE Corporation, McLean, Virginia. "Vaccines Against High Priority Foreign Animal Diseases" April 11, 2006.

IICAB Veterinary Biologics Training Program, Ames, Iowa. "Basic Immunology and Principles of Vaccination" (20 hours) May 10-12, 2006.

Elanco, Greenfield, Illinois. “Principles of Immunology: Modulation of Immune Function”
June 13, 2006.

Intervet, Quebec City, **Canada**. “Cell Mediated Immunity to Bovine Respiratory Disease Viruses”
June 13, 2006.

Intervet, Ontario Dairy Meeting, Ontario, **Canada**. “Cell Mediated Immunity to Bovine Respiratory
Disease Viruses” June 15, 2006.

Intervet, Deadwood, South Dakota. “Cell Mediated Immunity to Bovine Respiratory Disease
Viruses” July 27-28, 2006.

Intervet, Des Moines, Iowa. “Cell Mediated Immunity to Bovine Respiratory Disease Viruses”
August 10, 2006.

American Association of Bovine Practitioners, St. Paul, Minnesota. “Foreign Animal Diseases of
High Consequence to Cattle” September 20, 2006.

Interstate Veterinary Medical Association Meeting, Sioux City, Nebraska. “Cell Mediated Immunity
to Bovine Respiratory Disease Viruses” October 5, 2006.

Intervet Virology Symposium, Kansas City, Missouri. “Evaluation of Cell Mediated Immunity to
Viral Pathogens” October 11, 2006.

US Animal Health Association Meeting, Minneapolis, Minnesota. “Monitoring Responses by Use of
5-color Flow Cytometry in Subsets of Peripheral T Cells Obtained from Cattle Inoculated with a
Killed *Mycobacterium avium* Subspecies *Paratuberculosis* Vaccine” October 15, 2006.

Biological Crisis Management in Human and Veterinary Medicine, Lyon, **France**. “Keynote
Address: Challenges and Opportunities for Control of Emerging and Transboundary Diseases”
November 5, 2006.

Intervet Symposium, Toronto, **Canada**. “Cell-Mediated Immunity to Bovine Respiratory Disease
Pathogens” November, 11, 2006.

Advances in Immunology and Vaccine Discovery EU-US Workshop, Ames, Iowa. “Keynote
Address: Next Generation Veterinary Vaccines: Applying Technological Advances to the Most
Critical Needs” November 12, 2006.

2007 Invited Presentations

North American Veterinary Conference, “Duration of Immunity Induced by Companion Animal
Vaccines”, Orlando, FL. January 15, 2007

National Pet Zoonoses Coalition. “Report for Action Group 1: Education in the Home and
Classroom”, Atlanta, GA. January 18-19, 2007.

Western Canada Association of Bovine Practitioners, “Cell-Mediated Immunity to Bovine Respiratory Disease Viruses”, Saskatoon, Canada, January 20, 2007.

Factors to Consider in Using Vaccination to Control Highly Pathogenic Avian Influenza, Round Table Discussion. Atlanta, GA. Jan 24-26, 2007.

Western Veterinary Conference, “Duration of Immunity Induced by Companion Animal Vaccines”, Las Vegas, NV, February 21, 2007.

WOI Talk of Iowa Radio Program, “Zoonoses and Emerging Diseases, What ISU is Doing to Prepare” Co-hosted with President Geoffrey. Ames, IA. February 27, 2007.

Ohio Dairy Certificate Program, "Update on Bovine Immunology: Vaccination and Immunity in the Young Calf", and "Considerations in Vaccine Safety and Efficacy", 3.5 hours. Wooster, OH, March, 8, 2007.

Hematech, round table discussion regarding immune function of transgenic neonatal calves. Sioux Center, IA, April 10, 2007.

Program on Science and Global Security, Princeton University, “Emerging and Exotic Diseases of Food Producing Animals: Global Implications” Princeton, NJ. April, 13, 2007.

ASPH-AAVMC Joint Symposium: Partnerships for Preparedness. “Cooperative University of Iowa and Iowa State University MPH Program for DVMs” and “Prospects for Development of a Marker Vaccine and Companion Diagnostic Test for Nipah Virus”, Atlanta, GA, April 22-24, 2007.

OIE Veterinary Biologics Training Program, “Block 1: Immunology and Principles of Vaccination” (20 hours) Ames, IA. May 9 – 11, 2007.

American College of Veterinary Internal Medicine, Infectious Disease Study Group: “Infection Control Procedures for Routine, Emerging, and Exotic Pathogens”. Seattle, WA, June 6 – 8, 2007.

Fort Dodge Laboratories Student Representatives, “Immunology and Principles of Vaccination” (6 hours), Ames, IA, June 3, 2007.

USDA APHIS and FAS, “Review of Factors to Consider in Using Vaccination to Control Highly Pathogenic Avian Influenza”, Washington, DC. July 13, 2007.

American Veterinary Medical Association Annual Meeting, “Johne's Disease: Research on Cell-Mediated Immune Responses in Cattle Exposed to MAP” and “Panel Discussion: Johne’s Disease”. Washington, DC, July 14, 2007.

AAVMC/National Coalition for Food and Agriculture Research 'Lunch and Learn' Seminar, "Our vulnerability to animal diseases: Zoonotic diseases and their potential for infecting humans", Longworth House Office Building, Washington, DC. July 16, 2007.

Land O Lakes- Purina Feeds, Longview Animal Nutrition Center, “Nutrition and Immune Function” Gray Summit, MO. August 17, 2007.

Fort Dodge Laboratories Student Representatives, “Immunology and Principles of Vaccination” (6 hours), Ames, IA, August 24, 2007.

Boehringer Ingelheim Vetmedica Global R&D Meeting, “BVD Immunology and Control” Ames, IA September, 25, 2007.

AVMA Aquatic Veterinary Medicine Committee, “Development of Modules for the USDA APHIS VS National Veterinary Accreditation Program Certification in Aquatics”, Schaumburg, IL. September, 29, 2007.

Westminster Presbyterian Church, “Emerging and Exotic Diseases of Food Producing Animals: Global Implications” Beaverdale, IA. October 16, 2007.

Kemin Industries 22nd Annual Worldwide Scientific Meeting. “Round table on Immunology”, Des Moines, IA. October 17, 2007.

University of Iowa - Iowa State University Emerging Infectious Disease Symposium, “International Resources for Avian Influenza Preparedness and Response”, Iowa City, IA. December 8, 2007.

2008 Invited Presentations

Novartis Professional Development Meeting, “Principles of Immunology and Vaccination” (2 hours), Lake Tahoe, NV, January 8, 2008.

North American Veterinary Conference, Food Animal Vaccination Symposium. “Immunology I: Introduction to Immune Response”, “Immunology II: Role of T Cells”, “Immunology III: Evaluation of CMI”, “Immunology IV: Vaccine Safety and Efficacy”, “Panel Discussion”, “Autogenous Vaccines Beef”, “Zoonoses in Small Ruminants: Q-Fever and More”, “Malignant Catarrhal Fever: Sheep and Cattle” (6 hours), Orlando, FL, January 19-21, 2008.

Pfizer Animal Health, “Influence of Draxxin on neutrophil function”, Kalamazoo, MI, February, 21, 2008.

Hematech Advisory Board Meeting, “Vaccination of the Young Calf”, Sioux Center, IA, March 6, 2008.

USDA Animal Care Management Team, “Biological Risk Management Tools for Animal Care”, Raleigh, NC, April 30, 2008.

OIE Veterinary Biologics Training Program, “Block 1: Immunology and Principles of Vaccination” (20 hours) Ames, IA, May 7-9, 2008.

Intervet Opinion Leaders Conference, “Mucosal immunology and vaccinology of the neonatal calf”, DeSoto, KS, May 14, 2008.

American College of Veterinary Internal Medicine Annual Meeting, “New Technologies Applied to Bovine Vaccine Development”, “Advances in Understanding Bovine Native Defense Mechanisms”,

“Advances in Understanding Bovine Cell-Mediated Immunity” (3 hours), ACVIM San Antonio TX, June 5- 6, 2008.

Texas A&M Food Animal Conference, “Cell-Mediated Immunity in Protection from Bovine Respiratory Disease” (2 hours), College Station, TX, June 7, 2008. 2 hrs

AAAS Center for Science, Technology and Security Policy; Understanding President Bush’s FY2009 Budget Request for Biodefense: Round Table Discussion, “Biodefense, Agriculture, and Food Security: Progress, Vulnerabilities and Needs”, Rayburn House Office Building, Washington, DC, June 11, 2008.

Nutrition Horizons, “Nutrition and immune function”, Louisburg, OH, June 19, 2008.

Intervet Regional Meeting, “Vaccination and Immunity in the Young Calf” (2 hours), Galena, IL, July 8, 2008.

National Pork Board Swine Health Committee, “Opportunities to Improve Business Continuity During a Foreign Disease Outbreak in Swine”, Denver, CO, July 9, 2008.

Intervet Regional Meeting, “Vaccination and Immunity in the Young Calf” (2 hours), Syracuse, NY, July 30, 2008.

National Center for Animal Health Emergency Management, Report on Biological Risk Management and Exposure Assessment Tools to Allow Movement of Eggs and Egg Products From Non-Infected Premises within an Avian Influenza Quarantine Zone, Washington, DC, August 26, 2008.

Department of Energy Review of Sponsored Research Conducted at the National Center for Biodefense and Infectious Diseases and The Center for Applied Proteomics and Molecular Medicine, George Mason University, Manassas, VI, August 27, 2008.

AgriLabs Board of Directors meeting, “Evaluation of novel vaccine technologies” Kansas City, MO, September 10, 2008.

Boehringer Ingelheim Vetmedica, Inc. Swine Academy, “Basic Immunology and Principles of Vaccination” (7 hours), Ames, IA, September 12, 2008.

Kansas State University, College of Veterinary Medicine, Graduate Student Association Lecture. “Induction of T Cell-Mediated Immunity by Bovine Respiratory Viral Vaccines”. Manhattan, KS, September 14-15, 2008.

Dow Agrosiences, “Evaluation of plant cell based vaccine technologies”. Indianapolis, IN, October 6, 2008.

Pfizer Animal Health, North American Emerging Disease Workshop. “Vaccines and Diagnostics for the National Veterinary Stockpile and Emerging Diseases”, Kalamazoo, MI, November 17, 2008.

2009 Invited Presentations

Fourth US BVDV Symposium. "BVDV and vaccination of the young animal". Phoenix, AZ, January 25-27, 2009

Iowa Veterinary Medical Association Annual Meeting. "Bovine neonatal immunology and vaccination of the young calf". Ames, IA. February 11, 2009.

Mississippi Veterinary Medical Association Annual Meeting. "Basic immunology and principles of vaccination" (3 hours); "Duration of immunity and frequency of vaccination for companion animals" (1 hour); and "Induction of T cell-mediated immunity to bovine respiratory disease viral pathogens" (1 hour). Starkville, MS. February 20-21, 2009.

Project ARGUS Senior Advisory Board Meeting, Georgetown University, Washington, DC. March 9, 2009.

American Association of Veterinary Medical Colleges, International Committee Annual Meeting. "Enhancing the Performance of Veterinary Services in the Americas". Washington, DC. March 14, 2009.

National Veterinary Stockpile Nipah Virus Countermeasures Workshop. "Nipah Virus Vaccinology: Development of Vaccine for Henipaviruses in Domestic Animals" **Geelong, Victoria, Australia.** March 17-19, 2009.

Calf Immunology Roundtable Discussion for *Bovine Veterinarian*. Santa Fe, NM. April 15, 2009.

National Science Advisory Board for Biosecurity, Bethesda, MD. April 29, 2009

OIE Veterinary Biologics Training Program, "Block 1: Immunology and Principles of Vaccination" (20 hours) Ames, IA, May 12-15, 2009.

Boehringer Ingelheim Vetmedica, Inc. Swine Academy, "Basic Immunology and Principles of Vaccination" (7 hours), Ames, IA, June 11, 2009.

American Veterinary Medical Association Annual meeting. "Role of native defense mechanisms in disease"; "Role of T cells in controlling infectious disease"; "Evaluation of cell-mediated immunity in cattle"; "Vaccine safety and efficacy". Seattle, WA. July 11, 2009.

International Veterinary Vaccines and Diagnostics Conference (5th). "Induction of T Cell-Mediated Immunity by Vaccines" Madison, WI. July 19-21, 2009.

International Aquatic Biosecurity Conference, Chair of Organizing Committee and Moderator of Conference Summary Session. **Trondheim, Norway**, August 16-18, 2009.

Boehringer Ingelheim Vetmedica, Inc. Swine Academy, "Basic Immunology and Principles of Vaccination" (7 hours), Ames, IA, August 18, 2009.

Project ARGUS Senior Advisory Board Meeting, Georgetown University, Washington, DC. October 2, 2009.

National Science Advisory Board for Biosecurity, Bethesda, MD. December 3, 2009.

Conference of Research Workers in Animal Diseases. Distinguished Veterinary Microbiologist Keynote Address. "Induction of T Cell-Mediated Immunity by Bovine Respiratory Viral Vaccines" Chicago, IL, December 7, 2009.

Boehringer Ingelheim Vetmedica Porcus Pro Meeting. "Principles of Immunology and Vaccinology" (3 hours). **Majorca, Spain**. December 10, 2009.

2010 Invited Presentations

Institute on US National Security Policymaking, "Bioterrorism, Agroterrorism and Securing Our Food Supply". University of Delaware, Newark, DE. February 2, 2010.

Symposium on Practical Alternatives to Reduce Animal Testing in Quality Control of Veterinary Biologicals in the Americas, "Characterization of the Protective Immune Response to Develop Valid in Vitro Correlates of Protection". **Buenos Aires, Argentina**. February 18, 2010.

2010 Biosecurity Conference. Panel Moderator: "Advancing Food and Agriculture Safety and Security". Chicago, IL. May 5, 2010.

OIE Veterinary Biologics Training Program, "Block 1: Immunology and Principles of Vaccination" (20 hours). Ames, IA. May 11-14, 2010

Hematech Science Advisory Board, "Vaccination to Stimulate Protective Immunity" Sioux Center, IA. June 3, 2010.

American College of Veterinary Internal Medicine Annual Meeting, Equine Post-Graduate Session, "Advances in Understanding Native Defense Mechanisms", "Advances in Understanding Cell Mediated Immunity", "Principles of Vaccinology: The Utilization of the Immune System to Make a Vaccine Effective", "Principles of Vaccinology: Adverse Reactions & Why They Sometimes Fail", Anaheim, CA. June 10, 2010.

Center of Excellence for Emerging and Zoonotic Animal Diseases, "Overview of Education and Outreach Overlay", Manhattan, KS. June 29, 2010.

American Association of Swine Veterinarians Annual Meeting, Boehringer Ingelheim Vetmedica Symposium, "Principles of immunology and vaccination". **Vancouver, Canada**. June 19, 2010.

DHS Science and Technology Chemical Biological Division Program Summit, "Procurement of Vaccines and Diagnostics for the National Veterinary Stockpile". Washington, DC. August 18, 2010.

International Workshop on Alternative Methods to Reduce, Refine, and Replace the Use of Animals in Vaccine Potency and Safety Testing: State of the Science and Future Directions, "History and Overview of Veterinary Vaccines and their Importance to Animal Health and Public Health". Bethesda, MD. September 14, 2010.

Boehringer Ingelheim Vetmedica, Inc. Swine Academy, "Basic Immunology and Principles of Vaccination" (7 hours). Ames, IA. September 17, 2010.

Tuskegee University College of Veterinary Medicine, “Induction of T cell-mediated immunity by bovine respiratory viral vaccines”. Tuskegee, AL. September 23, 2010.

Symposium on One Medicine, One Health, “Development of a Marker Vaccine and Companion Diagnostic Test for Nipah Virus”. Tuskegee, AL. September 23, 2010.

Science of Veterinary Medicine Research Day Symposium, Keynote Presentation, “Induction of T cell-mediated immunity by bovine respiratory viral vaccines”. Athens, GA. October 14, 2010.

Panelist, United Nations Day Celebration: Engaging Americans in the Millennium Development Goals. Ames, IA. October 24, 2010.

US Animal Health Association, Foreign and Emerging Diseases Committee, Co-presenter, “National Academies' Report on NBAF Site Specific Risk Assessment”. November 16, 2010.

2011 Invited Presentations

Intervet/Schering-Plough Animal Health Vista Cow/Calf & Stocker Veterinarian Welcome Back Event, “Advancing Information Regarding the Role of Cell-Mediated Immunity in Disease Protection”. La Jolla, CA. January 24, 2011.

Institute on US National Security Policy, University of Delaware, “Bioterrorism, Agroterrorism and Securing Our Food Supply” February 4, 2011

2011 Annual Center of Excellence for Emerging and Zoonotic Animal Diseases Annual Meeting, “Overview of Education and Outreach Overlay Projects”. Ponte Vedra, FL. February 23, 2011.

Testimony on the dangers of raw milk consumption to the Iowa Senate and General Assembly Committees on Agriculture, Subcommittee meeting regarding House File Bill 394 to allow raw milk sales in Iowa. Des Moines, IA. March 2, 2011

National Veterinary Services/Department of Homeland Security Meeting, “Transboundary Animal Biologics Inc.: Role and Coordination with the Department of Homeland Security and the National Veterinary Stockpile”. Washington D.C. March 8, 2011.

Boehringer-Ingelheim Vetmedica Swine Academy, “Principles of Immunology and Vaccination” (6 hours). Ames, IA. April 15, 2011

National Pork Board Food Animal Disease Economics Working Group, “OIE Regulations: the impact of policy decisions on disease status”. Des Moines, IA. April 21, 2011.

Hematech Animal Health Meeting, “Foreign Animal Diseases/Emerging Diseases”. Sioux Center, IA. May 5, 2011.

IICAB Veterinary Biologics Training Program, “Block 1: Immunology and Principles of Vaccination” (20 hours) Ames, IA, May 10-13, 2011.

The Exchange, Iowa Public Radio interview: “Emerging Diseases of Humans and Animals”. May 18, 2011.

Boehringer-Ingelheim Vaccine Opinion Leader Summit, “Companion Animal Vaccines – Understanding the Issues Influencing Efficacy and Duration of Immunity”. Kansas City, MO. May 19, 2011.

Discontools Nipah Virus Infection Panel Expert Group. Brussels, Belgium. May 30-31, 2011.

4-State Dairy Nutrition and Management Conference, “Understanding Factors that Suppress Immune Function and Protective Immune Responses”. Dubuque, IA. June 8, 2011.

Regional Veterinary Medical Education Conference, “Preparing Students for Public Health and Emergency Preparedness”, Ames, IA. June 14, 2011

USDA Center for Veterinary Biologics inspection of Riemser vaccine production facility. Riems, Germany. June 26 – July 1, 2011

National Pork Board, Swine Health Committee Meeting, “Secure Pork Supply Update”. Ames, IA. July 28, 2011.

Pfizer Animal Health 2011 US Veterinary Operations Meeting, “Principles of Immunology and Vaccination” (4 hours). Boston, MA. August 9, 2011.

Federation of American Scientists, Interviewee for Case Studies in Agricultural Biosecurity:

1) Agroterrorism and Food Safety

2) Agricultural Biotechnology: Safety, Security, and Ethical Dimensions

<http://www.fas.org/biosecurity/education/dualuse-agriculture/index.html> Washington D.C. August 12, 2011.

USDA Center for Epidemiology and Animal Health, Presentation on the Secure Milk Supply Project, Fort Collins, CO. August 18, 2011.

Food & Agriculture Protection Training Consortium-International Food Protection Institute Meeting. “ISU Role and the Importance of the Consortium Effort”. Battle Creek, MI. August 21-22, 2011.

USDA Food Safety Inspection Service, “Secure Egg Supply Plan”. Washington D.C. August 30, 2011.

National Academy of Sciences, Committee on the Evaluation of an Updated Site-Specific Risk Assessment for the National Bio- And Agro-Defense Facility in Manhattan, Kansas. “Briefing on the Previous Report: Shortcomings and issues identified by committee; Sponsor, congressional, and public response”. Washington, D.C. September 6-7, 2011.

National Academy of Sciences, Institute for Laboratory Animal Research Council Meeting, “ILAR project for reducing, refining, and/or replacing the use of animals in human and veterinary vaccine safety and potency testing”. Washington D.C. September 15-16, 2011.

Boehringer-Ingelheim Vetmedica Swine Academy, “Principles of Immunology and Vaccination” (6 hours). Ames, IA. September 13, 2011

US OIE Collaborating Centers Meeting, “Report on IICAB Activities”. Buffalo, NY. October 1, 2011

Secure Pork Supply Advisory Committee Meeting, “Lessons learned from other secure food supply plans: Secure Egg Supply, Secure Milk Supply, Secure Turkey Supply” “Discussion of Draft Secure Pork Supply Plan, and the Way Forward”, Des Moines, IA October, 11-12, 2011

Department of Homeland Security, Foreign Animal and Zoonotic Diseases University Center of Excellence, Meeting, “Overview of Business Continuity Plans for the Poultry, Pork and Dairy Industries”. Des Moines, IA. October 25-26, 2011.

USDA Foot and Mouth Disease Stakeholder Meeting. “Secure Milk Supply and Secure Pork Supply Business Continuity Plans”, Riverdale, MD. November 2-5, 2011.

Kirkwood Community College, Veterinary Technology Program. “Basic Immunology and Principles of Vaccination” (4 hours) Cedar Rapids, IA, November 8, 2011.

Pfizer Animal Health PETS Webconference “Companion Animal Vaccines - Understanding the Issues Influencing Duration of Immunity” Webinar delivered from Ames, IA. November 11, 2011

2012 Invited Presentations

California Dairy Vitality Forum; Business Continuity: How Can We Survive a Foot and Mouth Disease Outbreak? “Technical Background and Vaccination Considerations” Modesto, CA, January 26, 2012

FDA Center for Veterinary Medicine, “Immunology Round Table for participants in Basic Veterinary Immunology web based course”. Rockville, MD, February 6, 2012

Iowa House of Representatives Judiciary Subcommittee hearing on raw milk sales. Des Moines, IA, February 13, 2012

Pfizer Animal Health, “Companion Animal Vaccines - Understanding the Issues Influencing Duration of Immunity” (webinar) February 17, 2012

Kasetsart University, “Graduate Program at Veterinary Microbiology and Preventive Medicine (VMPPM), College of Veterinary Medicine, Iowa State University”, and “Institute for International Cooperation in Animal Biologics and Center for Food Security and Public Health activities” **Bangkok, Thailand**, February 28, 2012.

37th International Conference on Veterinary Science, “Advances in immunology and vaccinology for livestock diseases: Native defense mechanisms and Cell-Mediated Immunity” (3 hours). **Bangkok, Thailand**. February, 29, 2012.

Boehringer Ingelheim Vetmedica, Inc. Swine Academy. “Basic Principles of Immunology and Vaccinology” (6 hours). Ames, IA, April 20, 2012

DHS Center of Excellence for Emerging and Zoonotic Diseases of Animals (CEEZAD), Education and Outreach Overlay Presentations: “Web-based Continuing Education Courses for Veterinarians, Graduate Students, Medical and Public Health Professionals”, and “Vaccine and Diagnostics Transboundary Animal Diseases Workshop”. Nebraska City, NE, May 1-2, 2012.

IICAB Veterinary Biologics Training Program, “Block 1: Immunology and Principles of Vaccination” (20 hours) Ames, IA, May 8-11, 2012.

Nutrition and Wellness Research Center (NWRC) symposium Sustaining One Health in a Changing Environment: Creating a Resilient Future, “Environmental Change and Emerging Animal Diseases: A One Health Perspective” Ames, IA. May 16, 2012.

World Pork Expo, “The Threat of Foot & Mouth Disease to the Swine Industry”. Des Moines, IA, June 7, 2012.

NIAID Emerging Infectious Diseases at the Human/Animal Interface, Identifying Common Ground Among Federal Agencies (Webinar). “Presentation from the perspective of Academia” June 26, 2012.

Meril Animal Health meeting on Practical Applications to Improving your Dairy Business; “Immunology and Neonatal Immune Development” Minneapolis, MN. June 29, 2012.

Merck Animal Health, Dairy Calf Respiratory Health Educational Seminar, “Immunology of the Dairy Calf (4 hours)” Wisconsin Dells, WI, July 25, 2012.

Merck Animal Health, Internal Parasite’s Effect on the Bovine Immune Response Meeting, “Evaluation of Innate and Adaptive Immunity”. Kansas City, MO, August 21, 2012.

Iowa Veterinary Medical Association Annual Meeting, “Challenges and opportunities for inducing immunity in calves”, Ames, IA, September 13, 2012.

Vaccines and Diagnostics for Transboundary Animal Diseases, “Welcome and Introductions” and “Conclusions and Recommendations: Challenges, Opportunities and Next Steps”, Ames, IA. September 17-19- 2012.

New York State Veterinary Conference, “Advances in Understanding Bovine Innate-Defense Mechanisms”, “Advances in Understanding Bovine Cell-Mediated Immunity”, “Vaccines for FMD and Other Foreign Animal Diseases of Cattle”, and “Development of a Secure Milk Supply Business Continuity Plan in the Event of a FMD Outbreak”, Ithaca, NY, September 28, 2012.

Elanco Science Symposium, “Innate vs. Adaptive Immunity with Emphasis on the Role of Neutrophils”, Chicago, IL, October 1-2, 2012.

Osher Lifelong Learning Institute, “Emerging diseases of food producing animals”. Ames, IA, October 3, 2012.

Secure Egg Supply Three State Planning Meeting, Rochester, MN, October 10, 2012.

National Pork Board Packer Meeting, “Building a Secure Pork Supply”, Kansas City, MO, October 16, 2012.

USAHA Committee on Transmissible Diseases of Swine, “Secure Pork Supply Update”, Greensboro, NC, October 22, 2012.

Pan American Veterinary Conference, “Transboundary Animal Disease Resources”, **Cartagena, Colombia**, October 25, 2012.

Food & Agriculture Protection Training Consortium, “Center for Food Security and Public Health Update”, Chicago, IL, October 30, 2012.

2012 Participation in Advisory Committee and Council Meetings

DHS, Agriculture Defense Branch, Strategic Review of S&T Agriculture Defense Portfolio. February 7-9, 2012

National Academies of Science, National Research Council, Committee on the Evaluation of the Updated Site-Specific Risk Assessment for the National Bio and Agro-Defense Facility in Manhattan, Kansas, Washington, DC, February 21-22, 2012.

National Academies of Science, National Research Council, Institute for Laboratory Animal Research (ILAR) Council, Washington, DC, March 22-23, 2012.

National Science Advisory Board for Biosecurity, Bethesda, MD, March 29-30, 2012.

DHS University Programs Center for Foreign Animal and Zoonotic Disease Defense (FAZD) Annual Meeting, Dallas, TX, April 11-12, 2012.

DHS University Programs Center of Excellence for Emerging and Zoonotic Diseases of Animals (CEEZAD) Annual Meeting. Nebraska City, NE, May 1-2, 2012.

National Academies of Science, National Research Council, Committee on the Evaluation of the Updated Site-Specific Risk Assessment for the National Bio and Agro-Defense Facility in Manhattan, Kansas, Briefing of DHS, Senate Appropriations Committee Staff Briefing, House Appropriations Committee Staff Briefing, Kansas Congressional Delegation Briefing, House Homeland Security Committee Staff Briefing. Washington, DC, June 12-14, 2012.

University of Iowa, College of Public Health, Upper Midwest Preparedness and Emergency Response Learning Center Steering Committee Meeting, Ankeny, IA, July 16, 2012.

Mid-Atlantic Secure Milk Supply Tabletop Exercise. Durham, NC, August 9, 2012.

National Pork Board, Maintaining Business Continuity and Performing Risk Management during an Animal Disease Outbreak. Des Moines, IA, August 24, 2012

National Science Advisory Board for Biosecurity, Bethesda, MD, November 27, 2012.

2013 Invited Presentations

North American Veterinary Conference; Symposium on Food Animal Immunology & Vaccines. Five hours of CE delivery. Orlando, FL, January 19-20, 2013.

National Center of Excellence for Zoonotic and Animal Disease Defense, DHS Office of University Programs Mid-Term Review. “CEEZAD’s Education and Outreach Overlay” Arlington, VA. January 29, 2013.

One Health; One Response: Zoonotic Disease Seminar and Tabletop Exercise; Keynote Address: “Rift Valley Fever: Factors to Consider During an Outbreak” Loveland CO. Feb 5, 2013.

American Association of Swine Veterinarians Annual Meeting. “Business continuity in the face of a foreign animal disease” San Diego, CA. March 4, 2013.

All Iowa Virology Conference. “The H5N1 avian influenza virus publication controversy: Perspective from an NSABB member” Ames, IA. March 29, 2013.

Boehringer Ingelheim Vetmedica, Inc. Swine Academy. “Basic Principles of Immunology and Vaccinology” (6 hours). Ames, IA, April 12, 2013.

Multi-state Partnership for Security in Agriculture/Southern Agriculture & Animal Disaster Response Alliance Joint Regional Workshop, “Secure Food Supply Projects” New Orleans, LA. April 30, 2013.

IICAB Veterinary Biologics Training Program, “Block 1: Immunology and Principles of Vaccination” (20 hours) Ames, IA, May 14-17, 2013.

Border Protection for Foreign Animal Diseases. Group Leader for Regionalization/Compartmentalization Policies Breakout Group. Arlington, VA. May 30-31, 2013.

World Pork Expo, PORK Academy. “Secure Pork Supply” Des Moines, IA. June 5, 2013.

American College of Veterinary Internal Medicine. Boehringer Ingelheim Vetmedica, Inc. “Immunology Training with Jim Roth”, Seattle, WA. June 12, 2013.

Site visit to evaluate Foot and Mouth Disease Vaccine production by INOVA Biotecnologia Saude Animal LTDA, Belo Horizonte, Brazil. June 17-21, 2013.

Boehringer Ingelheim Vetmedica, Inc. Swine Academy. “Basic Principles of Immunology and Vaccinology” (6 hours). Ames, IA, July 18-19, 2013.

National Pork Board Swine Health Committee Summer Meeting. “Secure Pork Supply Overview” and “FMD Vaccine Strategy Overview”. Plum Island Animal Disease Center, Orient Point, NY. July 30-31, 2013.

Food and Agriculture Sector Coordinating Council, “Secure Pork Supply Overview”. Washington, DC. September 11, 2013.

Boehringer Ingelheim Vetmedica, Inc. Swine Academy. “Basic Principles of Immunology and Vaccinology” (6 hours). Ames, IA, September 20, 2013.

Food Research Institute, University of Wisconsin. "Development of Secure Food Supply Plans in the Event of a Foreign Animal Disease Outbreak". Madison, WI. October 1, 2013.

USAHA/AAVLD Committee on Animal Emergency Management, "Secure Food Supply Plans to Protect Animal Agriculture and the Food Supply in an FAD Outbreak". San Diego, CA. October 19, 2013.

USAHA/AAVLD Committee on Transmissible Diseases of Swine. "Secure Pork Supply Project Update" San Diego, CA. October 20, 2013.

USAHA/AAVLD Committee on Foreign and Emerging Diseases. "Controlled Movement of Swine in an FMD Outbreak" and "CFSPH Education and Outreach Efforts". October 21, 2013.

National Autonomous University of Mexico (UNAM). "Partnership Between UNAM and ISU for Delivery of the Enfermedades Transfronterizas de los Animales Web-Based Course". **Mexico City, Mexico**. October 28, 2013.

Elanco Immunity Science Symposium. Keynote Speech: "Innate Immunity. Introduction and the Role and Function of Neutrophils" **Vienna, Austria**, November 5, 2013.

OIE Global Conference on Veterinary Education and the Role of the Veterinary Statutory Body. "How Web Based Training Can Enhance Veterinary Education", **Foz do Iguaçu, Brazil**, December 4-6, 2013.

Department Of Homeland Security Region VII; Food, Agriculture, and Veterinary Response Exercise. Logistics Group Facilitator. Kansas City, MO. December 11-12, 2013

2013 Participation in Advisory Committees, Council Meetings, Site Visits

Food and Agriculture Protection Training Consortium, Baltimore, MD, January 23, 2013

Institute for Laboratory Animal Research Council Meeting. Washington, D.C. April 4-5, 2013.

Site visit to evaluate Foot and Mouth Disease Vaccine production by INOVA Biotecnologia Saude Animal LTDA, **Belo Horizonte, Brazil**. June 17-21, 2013.

National Center for Foreign Animal and Zoonotic Disease Defense Annual Meeting, A DHS Science and Technology Center of Excellence. Dallas, TX. June 27-28, 2013.

Institute for Laboratory Animal Research Council Meeting. Washington, D.C. September 10-11, 2013

Aquatic Biosecurity Planning Conference, University of Munich. **Munich, Germany**. October 7-8, 2013.

2014 Invited Presentations

Western Veterinary Conference, "Immunology I: Induction of the Immune Response"; "Immunology II: Role of T Cells & Evaluation of Cell-mediated Immunity"; "Immunology III: Induction of Cell-mediated Immunity to Respiratory Disease"; "Vaccines for Foreign Diseases of Cattle" Las Vegas,

NV. Feb. 17, 2014.

National Institute for Animal Agriculture Emergency Management Council, “FMD Vaccination: Preparedness, Availability, and Limitations”. Omaha, NE, April 1, 2014.

Boehringer Ingelheim Vetmedica, Inc. Swine Academy. “Basic Principles of Immunology and Vaccinology” (6 hours). Ames, IA, April 4, 2014.

Iowa Joint Forces Headquarters, “Foreign Animal Diseases: Preparedness, Response, and Impact in Iowa”. Johnston, IA, April 5, 2014.

National Pork Board Emerging Diseases Response Group. “Foreign Animal Diseases Phases and Types”. Arlington, VA. May 7, 2014.

IICAB Veterinary Biologics Training Program, “Block 1: Immunology and Principles of Vaccination” (20 hours) Ames, IA, May 13-16, 2014.

USDA Secretary’s Advisory Committee on Animal Health. “Presentation: Emergency Management and Preparedness, Secure Food Supply Projects”. Washington, DC. June 18, 2014.

Bovine Immunology Preconference XIX ANEMBE Meeting. “Induction of the Immune Response”, “Role of T Cells & Evaluation of Cell-mediated Immunity”, “Induction of Cell-mediated Immunity to Respiratory Disease”. **Oviedo, Spain**, June 25, 2014.

AVMA Annual Meeting. “Emerging and Exotic Diseases of Food Animals Threaten Global Food Security”. Denver, CO. July 29, 2014.

ISU College of Veterinary Medicine Research Day. “Foot and Mouth Disease: Preparedness, Response, and Impact”. Ames, IA. Aug 8, 2014.

FAZD – CEEZAD Annual Meeting. “Education and Outreach Efforts”. Nashville, TN. Sept 9-10, 2014.

“Basic Principles of Immunology and Vaccinology” Boehringer Ingelheim Vetmedica, Inc. Swine Academy. (6 hours). Ames, IA, Sept. 19, 2014.

USDA APHIS Administrator’s FMD Vaccine Capacity Planning Meeting. “FMD Vaccine Surge Capacity for Emergency Use in the United States”. Washington DC. Sept 30 – Oct. 1, 2014.

California Department of Food and Agriculture. FMD Response Planning Meeting. “Secure Milk Supply Plans”. Modesto, CA. October 9, 2014.

USAHA/AAVLD Joint Committee on Animal Emergency Management. “FMD Vaccine Surge Capacity for Use in the U.S.” Kansas City, MO. October 18, 2014.

AAVLD Plenary Session. “Ebola Virus Infection in Dogs and Pigs”. Kansas City, MO. October 18, 2014.

Secure Pork Supply Packer-Processor Working Group. “Background Information on Secure Pork Supply Plan”. Des Moines, IA. Oct. 29, 2014.

Meeting with the Director General and staff of the World Organization for Animal Health (OIE). “CFSPH Development and Delivery of Online Veterinary Education Platform”. **Paris, France**, Nov 18, 2014.

National Alliance of State Animal and Agricultural Emergency Programs. “FMD Vaccine Surge Capacity for Emergency Use in the United States”, and “Secure Food Supply Business Continuity Plans: Federal, State, Industry, and Academic Partnerships”. Durham, NC. Dec. 8, 2014.

2014 Participation in Advisory Committees, Council Meetings, etc.

Serve on panel of experts testifying against legalization of raw milk at the Capital Building in Des Moines, IA, Feb 10, 2014.

Meet at Iowa State Capital Building to discuss Senate bill regarding changing state licensure for commercial dog breeders. Des Moines, IA. Mar 5, 2014.

Meet with OIE Regional Office of the Americas regarding offering ETA course in Latin America. **Buenos Aires, Argentina**. Mar 26, 2014.

Food and Ag Protection Training Consortium. Washington, DC, April 9, 2014.

Institute for Laboratory Animal Research Council Meeting at National Academies of Science. Washington, D.C. April 14-15, 2014

Upper Midwest Preparedness and Emergency Response Learning Center Steering Committee Meeting. Urbandale, IA. July 1, 2014.

Discuss various cooperative agreements with USDA APHIS Veterinary Services Officials. Washington, DC. Aug 21-22, 2014.

Institute for Laboratory Animal Research Council Meeting at National Academies of Science. Washington, D.C. Sept 15-16, 2014.

Boehringer Ingelheim Vetmedica, Bovine Viral Diarrhea Virus Experts Meeting. New York City, NY. Sept 21-22, 2014.

National Pork Board Foot and Mouth Disease Spokesperson Training. Des Moines, IA. Sept. 24, 2014.

Iowa legislative changes to State Licensure for Commercial Dog Breeders bill meeting. Des Moines, IA. Oct. 2, 2014.

Planning committee meeting for “A Regulatory Flexibility Workshop for Veterinary Vaccine Potency Specifications”. Ames, IA. Oct. 3, 2014.

California Department of Food and Agriculture FMD Emergency Vaccination Team meeting. Sacramento, CA. Oct. 8, 2014.

Boehringer Ingelheim Vetmedica Roundtable Discussion on Vaccination for Canine Respiratory Disease Complex. Recorded conference call. Nov. 4, 2014.

National Pork Producers Council Emerging Diseases Response Group Meeting. Des Moines, IA. Nov. 6, 2014.

2015 Invited Presentations

USDA Foreign Animal Disease Refresher Course. “Ebola in Domestic Animals”, National Veterinary Services Laboratory, Ames, IA. Jan. 30, 2015.

Iowa Veterinary Medical Association Annual Meeting. “Porcine Epidemic Diarrhea Virus: Mechanisms of Protective Immunity”, Des Moines, IA. Feb. 12, 2015.

Multistate Partnership Meeting. “Secure Food Supply: Operational Perspective”, Denver, CO. Feb. 24, 2015.

Swine Health Information Center Board of Directors Meeting. “Development of a Transboundary Swine Disease Information Resource”. Des Moines, IA. Apr. 7, 2015.

Great Plains Emerging Infectious Diseases Conference. “U.S. Preparedness for Known and Emerging Infectious Disease Threats”. Iowa City, IA. Apr. 10, 2015.

Determining Release and Throughout Dating Potency Specifications: A U.S. Regulatory Policy Workshop. “Welcome” and “Next Steps and Closing Remarks”. Ames, IA. Apr. 21-22, 2015.

USDA FSIS Des Moines District Food Safety Summit. “Secure Food Supply Business Continuity Plans”, Ames, IA. Apr. 23, 2015.

Boehringer Ingelheim Vetmedica, Inc. Swine Academy. “Basic Principles of Immunology and Vaccinology” (8 hours). Ames, IA, April 24, 29, 2014.

USDA Secretary’s Advisory Committee on Animal Health (SACAH) “Foot and Mouth Disease Preparedness and Vaccine“. Co-Presentation with Dr. Jon Zack, Bethesda, MD. April 28-29, 2015.

AASV Special Session at World Pork Expo. “Voluntary Controlled Movement: If not now, when?” Des Moines, IA. June 4, 2015.

Symposium of Computational Resources for Swine Viral Diseases. “Secure Pork Supply”. Ames, IA. June 8–9, 2015

Des Moines Science Center Café Science Series. “Avian Flu and the Path to Prevention”. Des Moines, IA. June 9, 2015.

Western US Animal Health Association Meeting, “Secure Egg Supply Plan and Permitted Movement” Denver, CO. July 9 – 10, 2015.

Boehringer Ingelheim Vetmedica, Inc. Swine Academy. “Basic Principles of Immunology and Vaccinology” (8 hours). Ames, IA, July 20 -23, 2015.

Association of Veterinary Biologics Companies meeting. “Determining Release and Throughout-Dating Potency Specifications for USDA Licensed Veterinary Biologics”, Ames, IA. September 22, 2015.

Frontier Field Trip for Kansas State University students, “Emerging and Exotic Diseases of Food Animals Threaten Global Food Security”, Ames, IA. September 25, 2015.

National Environmental Health Association, Region 4 meeting, Panel discussion on the avian influenza outbreak in the Midwest. Waterloo, IA. October 8, 2015.

Iowa Veterinary Rapid Response Team (IVRRT) meeting. Poultry Biosecurity Recommendations. Ames, IA. November 5, 2015.

Academy of Veterinary Consultants. “Secure Beef Supply Plan: Federal, State, Industry, and Academic Partnership”, Kansas City, MO. Dec 4, 2015.

2015 Webinars

North Carolina Department of Agriculture, Emergency Programs Division. “Secure Food Supply Plans Webinar”, March 12, 2015.

North American Veterinary Conference VetFolio Webinar on “Safety and Efficacy: Vaccinating Young Animals”, March 17, 2015.

Clinician Outreach and Communication Activity, CDC Emergency Communication System Webinar: "Emerging and Exotic Diseases of Food Animals Threatening Global Food Security" 388 participants in the webinar. May 28, 2015.

Iowa Public Health Association Webinar. “Avian Influenza: Outbreak in Spring 2015 and Preparing for Fall 2015”. July 7, 2015.

National Collegiate Honors Council, Institute on Food and Politics, “Emerging diseases of food animals threaten global food security”. Ames, IA. August 14, 2015.

Webinar for Watt Publishing: “Biosecurity can keep avian flu out of your poultry house”. October 9, 2015.

BVD Zero Live Web Congress, “Humoral and Cellular Immunity in BVD Vaccination”, **Barcelona, Spain**, November 18, 2015.

2015 Participation in Advisory Committees, Council Meetings, etc.

National Workshop on Livestock Carcass Management Logistics, Kansas City, MO. Mar. 18-19, 2015.

USDA Avian Influenza Outbreak Lessons Learned Conference, Des Moines, IA July 28-29, 2015.

Institute for Laboratory Animal Research Council Meeting at National Academies of Science. Washington, D.C. Sept 29-30, 2015.

Iowa HPAI review and moving forward meeting, Iowa Department of Agriculture and Land Stewardship, Des Moines, IA. October 7, 2015.

US Animal Health Association Meeting, Participated in several committee meetings related to the Secure Food Supply projects. Providence, RI. October 23 – 27, 2015.

Board on Life Sciences, National Academy of Sciences, Committee on “One-Health Research Fellowships in Pakistan” 2015.

Vaccines Against Antigenically Variable Viruses Symposium, Served as a session Chair. Ames, IA. Nov 6 – 8, 2015.

State of Minnesota, Poultry/Poultry Product Permitted Movement Meeting. Chaska, MN. December 4, 2015.

State of Iowa Foreign Animal Disease Preparedness and Response, Panel discussion led by Iowa Secretary of Agriculture. Des Moines, IA. Dec 18, 2015.

2015 Meetings Organized

Secure Beef Supply Plan Inaugural Meeting, Kansas City, Mo, Jan. 13, 2015

Determining Release and Throughout Dating Potency Specifications: A U.S. Regulatory Policy Workshop. Ames, IA. Apr. 21-22, 2015.

IICAB Veterinary Biologics Training Program, Ames, IA. May 11-15, 2015.

2016 Invited Presentations

Iowa Emergency Disease Response Committee, “Secure Poultry Supply Plans” Des Moines, IA. January 15, 2016.

Testimony Before the U.S. House of Representatives Agriculture Subcommittee on Livestock and Foreign Agriculture, “Impact of an Outbreak of Foot and Mouth Disease (FMD) in the United States and the Urgent Need for an Adequate Stockpile of FMD Vaccine”, Washington, DC, February, 11, 2016.

American Association of Swine Veterinarians, “Secure Food Supply Plans” New Orleans, LA. February 28, 2016.

Secure Pork Supply Implementation Task Force, “Overview of Secure Pork Supply (SPS) Plan” and “Lessons learned during HPAI and overview of challenges for implementation of the SPS Plan”, Des Moines, IA. March 30, 2016.

National Institute for Animal Agriculture Annual Meeting, General Session presentation: “Evolution of Biosecurity – Recommendations for the Secure Food Supply Plans” Kansas City, MO. April 5, 2016

Boehringer Ingelheim Vetmedica, Inc. Swine Academy. “Basic Principles of Immunology and Vaccinology” (8 hours). Ames, IA, April 25, 2016.

Western States Livestock Health Association Meeting. “Secure Beef Supply Plan”. Sunriver Resort, Sunriver, OR, May 25-27, 2016

World Buiatrics Conference, Make BVD History Symposium “Humoral and cellular immunity to BVDV vaccination and role in protection” **Dublin, Ireland**, July 5, 2016.

Presentation to Iowa Secretary of Agriculture Bill Northey on preparedness for and consequences of an FMD outbreak in Iowa. Des Moines, IA. July 11, 2016.

Iowa Biotech Association, Animal Health in the Heartland Symposium. “Traditional Outbreak Management Practices in the U.S.” Omaha, NE. July 20, 2016.

Boehringer Ingelheim Vetmedica, Inc. Swine Academy. “Basic Principles of Immunology and Vaccinology” (8 hours). Ames, IA, July 25, 2016.

American Veterinary Medical Association Annual Meeting. “Integrating One Health Concepts in Addressing Emerging and Re-emerging Diseases”. San Antonio, TX. August 7, 2016.

Symposium on the Vital 90 Days: The Beginning of a Successful Lactation. "Suppression of neutrophil function in the pathogenesis of bacterial infections in the transition cow", **Puerto Vallarta, Jalisco, México**, August 18-20, 2016.

BIVI BVD Experts Meeting on Bovela Vaccine. “Dynamic of Immunity Study Results”. Kansas City, MO. September 6-7, 2016.

National Association of State Animal Health Officials at the US Animal Health Association Meeting. “Secure Food Supply Plans” Greensboro, NC. October 15, 2016.

Iowa’s Preparedness for and Response to a Foot and Mouth Disease Outbreak, Meeting organized at the request of Congressman Steve King. “FMD–Importance and likely impact - Secure Food Supply Plans- Need for FMD vaccine”. Ames, IA. October 24, 2016.

President’s Council of Advisors on Science and Technology. “Vulnerability of U.S. Animal Agriculture and Food Production to Accidental or Intentional Disease Introduction”. Washington, DC. November 18, 2016.

Workshop on Foot and Mouth Disease Vaccine: Surge Capacity and Priorities for Emergency Use. “Background on FMD vaccination” and “Summary of results of industry veterinarian survey “. Riverdale, MD. December 15, 2016.

2016 Webinars

CDC Advisory Committee on Immunization Practices, Zoster Work Group, “Safety of Adjuvanted Vaccines in Animals”, February 1, 2016.

Packer/Processor Webinar, “Secure Beef Supply and Secure Pork Supply”, February 9, 2016.

Multi-State Partnership in Agriculture, “The Secure Poultry Supply Plans – Implementation during 2015 HPAI” and “Update on the Secure Beef Supply Plan”, February 16, 2016.

Keynote Speaker for Webinar with Agriculture Officials from South Korea and USDA APHIS Veterinary Services. “Biosecurity for Control of Foot and Mouth Disease in Swine”, March 24, 2016.

USDA APHIS Training and Exercise Program, “Update on Secure Food Supply Plans”. July 12, 2016.

Zoetis Industry Briefing on FMD LL3B3D Vaccine, “Vulnerability of U.S. Agriculture and National Economy to Foot and Mouth Disease”. August 10, 2016.

National Veterinary Stockpile Intra-Governmental Advisory Committee for Strategic Steering. “Update on Transboundary Animal Biologics, Inc. Activities”. Riverdale, MD, December 13, 2016.

2016 Participation in Advisory Committees, Council Meetings, etc.

American Society for Microbiology (ASM) Public and Scientific Affairs Board Meeting, Washington, DC, February 4, 2016.

2016 ASM Microbe Meeting, Public and Scientific Affairs Advisory Board, Committee on Agricultural and Food Microbiology. Boston, MA. June 16-20, 2016.

Institute for Infectious Animal Diseases, Classical Swine Fever Exercise, College Station, TX. August 2-3, 2016.

Palo Duro II Functional Exercise on FMD. Amarillo, TX. August 16-17, 2016.

Institute for Laboratory Animal Research Advisory Council, Washington, DC. November 17, 2016.

2016 Meetings Organized

“Alternatives to Antibiotics: Challenges and Solutions in Animal Production”, Organized with USDA ARS. Ames, IA. April 5-7, 2016.

IICAB Veterinary Biologics Training Program, Ames, IA. May 16-20, 2016.

“Raising Awareness among Iowa Stakeholders of the Consequences of a Foot and Mouth Disease Outbreak” A series of 4 meetings organized with Iowa Department of Agriculture and Land Stewardship:

Livestock Producers, Ames, IA. June 20, 2016

Crop Producers and Coops, Ames, IA. June 21, 2016.

Packers and Processors, Des Moines, IA. September 19, 2016

Food Retailers, Des Moines, IA. November 28, 2016.

Financial Institutions, Des Moines, IA. November 29, 2016.

Workshop on Foot and Mouth Disease Vaccine: Surge Capacity and Priorities for Emergency Use.

Riverdale, MD December 15, 2016.

Iowa's Preparedness for and Response to a Foot and Mouth Disease Outbreak, Meeting organized at the request of Congressman Steve King. Ames, IA. October 24, 2016.

2017 Invited Presentations

Secure Beef Supply Steering Committee: "Update on FMD Vaccine Strategy", Kansas City, MO. Jan 18-19, 2017.

Iowa Board of Regents Meeting: "Research that leads to the National Academy of Medicine". Ames, IA. Feb, 23, 2017

Secure Pork Supply Implementation Taskforce, "Secure Pork Supply Plan; Federal, Industry, State and Academic Partnership". Des Moines, IA. March 8-9, 2017

Partnering for Growth; Biotech Innovation Showcase & Forum: "Development of a Marker Vaccine and Companion Diagnostic Test for Nipah Virus". Ankeny, IA Mar 21-22, 2017.

IPPA FAD Preparedness Task Force: "FAD Response and Recovery Plan". Clive, IA. Mar 31, 2017.

Iowa's Preparedness for and Response to a Foot and Mouth Disease Outbreak Follow Up Meeting for Congressman King: "Preparedness and Control Challenges for an Outbreak of Foot and Mouth Disease in Iowa". Ames, IA. Apr 24, 2017.

Iowa Bankers Association, Ag Lending Committee: "Financial Institutions Role in an Outbreak of Foot and Mouth Disease". Des Moines, IA. Apr 11, 2017.

Zoetis Professional Services Workshop, Increasing Our Impact: "Immunology and Vaccinology ". Lincoln, NE. Apr 20, 2017.

ELANCO Dairy Technical Team: "Principles of Immunology and Vaccination: Review and Discussion" Denver, CO. June 7, 2017.

US Meat Export Federation: "Managing the impact of a foot and mouth disease outbreak in the US on international trade". Denver, CO. June 8, 2017.

Manning, Iowa Rotary Club: "Preparedness and Control Challenges For an Outbreak of Foot and Mouth Disease in Iowa". Manning, Iowa. June 13, 2017

Iowa Swine Day: "Planning for a Secure Pork Supply in the Event of a Foreign Animal Disease Outbreak". Ames, IA June 29, 2017.

South Dakota Governor's Agriculture Summit: "Managing the Impact of a Foreign Animal Disease Outbreak in the US". Aberdeen, SD. July 13, 2017.

USDA APHIS Rendering Workshop: "Potential Need for Rendering as a Carcass Disposal Option within Secure Food Supply Plans". Riverdale, MD. July 18, 2017.

Iowa Farm Bureau's 2017 Economic Summit: "Updates to the Iowa FMD and Livestock Emergency Management Plans". Ames, IA. July 20, 2017.

Iowa Ag State Farm Bill Task Force Meeting: "Update on Highly Pathogenic Avian Influenza and Foot and Mouth Disease (FMD) Emergency Management Plans". Johnston, IA. August 3, 2017.

Merck Swine Customer Meeting: "A Secure Pork Supply and Foreign Animal Diseases" Kansas City, MO. August 30, 2017.

Bill and Melinda Gates Foundation: "Center for Food Security and Public Health Online Education" and "OIE Day 1 Competencies: A Demonstration Project". Seattle, WA. September 12, 2017.

American Association of Bovine Practitioners Pre-Conference Seminar: "The planned response to an FMD outbreak is not what it used to be". Omaha, NE. September 15, 2017.

Boehringer Ingelheim Animal Health Swine Technical Team Meeting: "Influenza Virus of Swine, Immunology and Vaccinology". St. Paul, MN. September 19, 2017.

NPPC and NCBA Meetings on Capital Hill with House and Senate Agriculture Committee majority and minority Staffers: "Funding for FMD Preparedness Issues for the Next Farm Bill". Washington, DC. October 4, 2017.

2017 International Symposium on Animal Environment and Welfare: "Biosecurity for a Secure Animal Protein Supply". Rongchang, Chongqing, **China**. October 24, 2017.

Global Foot and Mouth Disease Research Alliance Annual Meeting. "Preparedness and Control Challenges for an Outbreak of FMD in the United States". Seoul, **South Korea**, October 26, 2017.

Biosafety Level 4 Zoonotic Diseases Network (BSL4ZNet) Gap Analysis Workshop: "Veterinary Vaccines for Rapid Response to a Nipah Virus Outbreak" Winnipeg, **Canada**, November 14, 2017.

2017 Webinars

Iowa Pork Producers Association Task Force: "Foreign Animal Disease Preparedness" January 4, 2017

Institute for Laboratory Animal Research Council (National Academies of Science), Pakistan One Health Webinar Series: "Navigating the Peer Review Process". June 7, 2017.

World Aquaculture Society Meeting: "Evolving Approach to Biosecurity in the U.S. Poultry and Livestock Industries". Cape Town, South Africa. June 30, 2017.

USDA APHIS FMD Incident Command Group Webinar: "Potential Financial Impact of an FAD Outbreak", September 27, 2017.

2017 Participation in Advisory Committees, Council Meetings, etc.

American Society for Microbiology, Public and Scientific Affairs Board Meeting. Washington DC. Feb 2-3, 2017.

Iowa Turkey Federation HPAI (Human Health) Meeting, Ames, IA Apr 13, 2017

Iowa Department of Agriculture and Land Stewardship, FMD Response Plan Validation Tabletop Exercise. Des Moines, IA June 15, 2017.

Johns Hopkins Center for Health Security, National Biodefense Strategy. Washington, D.C. June 22, 2017.

Pan American Health Organization, Strengthening Inter-Sectoral Influenza Surveillance and Response Meeting. Washington, DC, October 2-3, 2017.

National Academy of Medicine Annual Meeting. Washington, DC. October 14-15, 2017.

Global Foot and Mouth Disease Research Alliance Annual Meeting. Seoul, **South Korea**, October 26, 2017

2nd OIE Global Conference on Biological Threat Reduction. Ottawa, **Canada**. November 1-2, 2017.

Biosafety Level 4 Zoonotic Diseases Network (BSL4ZNet) Gap Analysis Workshop. Winnipeg, **Canada**, November 14, 2017.

Institute for Laboratory Animal Research Council Meeting (National Academies of Science). Washington, DC. November 30 - December 1, 2017.

2017 Meetings Organized

Secure Beef Supply Steering Committee. Kansas City, MO. January 18-19, 2017.

IICAB Veterinary Biologics Training Program, Ames, IA. May 15-19, 2017.

Secure Pork Supply Implementation Taskforce. Clive, IA. June 28, 2017.

2018 Invited Presentations

Iowa Pork Congress. “Foreign Animal Disease Preparedness: What Should You Know?”
Des Moines, IA January 25, 2018

National Cattlemen’s Beef Association. Cattle Health and Well-Being Committee. “The Value of an Expanded U.S. FMD Vaccine Bank for the Beef Cattle Industry” Phoenix, AZ. February 2, 2018

National Cattlemen’s Beef Association. Agriculture and Food Policy Committee. “Need for the Foot and Mouth Disease Vaccine Bank within the 2018 Farm Bill” Phoenix, AZ. February 2, 2018

Iowa Veterinary Medical Association Annual Meeting. “Preparedness for Foot and Mouth Disease, Classical Swine Fever, and African Swine Fever”. Des Moines, IA. February 14, 2018.

American Association of Veterinary Medical Colleges Annual Meeting, Leadership Academy Alumni Reunion. “Serving Unmet Needs: A Leadership Journey”. Washington, DC. March 2, 2018.

Food and Drug Administration, Center for Veterinary Medicine. “National Veterinary Accreditation

Program, Antimicrobial Resistance Modules”. Rockville, MD. April 17, 2018.

Food Safety Inspection Service. “Potential for the CFSPH at Iowa State University to work with FSIS to develop and deliver educational materials for FSIS public health veterinarians, inspectors, or other audiences”. Washington, DC. April 16, 2018.

Merck Animal Health Canada. “Overview: Principles of Immunology and Vaccination” (12 hours). **Toronto, Ontario, Canada.** June 26-27, 2018.

The Economics of Animal Health & Biosecurity Workshop. “The Value of an Expanded U.S. FMD Vaccine Bank for the Livestock Industry”. Washington, DC. August 8, 2018.

UC Davis Schalm Lectureship Program, “Transboundary and Emerging Diseases of Food Animals Threaten Global Food Security” and “Response to an Outbreak of Foot and Mouth Disease (FMD) in the U.S.”. Davis, CA. October 6-8, 2018.

Ames Noon Rotary Club. “Overview of Zoonotic Diseases”. Ames, IA. October 29, 2018.

Biogenesis Bago Technical Working Group. “Technological and Epidemiological Trends in Porcine and Bovine Vaccines”. **Buenos Aires, Argentina.** November 6, 2018.

Argentine National Academy of Agronomy and Veterinary Medicine. “Vulnerability of North America to the Introduction of Foot and Mouth Disease and Approaches to Increase Preparedness”. **Buenos Aires, Argentina.** November 8, 2018.

2018 Webinars

Food Safety Inspection Service, Science and Technology Seminar Series, “Secure Food Supply Plans in a Foreign Animal Disease Outbreak: Federal, State, Industry, and Academic Partnerships” April 4, 2018.

Immunology/Vaccinology Webinars for MSD Animal Health in the United Kingdom. “New Concepts in Immunology Leading to Improved Vaccines and Vaccine Usage” and “Response to Questions from UK Veterinarians”. Recorded for continuous use.

USDA APHIS Veterinary Services Training and Exercise Program. “Phases and Types of an African Swine Fever Outbreak in the United States”. November 26, 2018.

2018 Participation in Advisory Committees, Council Meetings, etc.

Government Accountability Office. Two hour conference call on issues related to the need for an expanded FMD vaccine bank for the U.S. February 13, 2018.

American Society for Microbiology, Public and Scientific Affairs Board, Washington, DC. March 1–3, 2018.

USDA APHIS Veterinary Services. Classical Swine Fever Vaccine Tabletop Exercise. Participation by teleconference, April 24, 2018.

USDA APHIS Veterinary Services National Training and Exercise Program, ARMAR FMD

Functional Exercise. Riverdale, MD, May 8-10, 2018.

National Assembly of State Animal Health Officials, Executive Committee. Review Draft Framework for Interstate Movement Decisions during a Foot and Mouth Disease Outbreak in the United States. Kansas City, MO. October 21, 2018.

United Nations Food and Agriculture Organization. Good Emergency Management Practices Technical Working Group. **Rome, Italy**. December 11-12, 2018.

2018 Meetings Organized

IICAB Veterinary Biologics Training Program, Ames, IA. May 14-18, 2018.

Iowa Department of Agriculture and Land Stewardship, Avian Influenza Response Workshop. Ames, IA. May 30, 2018.

2019 Invited Presentations

Collegiate United Methodist Church, “Emerging Diseases of Food Animals Threaten Global Food Security”, Ames, IA. Jan 20, 2019.

Ames Morning Rotary. “Secure Food Supply Plans in a Foreign Animal Disease Outbreak Federal, State, Industry, and Academic Partnerships”. Ames, IA. Mar. 27, 2019.

U.S. Government-sponsored Biodefense Summit on Implementation of the National Biodefense Strategy. Serve as a panelist for Goal 2 of the National Biodefense Strategy: “Ensure Biodefense Enterprise Capabilities to Prevent Bioincidents: Animal Agriculture Perspective”. National Academy of Sciences, Washington, D.C April 17, 2019.

African Swine Fever Forum. “Potential for Zoning and other Approaches to Mitigate Trade Impacts in an ASF Outbreak in the United States”. **Ottawa, Canada**, Apr 30 – May 1, 2019.

Chulalongkorn University Veterinary Conferences (CUVC). **Bangkok, Thailand**. Apr 24-26, 2019.

- “ASF Threat, a Global Perspective”
- “Secure Pork Supply Plan: Maintaining National Food Security in an Outbreak of Foreign Animal Diseases”
- “Principles of Swine Immunology”
- “Principles of Swine Vaccinology”

Ames Golden Kiwanis. “Secure Food Supply Plans in a Foreign Animal Disease Outbreak”. Ames, IA. July 18, 2019.

Boehringer Ingelheim Bovine Viral Diarrhea Virus Key Opinion Leaders Conference. “Comparison of Humoral and T-Cell-Mediated Immune Responses to a Single Dose Of Bovela® Live Double Deleted BVDV Vaccine or to a Field Strain”. Atlanta, GA. Sept 17-18, 2019.

Greenhills Retirement Community. “Emerging Diseases of Food Animals Threatens Global Food Security”. Ames, IA. Sept 11, 2019.

US Animal Health Association Annual Meeting. Committee on Animal Emergency Management. “Framework for Interstate Movement Decisions During a Foot and Mouth Disease Outbreak in the United States”. Providence, RI. Oct 25-28, 2019.

National Alliance of State Animal and Agricultural Emergency Programs. “Update on the Secure Food Supply Plans”. Bellevue, WA. Dec 10-12, 2019

2019 Webinars

National Swine Disease Council. “Potential to Export Fresh Pork in the Event of an African Swine Fever Outbreak in the United States”. April 19, 2019.

National Assembly of State Animal Health Officials. “Framework for Interstate Movement Decisions During a Foot and Mouth Disease Outbreak in the United States”. May 30, 2019.

National Pork Producers Council. “Keep America First in Agriculture, Fund the FMD Vaccine Bank. Media Briefing”. Oct 1, 2019.

2019 Participation in Advisory Committees, Site Visits, etc.

USDA APHIS Veterinary Services National Training and Exercise Program. African Swine Fever Planning Exercise. Ames, IA. Feb 27-28, 2019.

Case Study Review Committee, Swine Health Information Center “Is it time for an NPIP like program for the US pork industry?”. Clive, IA. May 7, 2019.

North American Foot and Mouth Disease Vaccine Bank meeting with Biogenesis Bago (Argentina) and Transboundary Animal Biologics, Inc. regarding stockpiling FMD vaccine. Philadelphia, PA. June 6-7, 2019.

USDA APHIS National Bio-Agrodefense Facility (NBAF) Scientist Training Program (NSTP) research symposium. Manhattan, KS. June 18-20, 2019.

2019 Elanco Pet Vaccine Advisory Board meeting. San Francisco, CA. Jun 11-13, 2019.

USDA National Veterinary Stockpile Exercise with Biogenesis Bago and Transboundary Animal Biologics, Inc. on FMD vaccine production, shipping and delivery. Ames, IA. July 30, 2019.

Secure Sheep and Wool Supply Plan. Tour of sheep industry in Colorado, Greeley and Edwards, CO. Aug 14-15, 2019.

USDA APHIS Veterinary Services National Training and Exercise Program. Swine Fever Exercise for Agriculture Response (SFEAR). Riverdale, MD. Sept 23-26, 2019.

Royal University of Agriculture, Faculty of Veterinary Medicine site visit for the Bill and Melinda Gates Foundation project on Day One Platform for Veterinary Education. **Phnom Penh, Cambodia**. Nov 15-23, 2019.

2019 Meetings Organized

IICAB Veterinary Biologics Training Program, Ames, IA. May 20-24, 2019.

2020 Invited Presentations

Iowa Veterinary Medical Association Winter meeting. “African Swine Fever: Strain Differences and Virulence”. February 12, 2020. Des Moines, IA.

Iowa Veterinary Medical Association Winter meeting. “Overview of the Secure Beef Supply Program”. February 13, 2020. Des Moines, IA.

IABS 65th Anniversary Meeting on New paths for sustainable solutions to tackle global and emerging infectious threats. “Prevention and control of animal infectious diseases that threaten global food security and public health” February 26th - 28th, 2020. **Lyon, France**

2020 Webinars

Ames Noon Rotary. “Selected Infectious Diseases of Swine that Threaten Global Food Security and Public Health”. July 13, 2020.

Iowa Department of Agriculture and Land Stewardship Foot-and-Mouth Disease Vaccine Workshop. “Considerations for FMD Vaccination”. July 29, 2020.

Live BVDV Vaccine and Joint Meeting of USDA Center for Veterinary Biologics, Boehringer Ingelheim, and Key Opinion Leaders. “Comparison of Humoral and T-Cell-Mediated Immune Responses to a Single Dose Of Bovela® Live Double Deleted BVDV Vaccine or to a Field Strain”. August 26, 2020.

Biogenesis Bago Webinar on BVDV Vaccination Technology for Argentina. “Humoral and Cellular Immunity in BVD Vaccination”. August 28, 2020.

Congress of Entities and Foundations of Animal Health 2020. “Vulnerability of the United States to the Introduction of Foot and Mouth Disease and Approaches to Increase Preparedness” October 21, 2020. **Buenos Aires, Argentina.** (Virtual)

Osher Lifelong Learning Institute. “Prevention and Control of Animal Infectious Diseases that Threaten Global Food Security and Public Health” November 4, 2020.

Ames Noon Kiwanis. “Transboundary and Emerging Diseases of Food Animals Threaten Global Food Security” November 6, 2020.

ISU Alumni Association Eighth Annual Rock on in Retirement Symposium. “Food Supply and Public Health - Center for Food Security and Public Health (CFSPH) – Overview of our mission” November 10, 2020.

2020 Participation in Advisory Committees, Site Visits, etc.

Site visit with USDA APHIS Center for Veterinary Biologics of the FMD vaccine production facility at Biogenesis Bago. January 6 to 9, 2020. **Buenos Aires, Argentina**

World Organization for Animal Health (OIE) meeting on the Governance of the OIE Platform for the Training of Veterinary Services. January 28 to 29, 2020. **Paris, France**

World Organization for Animal Health (OIE) Meeting of the OIE ad hoc Group on Veterinary Emergencies, February 25, 2020. **Paris, France**

Meeting of the World Organization for Animal Health Ad Hoc Group on Compartmentalisation for African swine fever. March 3-5, 2020. **Paris, France**

National Animal Disease Preparedness and Response Program (NADPRP) Consultation Board. Multiple virtual meetings during 2020.

National Bio and Agro Defense Workforce Development Symposium. August 11, 2020. Manhattan, KS. (virtual)

2020 Meetings Organized

Iowa Department of Agriculture and Land Stewardship Foot-and-Mouth Disease Vaccine Workshop (virtual). July 29, 2020.

Iowa Department of Agriculture and Land Stewardship Foot-and-Mouth Disease Vaccination Plan for Iowa: Swine Focused Workshop (virtual). November 12, 2020.

Iowa Department of Agriculture and Land Stewardship Foot-and-Mouth Disease Vaccination Plan for Iowa: Ruminant Focused Workshop (virtual). November 23, 2020.

Iowa Department of Agriculture and Land Stewardship Foot-and-Mouth Disease Vaccination Plan for Iowa: All Species Workshop (virtual). December 7, 2020.

Iowa Department of Agriculture and Land Stewardship Foot-and-Mouth Disease Vaccination Plan for Iowa: Tabletop Exercise (virtual). December 15-16, 2020.

2021 Invited Presentations

Agriculture Think Tank Meeting. Overview of the evolving response to FMD in the U.S.” Ames, IA November 29, 2021.

2021 Invited Webinars

Coalition for Epi Response, Engagement and Science (CERES), Biosecurity, Infectious Disease, and the Animal Human Interface webinar. “National Panzootic Plans for Livestock”. January 28, 2021,

Iowa Veterinary Medical Association. “Secure Pork Supply Plan Update”. February 12, 2021.

Iowa Department of Agriculture and Land Stewardship; Foreign Animal Disease Webinar. “Foot and Mouth Disease (FMD) Awareness and Vaccination Planning”. April 12, 2021.

Food and Agriculture Organization of the United Nations – Launch of Veterinary Vaccines: Principles and Applications. “Panel discussion: Views from the authors and users”. May 12, 2021.

BioConnect Iowa; Vaccines and Immunotherapeutics Platform. “Veterinary Biologics Training Program: What you need to know to get a veterinary biologic licensed”. May 13, 2021.

Iowa Foreign Animal Disease (FAD) Preparedness and Response webinar series. “Secure Pork

Supply Plan – Continuity of Business in the Event of an ASF, CSF or FMD Outbreak”. June 23, 2021.

USDA APHIS Veterinary Services National Training and Exercise Program. “Developing, Refining, and Exercising the Iowa Emergency FMD Vaccination Plan”. July 13, 2021.

2021 National Veterinary Summer Scholars Symposium. Keynote Presentation: “Infectious disease control through research, policy development, and education”. August 5, 2021.

American Association for the Advancement of Science Charles Valentine Memorial Lecture (virtual). “Zoonotic Diseases of Food Animals Threaten Global Food Security and Public Health”. August 24, 2021.

2021 Participation in Advisory Committees

USDA APHIS National Animal Disease Preparedness and Response Program Consultation Board. Multiple virtual meetings during 2021.

ISU PIRI Grant Review Committee. Virtual meetings.

International Association of Biological Standards, Veterinary Biologics Committee. Multiple virtual meetings during 2021.

US Swine Health Improvement Program General Conference Committee. Multiple virtual meetings during 2021.

A Global Paradigm Shift in the Perception of “FMD-Free with Vaccination” Status for Safe Trade of Animal Products: A Position Paper with South America as Case Example. Expert consultant. Multiple virtual meetings.

World Organization for Animal Health (OIE); Platform for the Training of Veterinary Services; Governance Committee. Multiple virtual meetings during 2021.

National Bio and Agro Defense Workforce Development Symposium. May 24-28, 2021. Manhattan, KS. (virtual)

National Veterinary Stockpile Vaccine Logistics Exercise. Virtual meeting September 7-13, 2021.

2021 Meetings Organized

Iowa Department of Agriculture and Land Stewardship African Swine Fever Packing Plant Plan Tabletop Exercise. Johnston, IA. September 29, 2021.

IICAB Veterinary Biologics Training Program (virtual). October 1, 2021 – November 30, 2021.

2022 Invited Presentations

Iowa Veterinary Medical Association. “Factors to Consider in Designing

an African Swine Fever (ASF) Eradication Program”. Des Moines, IA. Feb 10, 2022.

Prevention and Control of Animal Infectious Diseases that Threaten Global Food Security and Public Health. University of Nebraska, Lincoln, NE. April 13, 2022.

National Association of State Animal Agriculture Emergency Programs. “Framework for Interstate Movement Decisions During an FMD Outbreak in the United States”. Minneapolis, MN. May 25, 2022.

Iowa Department of Agriculture and Land Stewardship and Iowa Cattleman’s Association Foot and Mouth Disease (FMD) Tabletop Exercise. “Overview of Foot and Mouth Disease”. Ames, IA. June 1, 2022.

Iowa Department of Agriculture and Land Stewardship African Swine Fever Tabletop Exercise. “African Swine Fever”. Ames. IA. July 1, 2022.

Iowa Veterinary Medical Association. “Factors to Consider in Designing an African Swine Fever (ASF) Eradication Program”. Des Moines, IA. Feb 10, 2022.

2022 Webinars

African Swine Fever Eradication Plan Working Group. “Factors to Consider in Designing an African Swine Fever (ASF) Eradication Program” May 3, 2022.

Framework for FMD Interstate Movement Decisions Working Group. “Framework for Interstate Movement Decisions During an FMD Outbreak in the United States” June 20, 2022.

African Swine Fever Eradication Plan Working Group. “Factors to Consider in Designing an African Swine Fever (ASF) Eradication Plan”. June 27, 2022.

Framework for FMD Interstate Movement Decisions Working Group. “Update on the Framework for Interstate Movement Decisions During an FMD Outbreak in the United States.” September 19, 2022.

African Swine Fever Eradication Plan Working Group. “Update on Factors to Consider in Designing an African Swine Fever (ASF) Eradication Program” October 5, 2022.

North American Meat Institute Packer Foreign Animal Disease Working Group. “Framework for Interstate Movement Decisions During an FMD Outbreak in the United States” November 7, 2022.

USDA-APHIS ASF Slaughter Plant Working Group. “Factors to Consider in Designing an African Swine Fever (ASF) Eradication Plan”. November 15, 2022.

Framework for Interstate Movement Decisions During an FMD Outbreak Working Group:

“Rapid Surveillance”. Dec 15, 2022.

Framework for Interstate Movement Decisions During an FMD Outbreak Working Group:
“FMD Monitored State (Free without Vaccination)”. Dec 16, 2022.

2022 Participation in Advisory Committees

US Swine Health Improvement Plan House of Delegates Meeting. Minneapolis, MN. September 6-8, 2022.

White House Roundtable on Strengthening the Security and Resilience of United States Food and Agriculture. Washington, DC, November 8, 2022.

Secure Food Supply Program Development. National Pork Board. Clive, IA. November 30, 2022.

2022 Meetings Organized

Iowa Department of Agriculture and Land Stewardship and Iowa Cattleman’s Association Foot and Mouth Disease (FMD) Tabletop Exercise. Ames, IA. June 1, 2022.

Iowa Department of Agriculture and Land Stewardship, High Pathogenic Avian Influenza (HPAI) Producer Preparedness Day. Ames, IA. September 23, 2022.

Iowa Department of Agriculture and Land Stewardship, Incident Command System Training. Des Moines, IA. September 27-28, 2022.

IICAB Veterinary Biologics Training Program. October 17, 2022 – October 21, 2022.

January 1 through June 30, 2023

2023 Invited Presentations

World Vaccine Congress, Washington DC. “The need for vaccines against transboundary diseases of livestock for pandemic preparedness and food security” April 5, 2023

TAFS FMD Conference “Towards a Paradigm Shift on the FMD-Free with Vaccination Status” Keynote Presentation. “Animal Disease Emergency Preparedness: New Challenges”. **Seoul, South Korea**, May 31, 2023.

2023 Webinars

African Swine Fever Eradication Plan Working Group. “Factors to Consider in Designing an

African Swine Fever (ASF) Eradication Program”. February 14, 2023

Swine Health Improvement Program General Conference Committee Officers. “Factors to Consider in Designing an African Swine Fever (ASF) Eradication Program”. March 2, 2023

National Association of State Animal Health Officials African Swine Fever Working Group. “Factors to Consider in Designing an African Swine Fever (ASF) Eradication Program”. March 3, 2023

National Pork Board Foreign Animal Disease Research Task Force. “Factors to Consider in Designing an African Swine Fever (ASF) Eradication Program”. March 23, 2023

FMD Framework Working Group. “Framework for Interstate Movement Decisions During an FMD Outbreak in the U.S.” March 24, 2023

United States Animal Health Association Committee on Animal Emergency Management. “Factors to Consider in Designing an African Swine Fever (ASF) Eradication Program”. March 30, 2023

National Association of State Animal Agriculture Emergency Programs. “Foot and Mouth Disease (FMD) Framework for Animal Movements During an FMD Outbreak” June 21, 2023

2023 Participation in Advisory Committees

National Bio-Agrodefense Facility Biologics Development Module Stakeholder Meeting, Manhattan, KS. June 21-22, 2023

2023 Media Interviews

Interview at World Vaccine Congress. “Animal Diseases are Red Flags”. April 5, 2023.
<https://vaccination.org/global-health/animal-diseases-are-red-flags-says-professor-james-roth/>

2023 Meetings Organized

IICAB Veterinary Biologics Training Program. Ames, IA. May 15 to 19, 2023

Virtual Workshops on the FMD Framework for Interstate Movement Decisions During an FMD Outbreak in the U.S.

- Workshop 1 – FMD checked designation, Rapid Surveillance, and training accredited veterinarians on these concepts (FMD Framework Sections 1 & 2 and App D) – June 20
- <https://vimeo.com/840633857/e5e6df6645?share=copy> 36 min

- Workshop 2 – Vaccination and Animal Identification/Herd Designations (FMD Framework Appendices A, B & C) – June 26
- <https://vimeo.com/840627895/9d0b67f394?share=copy> 41 min
- Workshop 3 – State Status Designations (Framework Document Section 3) – June 28
- <https://vimeo.com/840642058/686e0e1c45?share=copy> 36 min

Contract and Grant Support (updated 8-31-2023)

CONTRACT AND GRANT SUPPORT updated 8-31-2023 (includes 1-1-2022 to 6-30-2023): Dr. Roth has been Principal Investigator or Project Director on **\$49,053,105** in grant support since 1989: including, but not limited to **\$6,581,085** from HHS; **\$30,178,354** from USDA; **\$1,358,505** from DHS; and **\$5,862,910** from industry. Complete list available upon request.

Dr. Roth has been Co-PI on **\$9,235,388**: including, but not limited to **\$471,500** from HHS; **\$5,311,032** from USDA; **\$207,750** from DHS; and **\$917,350** from industry. (Updated: Aug. 2023)

Dr Roth's direct reports have obtained grants in excess of **\$1.4M** during 1-1-2022 to 6-30-2023 with his assistance.

Grants and Contracts –Newly Awarded from 1-1-2022 to 6-30-2023 for a total of **\$1,950,993** including **\$174,218** in Indirect Costs (updated 8-31-2023)

Roth JA PI. President's Chair in Veterinary Microbiology and Preventive Medicine. ISU Foundation. \$85,000 9/20/2022 (yr 7).

Roth JA PI, Framework for Interstate Movement Decisions During a Foot and Mouth Disease Outbreak, USDA-APHIS. \$504,563 including \$50,452 Indirect Costs, 3-15-2022 to 3-14-2024.

Roth JA PI, Flaming, K, Brown G, Bjork, J Co-PIs. Delivery of the Transboundary and Emerging Diseases of Animals Course for Initial Accreditation Training, USDA-APHIS. \$343,430 including \$31,221 Indirect Costs, 9-1-2022 to 8-31-2023.

Main, R PI, **Roth JA,** Zimmerman J, Trevisan G, Rademacher, C Co-PIs. US SHIP Pilot Program, USDA-APHIS. \$1,018,000 including \$92,545 Indirect Costs, 8-15-2022 to 8-14-2024.

Grants and Contracts –Newly Awarded from 1-1-2022 to 6-30-2023 to employees of Roth, JA for a total of \$1,451,437 including \$145,131 in Indirect Costs (updated 8-31-2023)

Dvorak, G PI, NADPRP Clean and Disinfect 101, USDA-APHIS. \$264,110 including \$26,409 Indirect Costs, 2-15-2022 to 2-14-2024.

Leedom-Larson, K PI, NADPRP Biosecurity Your Way, USDA-APHIS. \$239,563 including \$23,954 Indirect Costs, 2-14-2022 to 2-13-2024.

Leedom-Larson, K, PI, NADPRP Producer Biosecurity FAD, USDA-APHIS. \$372,290 including \$37,226 Indirect Costs, 5-1-2023 to 4-30-2025.

Eia, C PI, Prioritizing Essential Animal Disease Outbreak Response Competencies and Developing Foundational and Just-in-Time Training Tools for State and Tribal Animal Health Officials and their Staff, USDA-APHIS. \$575,474 including \$57,542 Indirect Costs, 6-1-2023 to 5-31-2025

Grants and Contracts active in 1-1-2022 to 6-30-2023 (awarded prior to 1-1-2022) for a total of \$5,693,118 including \$513,825 in Indirect Costs (updated 8-31-2023)

Roth JA PI. President's Chair in Veterinary Microbiology and Preventive Medicine. ISU Foundation. \$85,000 10/14/21 (yr 6).

Roth JA PI, APHIS NBAF Scientist Training Program (NSTP). USDA-APHIS. \$318,600, 8-1-2018 to 7-31-2022.

Roth JA PI, Lee M, Ramirez A, Mo-Gazzar, Sato Y, Plummer P, Vengrin C Co-PIs. Online Platform to Meet Veterinary Education Needs Related to OIE Day One Competencies. B&M Gates Foundation. \$1,500,000 including \$136,364 Indirect Costs, 4-12-2019 to 11-30-2022.

Lee M PI, **Roth JA** Co-PI. Platform for Day 1 Veterinary Education. B&M Gates Foundation. \$1,500,000 including \$136,364 Indirect Costs, 10/20/21 to 9/30/23.

Roth, JA PI, Flaming KP Co-PI. Veterinary Countermeasures Biologics Development Based on USDA CV Regulations for Successful Licensure of New Products. USDA ARS. \$86,900.00 including \$7,900 Indirect Costs, 9-1-20 to 6-30-22.

Roth JA PI, Zaabel P, Karriker L, Brown J Co-PIs. Develop, Pilot and Implement Two National Training Programs to Help Build Personnel Capacity and Increase Efficiency during an FAD Outbreak. USDA APHIS. \$309,361 including \$28,124 Indirect, 3-1-20 to 2-28-22.

Main, R PI, **Roth JA**, Rademacher, C, Zimmerman J, Co-PIs. Development and Demonstration of US Swine Health Improvement Plan modeled after the National Poultry Improvement Plan. USDA-APHIS. \$495,000 including \$45,000 Indirect Costs, 8-1-2020 to 7-31-2023.

Roth, JA PI, Lenardon, V, Dvorak, G, Co-PI. Biosecurity Courses for Veterinary Audiences to Increase Implementation of Practical Measures to Protect Animal Health. USDA-APHIS. \$393,097 including \$35,736 Indirect Costs, 3/1/2021 to 12/31/2022.

Roth, JA PI, Daily Biosecurity and Organic/Non-Conventional Livestock Production: Increasing Awareness of Producers and the Animal Health Partners Who Serve Them, USDA-APHIS. \$276,820 including \$25,166 Indirect Costs, 3-1-2021 to 12-31-2022.

Roth, JA PI, Lenardon, V, Dvorak, G, Co-PIs. Biosecurity Courses for Veterinary Audiences to Increase Implementation of Practical Measures to Protect Animal Health. IDALS. \$96,000 including \$8,728 Indirect Costs, 4-15-2021 to 12-31-2022.

Roth, JA PI, Flaming, K, Brown, G, Co-PIs. Delivery of the Transboundary and Emerging Diseases of Animals Course for Initial Accreditation Training, USDA-APHIS. \$248,000 including \$28,909 Indirect Costs, 9-1-2021 to 8-31-2022.

Roth, JA PI, Steneroden, K Co-PI. Expanding Rural Veterinary Practice through Continuing Education in Organic and Non-Conventional Livestock, USDA-NIFA. \$248,000 including \$61,534 Indirect Costs, 9-1-2021 to 8-21-2024.

Roth, JA PI, Development of a White Paper Describing an Eradication Plan for African Swine Fever in the U.S., National Pork Board. \$136,340, 12-27-2021 to 12-31-2022.

Fees for Service Awards active from 1-1-2022 to 6-30-2023 for a total of \$682,426 (updated 8-31-2023)

Lee M, Flaming KP, **Roth JA**. Influenza and Zoonoses Education among Youth in Agriculture Program. IDPH. \$100,000, 5-1-2021 to 7-31-2022.

Lee M, Flaming KP, **Roth JA**. Influenza and Zoonoses Education among Youth in Agriculture Program. IDPH. \$100,000, 5-1-2022 to 7-31-2023.

Roth JA, Bjork J, Flaming KP. Project Firstline - Respiratory Fit Testing. IDPH. \$24,000, 10-1-21 to 5-27-22.

Roth JA, Bjork J, Eia, C. Iowa Farmed Cervid Chronic Wasting Disease Management and Education: Online Continuing Education Courses for Cervid Producers and Veterinarians. IDALS. \$180,000, 9-15-21 to 9-10-22.

Roth JA, HPAI Producer Preparedness Day (Flu Fair). IDALS, \$17,606, 8-29-2022 to 10-31-2022.

Roth JA, Eia, C. ASF Packer Plan. IDALS. \$30,000, 9-1-21 to 4-30-22.

Roth JA, Galyon, J. FMD Vaccine Distribution Concept. IDALS. \$25,000, 8-26-21 to 2-28-22.

Roth JA, Eia C. Contractor will host five one-hour foreign animal disease webinars and two scenario based in-person workshops for Iowa livestock producers and/or veterinarians. IDALS. \$35,250, 1-1-22 to 11-30-22.

Roth JA, American Sheep Industry Association, ASIA \$32,500 12-31-2022 to 6-30-2023

Roth JA, 5 meetings for FAD preparedness, IDALS \$21,570 1-1-2022 to 11-30-2022

Roth JA, Incident Command System training, IDALS \$18,000, 2-15-2022 to 4-30-2022

Roth JA, National Pork Board, CSSC Development, NPB \$28,500 2-8-2022 to 2-7-2023

Bjork, J, **Roth, JA**. IAHHHS Antimicrobial Stewardship, IAHHHS, \$70,000 4-1-2023 to 7-31-2024