CURRICULUM VITAE

I. NAME

Christopher K. Tuggle
Department of Animal Science
2255 Kildee Hall
Iowa State University
Ames, Iowa 50011-3150
(515) 294-4252

DATE: May 18, 2020

II. RANK

Professor

III. EDUCATION

Ph.D.- 1986	Biochemistry, University of Minnesota, Laboratory of James A. Fuchs
B.A. - 1981	Chemistry (Honors, ACS-certified), Saint Cloud State University

IV. PROFESSIONAL EXPERIENCE

2013-2023	National Swine Genome Coordinator, NRSP-8, United States Department of Agriculture
2011-2014	Chair and Director of Graduate Studies, Genetics Graduate Major, Iowa State University
2011	Visiting Professor, University of Edinburgh, Scotland, U.K.
2010-2011	National Fulbright Scholar, US-UK Fulbright Commission
2010-2011	Associate Chair, Genetics Graduate Major, Iowa State University
2007-2009	Chair and Director of Graduate Studies, Bioinformatics and Computational Biology Graduate Program, Iowa State University
2005-2007	Associate Chair, Bioinformatics and Computational Biology Graduate Program, Iowa State University
2008-2014, 2001-2004	Visiting Professor, Huazhong Agricultural University, PRC
2001-present	Professor, Department of Animal Science, Iowa State University
1997	Visiting Scientist, Laboratoire de Genetique Cellulaire, INRA, Toulouse, France.
1995-2001	Associate Professor, Department of Animal Science, Iowa State University
1991-1995	Assistant Professor, Department of Animal Science, Iowa State University
1989-1991	Postdoctoral Research Associate, Department of Microbiology, University of Southern California

1987-1989	Postdoctoral Research Associate, Department of Microbiology and Urology, Columbia University
1981-1986	Graduate Research Assistant, Department of Biochemistry, University of Minnesota

V. ISU PERSONNEL RECORD

2011-2014	Chair and Director of Graduate Studies, Genetics Graduate Major, Iowa State University (Associate Chair, 2010-2011)
2007-2009	Chair and Director of Graduate Studies, Bioinformatics and Computational Biology Graduate Program, Iowa State University (Associate Chair, 2005-2007)
2001-present	Professor, Department of Animal Science, 10% Teaching, 80% Research, 10% Service, 0% Extension
1995-2001	Associate Professor, Department of Animal Science, 20% Teaching, 80% Research, 0% Extension
1991-1995	Assistant Professor, Department of Animal Science, 20% Teaching, 80% Research, 0% Extension

VI. PROFESSIONAL ASSOCIATIONS

American Association for the Advancement of Science
American Association of Immunology
American Society of Animal Science
Gamma Sigma Delta
International Society of Animal Genetics
Sigma Xi

VII. AWARDS, HONORS, AND RECOGNITION

2019-present	Member, Editorial Board, *Frontiers in Genetics* (Livestock Genomics)
2019-present	Election to Executive Committee, International Society of Animal Genetics
2019	External Thesis Reader, Latrobe University (B. Hayes group), Australia
2018-present	Organizing Committee, International Plant and Animal Genome conference
2018-present	Review Panel member, NIH/CSR/SREA/SEP study section
2018	NRSP-8 National Distinguished Lecturer, USDA
2018-present	Member, Editorial Board, *Scientific Reports*
2017-2018	Review Panel member, NSF EPSCoR RII Track 2 study section
2017	Award for Outstanding Achievement in Research, Iowa State University
2015	Regent's Award for Faculty Excellence, Iowa State University
2014	Election to Fellow, American Association for the Advancement of Science
2014	Gamma Sigma Delta Research Award- Iowa State University Chapter
2014-present	Associate Editor, *BMC Genomics*
2013	Iowa State University College of Agriculture and Life Sciences Team Award
2012	External Thesis Opponent, Uppsala University (L. Andersson group), Uppsala, Sweden

2012	Bailey Research Career Development Award, Iowa State University
2011	Iowa State University College of Agriculture and Life Sciences Outstanding Achievement in Research Award
2010-present	Member, Editorial Board, *Advances in Genomics and Gene Expression*
2010-2011	National William J. Fulbright Award to work in Edinburgh, U.K.
2008-2014	Member, International Scientific Advisory Committee, Canadian NSERC-EMBRYOGene project
2006-present	Member, Editorial Board, *Mammalian Genome*
2006-present	Member, Editorial Board, *Animal Biotechnology*
2006-2013	Editor, *Animal Genetics* (Functional Genomics)
2004-2010	Elected Chair, Standing Committee on Comparative and Functional Genomics, International Society for Animal Genetics
2004	Review Panel Member, NIH/NCRR Genotyping Centers Special Emphasis Panel
2002	Review Panel Member, NIH/NIGMS-NSF Special Study Section; "Mathematics in Biology"
2001	Outstanding Researcher Award, American Society of Animal Science, Midwest Region
2000-2004	Elected to Standing Committee on Comparative Mapping, International Society for Animal Genetics
1997	Visiting Scientist Research Award, Institut National de la Recherche Agronomique, Toulouse, France
1996	ISU Foundation Award for Early Achievement in Research
1993- present	Journal Reviewer; Animal Biotechnology, Animal Genetics, Biochimica et Biophysica Acta- Gene Structure and Expression, BMC Genomics, Developmental Dynamics, Gene, Genesis, Genetics Selection Evolution, Genomics, J. Dairy Science, J. Animal Science, Mammalian Genome, Mechanisms of Development, Molecular and Cellular Biology, Physiological Genomics, BMC Genomics, PLosOne,
1991, 1996	Review Panel Member, Animal Molecular Genetics, NRI Competitive Grants Program (USDA)
1987-1990	NIH Postdoctoral Trainee
1986	Biochemistry Graduate Fellowship
1982-1985	NIH Predoctoral Fellow
1977-1981	National Merit Scholar

VIII. RESPONSIBILITIES

A. Teaching and Academic Advising

Current Advising and Mentoring

I am currently the major or co-major advisor for one Master's student. I am serving on a total of twelve POS committees.

a) Current Students for which I serve as Thesis Advisor

Varley, Lisa M.S. (Genetics and Genomics), expected 2020. Title to be determined.
Yang, Pengxin Ph.D. (BBMB), expected 2024. Title to be determined.

b) Postdoctoral/Professional and Scientific staff/Faculty Mentoring:

I am mentoring two postdoctoral associates (Dr. Juber Herrera Uribe, 2018-present, Dr. Lance Daharsh, 2020-present).

Since 2008, I have mentored Jason Ross, originally as Assistant Professor of Animal Science, with Michael Spurlock; Dr. Ross obtained tenure as an Associate Professor in 2014. We have met approximately every six months and reviewed both research plans as well as Dr. Ross's Faculty Activity Reports. I write the mentoring report to the Department Chair.

I informally mentored Dr. Geetu Tuteja, Assistant Professor, Department of Genetics, Development and Cell Biology, during late 2014 to mid-2015 as she transitioned an NIH K99 to independent status at ISU.

c) Visiting Scholar Mentoring

d) Undergraduate mentoring

I am currently mentoring one undergraduate for research work and have hired four additional undergraduates as employees in the SCID pig project. Students on research projects typically are co-authors as their projects are usually successful.

A specific mentoring group was extraordinary-I mentored several undergraduates (a minority student, Yasi Rodriguez, in (Spring 2010), a Freshman Honors student, Ryan Chen (summer 2010), and Megan Bystrom (Fall 2010-Spring 2011)). They worked with me on gene structure predictions and annotations, using new software we have installed here at ISU, in collaboration with the Swine Genome Sequencing Consortium and the Sanger Centre in the U.K. Ryan and Megan were co-authors, as undergraduate students, on the pig genome manuscript in Nature (November 2012) that described this work in my group.

Prior advising/mentoring:

Graduate Degrees Completed for Students as Thesis Advisor/Co-Advisor (reverse chronological order)

Ph.D.

14. Boettcher, Adeline. Ph.D. (Molecular, Cellular and Developmental Biology) 2019. "Development and characterization of an immunologically humanized and cancer xenograft model in pigs with severe combined immunodeficiency (SCID)."

Currently: Postdoctoral Fellow, Northwestern University, Chicago, IL

13. Powell, Ellis. Ph.D. (Genetics), 2017, "Development of the naturally occurring Severe Combined Immunodeficient pig model of Iowa State University with an emphasis on the characterization and immunological exploration of porcine Natural Killer cells."
Currently: Postdoctoral Research Fellow, USDA, Ames, IA

12. Liu, Haibo Ph.D. (Bioinformatics and Computational Biology) 2017. "Swine Blood Transcriptomics: Application and Advancement".
Currently: Associate Scientist, Iowa State University

11. Waide, Emily. Ph.D. (Genetics; with Jack Dekkers) 2015. "Molecular and quantitative genetic basis and control of severe combined immunodeficiency and porcine reproductive and respiratory syndrome in pigs"
Currently: Geneticist, ABS Global.

10. Knetter, Susie. Ph.D. (Interdepartmental Immunobiology), 2013. "Characterizing the porcine immune response to an environmental and pathogenic challenge: swine barn dust and *Salmonella* infection"
Currently: Senior Scientist, Merck Animal Health.

9. Uthe, Jolita. Ph.D. (Interdepartmental Genetics) 2012. "Analyzing factors involved in genetic variation of porcine response to *Salmonella***."**
Currently: Research Scientist, Advanced Analytical Technologies, Inc., Ames, Iowa.

8. Couture, Oliver. Ph.D. (Interdepartmental Genetics—MGET Fellow) 2011. "The use of bioinformatic analysis of microarray data to predict porcine immune response pathways".
Currently: Patent Attorney, McKee, Voorhees & Sease, PLC

7. Aspelund, Sender(graduate work last name: Lkhagvadorj), Ph.D. (Neuroscience) 2010, "Using transcriptional and blood metabolite profiles to understand mechanisms controlling feed efficiency and feed intake in pigs".
Currently: Biologics and Vaccine Downstream Process Development, MedImmune, Gaithersburg, MD

6. Joksimovic, Milan. Ph.D. (Interdepartmental Genetics). 2005. "Analysis of HOXA5 Expression and Function in Development of the Central Nervous System."
Currently: Assistant Professor, Medical College of Wisconsin, Milwaukee, WI.

5. Abbott, Matthew, Ph.D. (Interdepartmental Genetics—USDA- National Needs Fellow), 2004. "Role of *Hoxa5* in spinal cord development: Analysis of structural and molecular effects of ectopic HOXA5 expression in transgenic line Hoxa5SV2."
Currently: Professor of Biology, Des Moines Area Community College, Newton, IA

4. Krieger, Karin E., Ph.D. (Interdepartmental Genetics), 2001 “Functional analysis of the Murine Hox a5 gene”.
Currently: Manager, Genex Cooperative, Inc. and Cooperative Resources International, Shawano, WI

3. Yu, Tun-Ping, Ph.D. (Animal Science), 1998 “The functional and quantitative analysis of pig PIT-1”. (Co-Major Advisor: M. F. Rothschild).
Currently: Research scientist, DNA Landmarks Inc., Quebec, Canada.

2. Heltemes, Lynn, Ph.D. (Microbiology, Immunology, and Preventive Medicine), 1997, “The Oct-2 regulatory gene and immunoglobulin gene expression in chicken”. (Co-Major Advisor: S. J. Lamont).
Currently: Senior Research Associate, University of Minnesota

1. Nowling, Tamara, Ph.D. (Molecular, Cellular and Developmental Biology), 1997, "Regulatory elements involved in spatial specific expression in the mouse”. (Co-Major Advisor: M. Nilsen-Hamilton).
Currently: Associate Professor, Medical University of South Carolina, Charleston, SC

<u>M.S.</u>

5. Mpetile, Ziyanda. M.S. (Animal Science), 2014. Effect of divergent selection for residual feed intake on immune system of Yorkshire pigs**.**
Currently: PhD student, Stellenbosch University, South Africa.

4. Uthe, Jolita. M.S. (Interdepartmental Genetics), 2005, "Transcriptional Profiling of the porcine response to *Salmonella* infection"
Currently: Research scientist, Advanced Analytical Technologies, Inc., Ames, Iowa

3. Liu, Hsiao-Ching, M.S. (Animal Science), 1995, “Identifying genetic markers on chromosome 7 which are associated with performance traits in pigs. (Co-Major Advisor: M. F. Rothschild).
Currently: Associate Professor, North Carolina State University, Raleigh, NC.

2. Stumbaugh, Amber, M.S. (Interdepartmental Genetics), 2001, “Expression and structure of the pig NRAMP gene”.
Currently: deceased.

1. Yu, Tun-Ping, M.S. (Animal Science), 1994, “Cloning and analysis of the swine PIT-1 gene: Use as molecular marker in breeding studies.” (Co-Major Advisor: M. F. Rothschild).
Currently: Research scientist, DNA Landmarks Inc., Quebec, Canada.

<u>Postdoctoral Research Associates Mentored (reverse chronological order):</u>

Name	*Dates*	*Position/current or when left ISU*
Hamid Beiki	2016-2018	Postdoctoral Researcher, Iowa State University
Martine Schroyen	2012-2016	Assistant Professor, University of Liege, Belgium
J. Kyle Grubbs	2013-2016	Assistant Professor, South Dakota State University
Tinghua Huang	2009-2012	Associate Professor, Yangtze University, China
Yanfang Wang	2006-2008	Assistant Professor, Chinese Academy of Agricultural Sciences, China
Shuhong Zhao	2000-2005	Vice-Dean and Professor, Huazhong Agricultural University, China
H. Sunny Sun	1996-1998	Professor, National Cheng Kung University, Taiwan

Visiting Scientists (reverse chronological order):

7. Dr. Buyue Niu, Northeast Agricultural University, China, March 2018-March 2019
6. Dr. Jianzhen Huang (group of Dr. Lusheng Huang, PhD., President of Jiangxi Agricultural University and member of Chinese Academy of Sciences) March 2016-2017
5. Dr. Haiming Ma, Hunan Agricultural University, March 2016-2017.
4. Dr. Jiying Wang, Shandong Academy of Agricultural Sciences, China, 12 months Fall 2014-2015.
3. Dr. Zhenming Gong, PR China, 12 months (Fall 2009-Fall 2010).
2. Dr. Shu-hong Zhao, PR China) who came to Iowa State University to learn genotyping and functional genomics technologies. She was paid by Huazhong Agricultural University where she is currently a Full Professor and Dean, and stayed for 12 months, July 2000-July 2001. Dr. Zhao was able to return in October 2001 and continued her work for four more years. We published nine manuscripts on her work in my group.
1. I mentored another international visitor, Ms. So-hyun Lee, who is a graduate student from Seoul National University. She learned bioinformatics and functional genomics and completed a project to develop and use a cDNA array to investigate expression during conceptus elongation. She stayed in my lab from September 2002-2003. We have published a manuscript on these results (Lee et al., 2005).

Teaching

Main responsibilities: teach a graduate course in genomics (AnS 556, alternate Spring semesters).

As well, as major professor for graduate students, I continuously teach AnS 699, Genet 699, ImBio 699 and/or MCDB 699 sections throughout the year (6-18 credits per semester).

Biol 313

I began teaching this course in Fall 2014, as a section of ~55 students primarily restricted to undergraduates in the Animal Science major. This course is the first undergraduate course in genetics, and as such is an introductory survey of the field of genetics. I include animal science-related examples in this specific section. I taught this section again in Fall 2015 with 52 students, Fall 2017 with 56 students and Fall 2018 with 27 students. My role has shifted to participation in teaching this course with other faculty in the Animal Science department taking the lead.

AnS 350X

I developed this course "Genomics and Its Application to Medicine and Agriculture" and it was taught for the first time Fall 2011 (5 students) and taught a second time to 7 students (Fall 2012). All materials were new as well as the curriculum. I provided 9 computer-based exercises to complement lectures, and brought in 2 guest lecturers.

AnS 556

I had major responsibility in the development of a new team-taught graduate level course in genome analysis (AnS 556X). I developed the course content (70%) and course organization. The course was taught the first time in Spring, 1998 (6 enrolled); was taught again Spring, 2000 (6 enrolled), in Spring 2002 (8 enrolled, 7 completed the course), in 2004 (7 enrolled, nine total in class), in 2008 (12 enrolled, 13 attended class), in 2010 (8 enrolled), in 2012 (10 enrolled, 14 attended), 2014 (16 enrolled), 2016 (8 enrolled), and 2018 (5 enrolled). In all offerings, I was the course instructional leader (70-80% of material was presented by me and I wrote 90% of exams and evaluations).

Additional courses taught:

AnS 452X

I helped develop this new course AnS 452x "Animal Industry and Veterinary Genetics" during Fall 2008. My role is to provide the molecular technical background in 7 lecture/labs, and thus contribute about 15% of the lectures. The course was taught for the first time in Spring 2009 and again in 2010 where I am contributing a larger share of the lectures (three full weeks, 12 contact hours).

AnS 451

I contributed to both the development and the teaching of AnS 451X in Fall 1991. I have had major (>90%) responsibility for this course. AnS 451 has been taught in Fall 1992, Fall 1994 and I completely revamped the curriculum for the Fall, 1999 class. Class size was 13 students in 1991, 15 in 1992, six in 1994, five in 1999, eight in 2000, six in 2001, seven in 2002, and seven in 2004 and 2005.

BCB 691

I taught the Faculty Seminar course for the Bioinformatics and Computational Biology Interdepartmental Major in Fall 2006, 2007. I organized the lecture schedule for the semester, attended all lectures and provided opportunity for student questions at the end of each lecture. Fall 2006: 12 students Fall 2007: 18 students

MCDB 698
I taught one section of Molecular, Cellular and Developmental Biology Interdepartmental Program Student Seminar 1998, 2006. After one lecture on organization of the course and on the makings of a good seminar, the students present their research projects for the semester. Fall 2006: 18 students

Genet 690
I taught one section of Interdepartmental Genetics Student Seminar 2004, 2005, 2006, 2007, 2009. After one lecture on organization of the course and on the makings of a good seminar, the students present their research projects for the semester. Fall 2006: 24 students. Fall 2007: 21 students. Fall 2009: 21 students, Spring 2019: 18 students.

BBMB593/BCB593
I taught this one credit seminar course in conjunction with the 2005 Symposium I chaired, entitled "Integration of Structural and Functional Genomics". Although I organized and performed most of the work involved, I was assisted by Marit Nilsen-Hamilton (BBMB) and Vasant Honavar (CpSci). 2005. A total of 20 students enrolled.

ANS 308/508
I organized the 0.5 credit section of AnS 308/508 on Animal Production in Fall, 1993. I contributed to the teaching of this course module by presenting a lecture on Animal Molecular Genetics (90 minutes) to a total of 29 students (13 live plus five on ICN plus 12 students viewing videotaped lectures). I had the same responsibilities in Spring 94, total of seven students (on-campus only).

ZGBAS 534
I developed the curriculum and taught the 1 credit module in the newly revamped course ZGBAS 534 entitled "Molecular Genetics of Animal Development" in Spring, 1994 with ten lectures of 90 minutes each. A total of 9 students were enrolled.

Other contributions to teaching

Within the AnS department, I have contributed to teaching (1 lecture) in AnS 540 in Spring 2013; (two lectures) in AnS 510 Fall of 2001; (one lecture) in AnS 352, Fall, 1997.

I provide a double-length lecture on transcriptomics to BCB 570 “Systems Biology” each Spring semester (2009, 2010, 2012, 2013). I have provided a lecture on

transgenic animal technology in 1997, 1999, 2001, 2003, 2005 and, in 2007, 2009, 2013 and in 2015 a lecture on porcine immunogenomics, to BBMB 615 (Molecular Immunology). I contributed to teaching (two lectures) Genetics 591, "The Science and Controversy of Agricultural Genetically Modified Organisms" Workshop, Spring, 2000.

B. Service

Animal Science Department:
Chair, Ensminger Chair Search Committee, 2019-present
Chair, N.M. Ellinwood Promotion and Tenure Committee, 2019
Member, multiple Preliminary Evaluation Committees, 2018-2019 (S. Hansen, C.R. Youngs, R. Fernando)
Member, Dairy Genetics Faculty Search Committee, 2016
Chair, Departmental Seminar Committee, 2012-2016
Member, Computer Committee, 1999-2010
Member, Safety Committee, 1993-2015
Member, Kildee Animal Facilities Committee, 1998-2009; Chair (1998-2009)
Organizer, Animal Breeding and Genetics Seminar, 2006
Faculty Advisor, Animal Breeding and Genetics Retreat, 2000
Member, Kildee Addition Committees on: Laboratory Space and Intensive Animal Facilities, 1994
Member, Seminar Committee, 1992, 1993, 1994, 1995, 1996(Chair), 1997, 2012(Chair)
Member, Burroughs Endowment Committee, 1992

Other Departments:
Member, Faculty Search Committee, Genetics, Development and Cell Biology, 2013-2014
Member, Faculty Search Committee, Veterinary Microbiology and Preventive Medicine, 2003-2004
Member, DEO Search Committee, Biochemistry/Biophysics/Molecular Biology Department, 1999
Member, Faculty Search Committee, Food Science and Human Nutrition Department, 1998
Member, Faculty Search Committee, Biochemistry/Biophysics/Molecular Biology Department, 1997

Interdepartmental:
Member, MCDB Admissions Committee, 2017-2019
Chair, Interdepartmental Genetics program July 2011- July 2014
Associate Chair, Interdepartmental Genetics program July 2010- June 2011
Chair, BCB Program July 2007- 2009
Member, BCB Supervisory Committee, 2005-2011
Associate Chair, BCB Program July 2005- June 2007
Member, IGM Spring Workshop Organizing Committee, 2006

Member, BCB Admissions Committee, 2004-2006
Co-Director, USDA MGET Training Grant in Bioinformatics, 2000-2006
Member, MCDB Executive Committee, 1994-1998, 2001-2005
Member, IGM Spring Workshop Organizing Committee, 2000
Chair, IGM Spring Workshop, 1996
Member, IGM Supervisory Committee, 1995-1999 (Ex-Officio, 1999-2015)
Member, IGM Admissions Committee, 1993-95
Chair, MCDB Spring Seminar Series, 1993
Member, MCDB Recruitment Committee, 1992-93
Member, IGM Recruitment Committee, 1992-93
Member, IGM Organizing Committee, 1992

University:
Member, Presidential Initiative committee on Membership in the National Academies, 2012-present
CALS representative, Graduate College Task Force on Postdoctoral Research Fellow Development, 2012-2013
Member, Radiation Safety Committee, 2009-2015
Member, Institutional Animal Care and Use Committee, 2004-2008
Member, Faculty Senate Committee on Facilities and Educational Resources, 1999-2004
Member, High Throughput Sequencing Facility Committee, 1999-present
Member, Biotechnology Council, 1997-2000
Member, Vice Provost's Committee on Basic Animal Research, 1997-1998
Member, Nucleic Acid Facility Oversight Committee, 1991-2015

Regional:
Member, NC-1004 Regional Research Project, 2002-present (Secretary 2003-2004; Vice Chair 2004-2005; Chair 2005-2007)
Member, ASAS/ADSA Midwest Section Award Committee. 2001-2003
Member, NC-210 Regional Research Project, 1992-2001 (Secretary, 1994-5; Chair, 1995-6)

National:
Co-Editor, Special Issue of *The ILAR Journal* on large animal models 2014-2015
Member, NRSP-8 Database Coordination Group, 2003-2018
Member, National Swine Genome Coordination Committee, 1993-present
Member, NRSP-8 Technical Committee, USDA National Animal Genome Resources program, 1992-present;
Chair, Swine Sub-Committee, NRSP-8 Technical Committee, USDA National Animal Genome Resources program, 1995-1996; 2010-2011

International:
Co-Chair, Steering Committee, Functional Annotation of Animal Genomes Consortium 2015-present

Chair, Communications Committee, Functional Annotation of Animal Genomes Consortium 2015-present
Standing Committee on Comparative Mapping, International Society for Animal Genetics, Member, 2000-2012; Chair, 2004-2010
Editor, *Animal Genetics* (Functional Genomics) Journal, 2006-2013

TECHNICAL ASSISTANCE TO BUSINESS, INDUSTRY, GOVERNMENT AGENCIES OR INDIVIDUALS:

Along with my undergraduate students, I presented an annual demonstration of mouse genetics at the Winter Roosevelt Elementary Science Fair, for six years running--1999-2005 (Roosevelt closed 2005). Approximately 30-60 students observe the informal demonstration and booth each year.

I presented a half-day series of presentations to approximately 300 sixth grade school students at the 34th Annual Outdoor Classroom, Northwest Research Facility, Sept 12, 2001.

I presented a tour and overview lecture on the new Kildee Animal Gene Transfer Facilities to the 1999 Perry High School Biotechnology Class, November 5, 1999.

I presented an overview of the technologies of gene mapping and identification as part of a conference for interested industry personnel entitled "Future Genetics for the Animal Industry" held May 4, 1994 in St. Louis, MO.

I presented an overview of swine gene mapping and identification efforts at ISU as part of a presentation on biotechnology for 18 Forest City community school biotechnology students who were visiting the ISU campus, February 19, 1993, Meat Lab 133.

I began a consultation in 1993 with Universal Gene Labs (International Boar Semen subsidiary) to help them develop techniques to do PCR blood genotyping of their boars. They were able to successfully add this service to their business. I provide consulting to this company on an ad hoc trouble-shooting basis.

CONTRIBUTED PRESENTATIONS, PAPERS OR DISPLAYS (INTERNAL):

I presented a poster describing the Animal Gene Transfer Facility at the 1996 Iowa Biotechnology Association Meeting.

As part of an Office of Biotechnology presentation at the 1993 Farm Bureau Convention, I prepared a display on "What DNA Looks Like"; gathering DNA samples from around campus and preparing them for this display.

I presented a poster describing my work in the Animal Gene Transfer Facility at the Industry Advisory Board for Biotechnology Annual Meeting held on campus June 18, 1992.

IX. PUBLICATIONS

Refereed Journal Articles (reverse chronological order)

Submitted

166. Herrera-Uribe J., H. Liu, K.A. Byrne, Z.F. Bond, C.L. Loving, C.K. Tuggle. 2020. Changes in H3K27ac at Gene Regulatory Regions in Porcine Alveolar Macrophages Following LPS or PolyIC Exposure. Submitted to Frontiers in Genetics/Epigenomics and Epigenetics, January 2020.

165. Li, Y., M. K. Adur, W. Wang, R. B. Schultz, B. Hale, W. Wierson, S.E. Charley, M. McGrail, J. Essner, C.K. Tuggle, and J.W. Ross. 2019. Effect of ARTEMIS (DCLRE1C) deficiency and microinjection timing on editing efficiency during somatic cell nuclear transfer and in vitro fertilization using the CRISPR/Cas9 system. Submitted to J. Animal Science and Biotechnology, December 2019.

Published

164. Warr, A., N. Affara, B. Aken, H. Beiki and 36 other authors including C.K. Tuggle. 2020. An improved pig reference genome sequence to enable pig genetics and genomics research. Provisionally accepted, GigaScience.

163. Boettcher, A.N., A. G. Cino-Ozuna, Y. Solanki, J.E. Wiarda, E. Putz, J.L. Owens, S.A. Crane, A.P. Ahrens, C.L. Loving, J.E. Cunnick, R.R.R. Rowland, S.E. Charley, J.C.M. Dekkers, C.K. Tuggle 2020. CD3ε+ cells in pigs with severe combined immunodeficiency due to defects in Artemis. In press, Frontiers in Immunology.

162. Boettcher, A.N.*, Y. Li*, A.P. Ahrens, M. Kiupel, K.A. Byrne, C.L. Loving, A.G. Cino-Ozuna, J.E. Wiarda, M.Adur, B. Schultz, J.J. Swanson, E.M. Snella, C.-S. Ho, S.E. Charley, Z.E. Kiefer, J.E. Cunnick, E.J. Powell, G. Dell'Anna, J. Jens, S. Sathe, F. Goldman, E.R. Westin, J.C.M. Dekkers, J.W. Ross, C.K. Tuggle. 2020. Novel engraftment and T cell differentiation of human hematopoietic cells in Art-/- IL2RG-/ SCID pigs. Frontiers in Immunology, https://doi.org/10.3389/fimmu.2020.00100. Published 06 February 2020. *Co-First Author status.

161. Lim, K.S., Q. Dong, P.R. Moll, J. Vitkovska, G. Wiktorin, S. Bannister, D. Daujotyte, C. K. Tuggle, J. K. Lunney, G. S. Plastow, J. C. M. Dekkers. 2019. The effects of a globin blocker on the resolution of 3'mRNA sequencing data in porcine blood. BMC Genomics 20(1):741. https://doi.org/10.1186/s12864-019-6122-2. Published October 15, 2019.

160. Liu, H., K. M. Feye, Yet T. Nguyen, A. Rakhshandeh, C.L. Loving, D. Nettleton, J.C.M. Dekkers, N. K. Gabler, and C. K. Tuggle. 2019. Pigs divergently selected for residual feed intake respond to systemic inflammation triggered by lipopolysaccharide in slightly different ways. BMC Genomics 20:728. https://doi.org/10.1186/s12864-019-6127-x. Published 11 October 2019.

159. Powell, E.J., A.M. Putz, A. Boettcher, S. Charley, M. Sauer, R. Phillips, J. Hostetter, C.L. Loving, J.E. Cunnick, and C. K. Tuggle. 2019. Successful Development of Methodology for detection of Hapten-specific Contact Hypersensitivity (CHS) Memory in Swine. *PLoS One*. 14:e0223483. Https://doi.org/10.1371/journal.pone.0223483. Published October 9, 2019.

158. Annamalai, T., K. Jung, Z. Lu, S. N. Langel, C.K. Tuggle, J. C. M. Dekkers, E. H. Waide, S.Kandasamy and L.J. Saif. 2019. Infectivity of GII.4 human norovirus does not differ between T-B-NK+ Severe Combined Immunodeficiency (SCID) and non-SCID gnotobiotic pigs, implicating the role of NK cells in mediation of human norovirus infection. Virus Res. 267:21-25.

157. Beiki, H., H. Liu, N. Manchanda, D. Nonneman, T.P.L. Smith, C. K. Tuggle. 2019. Improved annotation of the domestic pig genome through integration of Iso-Seq and RNA-seq data. BMC Genomics 20:344. https://doi.org/10.1186/s12864-019-5709-y.

156. Singer, A.J., C. K. Tuggle, Ahrens, A., Sauer, M., McClain, S.A., Tredget, E., Rosenberg, L. 2019. Survival of human cadaver skin on SCID pigs: proof of concept. Wound Repair and Regeneration 27: 426–430. https://doi.org/10.1111/wrr.12715.

155. Boettcher, A.N., M. Kiupel, M. Adur, E. Cocco, A. Santin, S. Bellone, S. Charley, B. Blanco-Fernandez, J. I. Risinger, J. Ross, C. K. Tuggle, and E. Shapiro. 2019. Human ovarian cancer tumor formation in severe combined immunodeficient (SCID) pigs. Frontiers in Oncology Research, 9:9. Https://doi.org/10.3389/fonc.2019.00009.

154. Boettcher, A.N., A. Ahrens, S. Charley, and C. K. Tuggle. 2019. A Comprehensive Protocol for Laparotomy in Swine to Facilitate Ultrasound-Guided Injection into the Fetal Intraperitoneal Space. 2019. Comparative Medicine, 69:123-129. https://doi.org/10.30802/AALAS-CM-18-000098.

153. Giuffra, E., C. K. Tuggle, A.L. Archibald, H. Acloque, A.C. Chamberlain, G. Cochrane, H. D. Daetwyler, S. Djebali, S. Foissac, M.E. Goddard, M.A.M. Groenen, M. Halstead, P. W. Harrison, B. J. Hayes, C. Kern, H. Khatib, R. I. Kuo, D. E. MacHugh, I.M. Macleod, Ole Madsen, James M. Reecy, P.J. Ross, M. Watson, J.M. Wells, and H. Zhou. 2019. Functional Annotation of ANimal Genomes (FAANG): current achievements and roadmap. Annual Review of Animal Biosciences 7:65-88. Https://doi.org/10.1146/annurev-animal-020518-114913.

152. Boettcher, A.N., J.E. Cunnick, E. J Powell, T.K. Egner, S.E. Charley, C.L. Loving, C. K. Tuggle. 2019. Porcine SIRPA binds to human CD47 to inhibit phagocytosis: Implications

for human hematopoietic stem cell transplantation into severe combined immunodeficient (SCID) pigs. Xenotransplantation 26:e12466.

151. Boettcher, A.N., C.L. Loving, J. Cunnick, C.K. Tuggle. 2018. Development of severe combined immunodeficient (SCID) pig models for translational cancer modeling: future insights on how humanized SCID pigs can improve preclinical cancer research. Frontiers in Oncology Research 8:559. Https://doi.org/10.3389/fonc.2018.00559.

150. Beiki, H., A. Eveland, C. K. Tuggle. 2018. Recent advances in plant and animal genomics are taking agriculture to new heights. Genome Biology, 19:48. https://doi.org/10.1186/s12864-019-5709-y.

149. Powell, E.J., S. Charley, A. Boettcher, L. Varley, M. Schroyen, M. K. Adur, S. Dekkers, D. Isaacson, M. Sauer, J. Cunnick, N. M. Ellinwood, J. W. Ross, J. Dekkers, C. K. Tuggle. 2018. Creating Effective BioContainment Facilities and Maintenance Protocols for Raising Specific Pathogen Free, Severe Combined ImmunoDeficient (SCID) Swine. Laboratory Animals 52: 402–412. Available online January 11, 2018: https://doi.org/10.1177/0023677217750691.

148. Waide, E., C.K. Tuggle, N.V.L. Serão, M. Schroyen, A. Hess, R.R.R. Rowland, J.K. Lunney, G. Plastow, and J.C.M. Dekkers. 2018. Genomic Prediction of Piglet Response to one of Two isolates of the Porcine Reproductive and Respiratory Syndrome Virus. Genetics, Selection, and Evolution 50:3. https://doi.org/10.1186/s12711-018-0371-4.

147. Powell E.J., J. Graham, N.M. Ellinwood, J. Hostetter, M. Yaeger, S. Ho, L. Gault, V. Norlin, E.N. Snella, J. Jens, E.H. Waide, A. Boettcher, M. Kerrigan, R.R.R. Rowland, J. Ross, J.C.M. Dekkers, and C.K. Tuggle. 2017. Cases of T-cell lymphoma and leukemia in Severe Combined Immunodeficiency (SCID) pigs following bone marrow transplantation. Frontiers in Immunology, https://doi.org10.3389/fimmu.2017.00813. PMID: 28747915, PMCID: PMC5506080.

146. Liu, H., T.P.L. Smith, D.J. Nonneman, J.C.M. Dekkers, C.K. Tuggle 2017. A high-quality annotated transcriptome of swine peripheral blood. BMC Genomics 18:479. https://doi.org:/10.1186/s12864-017-3863-7.

145. Powell, E.J., J. Cunnick, and C.K. Tuggle. 2017. SCID Pigs: An emerging large animal NK model. Journal of Rare Diseases Research and Treatment Volume 2 Issue 3. Found at http://www.rarediseasesjournal.com/articles/scid-pigs-an-emerging-large-animal-nk-model.html.

144. Kommadath, A., H. Bao, I. Choi, J.M. Reecy, J.E. Koltes, E. Fritz-Waters, C. J. Eisley, J. R. Grant, R.R.R. Rowland, C. K. Tuggle, J.C.M. Dekkers, J.K. Lunney, L.L. Guan, P. Stothard, and G.S. Plastow. 2017. Genetic architecture of gene expression underlying variation in host response to porcine reproductive and respiratory syndrome virus infection. Scientific Reports 7:46203. https://doi.org/10.1038/srep46203.

143. Waide, E., C.K. Tuggle, N.V.L. Serão, M. Schroyen, A. Hess, R.R.R. Rowland, J.K. Lunney, G. Plastow, and J.C.M. Dekkers. 2017. Genome-wide Association of Piglet Responses to one of two Porcine Reproductive and Respiratory Syndrome Virus isolates. J. Animal Science. 95:16-38.

142. Rajao, D.S., C.L. Loving, P.C. Gauger, E. H. Waide, J.C.M. Dekkers, C.K. Tuggle, and Amy L. Vincent. 2016. Pigs with Severe Combined Immunodeficiency Are Impaired in Controlling Influenza A Virus Infection. J. Innate Immunity 9:193-202.

141. Tuggle, C.K., E. Giuffra, E., S.N. White, L. Clarke, H. Zhou, P.J. Ross, H. Acloque, J.M. Reecy, A. Archibald, R.R. Bellone, M. Boichard, A. Chamberlain, H. Cheng, R.P.M.A. Crooijmans, M.E. Delany, C.J. Finno, M.A.M. Groenen, B. Hayes, J.K. Lunney, J.L. Petersen, G.S. Plastow, C.J. Schmidt, J. Song, M. Watson. 2016. GO-FAANG: a Gathering On Functional Annotation of ANimal Genomes. Animal Genetics 47:528-33.

140. Powell, E.J., J. Cunnick, S. Knetter, E. Waide, J.C.M. Dekkers, C.K. Tuggle. 2016. NK cells are intrinsically functional in pigs with Severe Combined Immune Deficiency (SCID) caused by natural mutations in the Artemis gene. Veterinary Immunology and Immunopathology 175:1-6.

139. Schroyen, M., C. Eisley, J.E. Koltes, E. Fritz-Waters, I. Choi, G.S. Plastow, L. Guan, P. Stothard, H. Bao, A. Kommadath, J. M. Reecy, P. Liu, J. K. Lunney, R.R.R. Rowland, J.C.M. Dekkers and C. K. Tuggle. 2016. Bioinformatic analyses in early host response to Porcine Reproductive and Respiratory Syndrome virus (PRRSV) reveals pathway differences between pigs with alternate genotypes for a major host response QTL. BMC Genomics 17:196.

138. Grubbs, J., J.C.M. Dekkers, E. Huff-Lonergan, C. K. Tuggle, S. Lonergan. 2016. Identification of serum biomarkers to predict feed efficiency in young pigs. J. Animal Sci. 94:1482-92.

137. Liu, H., N. Yet, D. Nettleton, J.C.M. Dekkers, C.K. Tuggle. Post-weaning blood transcriptomic differences between Yorkshire pigs with divergent residual feed intake phenotypes. 2016. BMC Genomics, 17:73.

136. Nguyen, Y., D. Nettleton, H. Liu, and C.K. Tuggle. 2015. Detecting Differentially Expressed Genes with RNA-seq Data Using Backward Selection to Account for the Effects of Relevant Covariates. J. Agricultural, Biological, and Environmental Statistics. 20:577-597.

135. Waide, E., J.C.M. Dekkers, J. W. Ross, R.R.R. Rowland, C. R. Wyatt, C. L. Ewen, D.M. Thekkoot, N.J. Boddicker, and C. K. Tuggle. 2015. Not all SCID pigs are created equally: Two independent mutations in *Artemis* gene cause Severe Combined Immune Deficiency (SCID) in pigs. Journal of Immunology 195:3171-9.

** This publication was selected as a "***top 10% paper in the field***" by editors of J. Immunology and featured in the "*In This Issue*" section of the journal (citation: J Immunol 2015; 195:2921-2922, http://www.jimmunol.org/content/195/7/2921.)**

134. Schroyen, M., J.P. Steibel, I. Choi, N.E. Raney, J.E. Koltes, C. Eisley, E. Fritz-Waters, J. M. Reecy, J.C.M. Dekkers, R.R.R. Rowland, J. K. Lunney, C. Ernst and C. K. Tuggle. 2015. Whole blood microarray analysis of pigs showing extreme phenotypes after a porcine reproductive and respiratory syndrome virus infection. BMC Genomics 16:516.

133. Bao, H., A. Kommadath, G. Liang, A.S. Arantes, C.K. Tuggle, G.S. Plastow, S.M.D. Bearson, P. Stothard, L.L. Guan. 2015. Genome-wide whole blood microRNAome and transcriptome analyses reveal miRNA-mRNA regulated host response to foodborne pathogen Salmonella infection in swine. Scientific Reports 5:12620.

132. Koltes J.E. *, Fritz-Waters E.*, Eisley C.J., Choi I., Bao, H., Kommadath A., Serão N.V.L., Boddicker N., Abrams S.M., Schroyen M., Loyd H., Tuggle C.K., Plastow G.S., Guan L.L., Stothard P., Lunney J.K., Liu P., Carpenter S., Rowland R.R.R., J.C.M. Dekkers, and J.M. Reecy. 2015. Identification of a putative quantitative trait nucleotide (QTN) in Guanylate Binding Protein 5 for host response to PRRS virus infection. *BMC Genomics*, 16:412. *Co-first authors.

131. Roth, J.A. and C.K. Tuggle. 2015. (Invited paper). Livestock models in translational medicine. ILAR Journal 56:1-6.

130. Mathew, D.J., E.M. Newsom, J.M. Guyton, C.K. Tuggle, R.D. Geisert, and M. Lucy. 2015. Activation of the Transcription Factor Nuclear Factor-Kappa B in Uterine Luminal Epithelial Cells by Interleukin-1 Beta 2: A Novel Interleukin-1 Expressed by the Elongating Pig Conceptus. Biology of Reproduction 92:107. online before print March 11, 2015, doi: 10.1095/biolreprod.114.126128.

129. Tuggle, C.K. and W.R. Waters. 2015. (Invited Commentary). Tuberculosis-Resistant Transgenic Cattle. Proceedings of the National Academy of Sciences 112:3854-3855, doi: 10.1073/pnas.1502972112.

128. Pilcher, C., C.K. Jones, M. Schroyen, A.J. Severin, J.F. Patience, C.K. Tuggle, J.E. Koltes. 2015.Transcript profiles in longissimus dorsi muscle and subcutaneous adipose tissue: A comparison of pigs with different post-weaning growth rates. J. Animal Science 93:2134-2143.

127. Grubbs, J., C. K. Tuggle, J.C.M. Dekkers, N. Boddicker, Y. Nguyen, E. Huff-Lonergan, D. Nettleton, S. Lonergan. 2015. Investigation of the efficacy of albumin removal procedures on porcine serum proteome profile. J. Animal Science 93:1592-1598.

126. The FAANG Consortium (49 authors, C.K. Tuggle as Co-corresponding Author). 2015. Coordinated international action to accelerate genome to phenome with FAANG, the

Functional Annotation of Animal Genomes project. Genome Biology 16:57. doi: 10.1186/s13059-015-0622-4. **Highly Accessed.**

125. Mpetile, Z., J. M. Young, N. K. Gabler, J. C. M. Dekkers, C. K. Tuggle. 2015. Assessing the immune cell profile of Yorkshire pigs divergently selected for residual feed intake. J. Animal Science 93:892-899.

124. Knetter, S.M., S.M.D. Bearson, T.H. Huang, D. Kurkiewicz, M. Schroyen, D. Nettleton, D. Berman, V. Cohen, J. K. Lunney, A. E. Ramer-Tait, M. J. Wannemuehler, C. K. Tuggle. 2015. *Salmonella enterica* serovar Typhimurium-infected pigs with different shedding levels exhibit distinct clinical, peripheral cytokine, and transcriptomic immune response phenotypes. Innate Immunity 21:227–241[SEP][2014 Epub ahead of print] doi:10.1177/1753425914525812.

123. Schroyen, M., and C. K. Tuggle. 2015. Current Transcriptomics Approaches in Pig Immunity Research. (Invited review). Mammalian Genome 26:1-20.

122. Ewen, C.L., A.G. Cino-Ozuna, H. He, M. Kerrigan, J.C.M. Dekkers, C.K. Tuggle, R.R.R. Rowland, and C.R. Wyatt. 2014. Analysis of blood leukocytes in a naturally occurring immunodeficiency of pigs shows the defect is localized to B and T cells. Veterinary Immunology and Immunopathology 162(3-4):174-9.

121. Choi, I., H. Bao, A. Kommadath, A. Hosseini, X. Sun, Y. Meng, P. Stothard, G. S. Plastow, C. K. Tuggle, J. M. Reecy, E. Fritz-Waters, S. M. Abrams, J. K. Lunney and L. Guan. 2014. Increasing gene discovery and coverage using RNA-seq of globin RNA reduced porcine blood samples. BMC Genomics 15:954. doi: 10.1186/1471-2164-15-954.

120. Kommadath A., H. Bao, A.S. Arantes, G.S. Plastow, C.K. Tuggle, S.M.D. Bearson, L.L. Guan, P. Stothard. 2014. Gene co-expression network analysis identifies porcine genes associated with variation in *Salmonella* shedding. BMC Genomics, 15:452. doi: 10.1186/1471-2164-15-452. PubMed PMID: 24912583.

119. Bao, H., A. Kommadath, G.S. Plastow, C.K. Tuggle, L.L. Guan and P. Stothard. 2014. MicroRNA buffering and altered variance of gene expression in response to *Salmonella* infection. PLOS-One 9:e94352, doi: 10.1371/journal.pone.0094352.

118. Kich, J.D., J.J. Uthe, M.V. Benavides, M. E. Cantão, R. Zanella, C.K. Tuggle and S.M.D. Bearson. 2014. TLR4 single nucleotide polymorphisms (SNPs) associated with *Salmonella* shedding in pigs. Journal of Applied Genetics, 10.1007/s13353-014-0199-8.

117. Gu, T., M. Zhu, M. Schroyen, L. Qu, D. Nettleton, D. Kuhar, J.K. Lunney, S,.H. Zhao, and C.K. Tuggle. 2014. Endometrial gene expression profiling in pregnant Meishan and Yorkshire breeds at peri-implantation to characterize the prolific nature of pigs. BMC Genomics 15:156. doi: 10.1186/1471-2164-15-156.

116. Knetter, S., C.K. Tuggle, M. J. Wannemuehler, A. E. Ramer-Tait. Swine barn dust exposure impairs pig macrophage function: implications for swine respiratory health. 2014. Vet Immunol Immunopathol. 157:20-30.

115. Kapetanovic, R., Fairbairn, L., Dowling, A., Beraldi, D., Sester, D.P., Freeman, T.C., Tuggle, C.K., Archibald, A.L., and D.A. Hume. 2013. The impact of breed genotype and tissue compartment on the response of pig macrophages to lipopolysaccharide. BMC Genomics 14:581. PMID: 23984833.

114. Fairbairn L, Kapetanovic R, Sester DP, Gow, D., Sauter, K., Moffatt, L., Tuggle, C.K., Archibald, A.L., and D.A. Hume. 2013. Comparative analysis of monocyte subsets in the pig. J. Immunology 190:6389-96. doi: 10.4049/jimmunol.1300365, PMID: 23667115.

113. Dawson, H.D., J.E. Loveland, G. Pascal, and 47 others including corresponding author C.K. Tuggle. 2013. Structural and Functional Annotation of the Porcine Immunome. BMC Genomics 14:332. doi: 10.1186/1471-2164-14-332, PMID: 23676093. **Highly Accessed.**

112. Bearson, S.M.D., H. K. Allen, B. L. Bearson, T. Looft, B. W. Brunelle, J.D. Kich, C. K. Tuggle, D.O. Bayles, D. Alt, U. Y. Levine, T. B. Stanton. 2013. Profiling the Gastrointestinal Microbiota in Response to *Salmonella*: Low Versus High *Salmonella* Shedding in the Porcine Host. Infection, Genetics and Evolution 16C:330-340. doi: 10.1016/j.meegid.2013.03.022.

111. Badaoui, B., C.K. Tuggle, Z. Hu, J. Reecy, T. Ait-Ali, A. Anselmo, S. Botti. 2013. Pig immune response to general stimulus and to Porcine Reproductive and Respiratory Syndrome Virus infection: a meta-analysis approach. BMC Genomics 14:220. doi: 10.1186/1471-2164-14-220. **Highly Accessed.**

110. Arceo, M., C.W. Ernst, J.K. Lunney, I. Choi, N.E. Raney, T. Huang, C.K. Tuggle, R.R.R. Rowland, J.P. Steibel. 2013. Characterizing differential individual response to Porcine Reproductive and Respiratory Syndrome Virus infection through statistical and functional analysis of gene expression. *Frontiers in Genetics* **3**:321. doi: 10.3389/fgene.2012.00321

109. Freeman, T.C., A. Ivens, K. J. Baillie, D. Beraldi, M.W. Barnett, D. Dorward, A. Downing, L. Fairbairn, R. Kapetanovic, A. Tomoiu, R. Alberio, C. Wu, A. I. Su, K. M. Summers, C.K. Tuggle, A.L. Archibald, D.A. Hume. 2012. A Gene Expression Atlas of the Domestic Pig. BMC Biology **10**:90. **Highly Accessed.**

108. Groenen, M., Archibald A., Uenishi, H., Tuggle, C.K., Takeuchi Y., Rothschild M.F., Rogel-Gaillard C., Park C., Milan D., Megens H.J., Li S., Larkin D.M., Kim H., Frantz L.A., Caccamo M., Ahn H., Aken BL, Anselmo A., Anthon C., Auvil L., Badaoui B., Beattie C.W., Bendixen C., Berman D., Blecha F., Blomberg J., Bolund L., Bosse M., Botti S., Bujie Z., Bystrom M., Capitanu B, Carvalho-Silva D., Chardon P., Chen C., Cheng R., Choi S.H., Chow W., Clark R.C., Clee C., Crooijmans R.P., Dawson H.D., Dehais P., De Sapio F., Dibbits B., Drou N, Du Z.Q., Eversole K., Fadista J., Fairley S., Faraut T., Faulkner G.J., Fowler KE, Fredholm M., Fritz E., Gilbert J.G., Giuffra E., Gorodkin J., Griffin D.K.,

Harrow J.L., Hayward A., Howe K., Hu Z.L., Humphray S.J., Hunt T., Hornshøj H., Jeon J.T., Jern P, Jones M., Jurka J., Kanamori H., Kapetanovic R., Kim J., Kim J.H., Kim K.W., Kim T.H., Larson G., Lee K., Lee K.T., Leggett R., Lewin H.A., Li Y., Liu W., Loveland J.E., Lu Y, Lunney J.K., Ma J., Madsen O., Mann K., Matthews L., McLaren S., Morozumi T., Murtaugh M.P., Narayan J., Nguyen D.T., Ni P., Oh S.J., Onteru S., Panitz F., Park E.W., Park H.S., Pascal G., Paudel Y., Perez-Enciso M., Ramirez-Gonzalez R., Reecy J.M., Rodriguez-Zas S., Rohrer G.A., Rund L., Sang Y., Schachtschneider K., Schraiber J.G., Schwartz J., Scobie L., Scott C., Searle S., Servin B., Southey B.R., Sperber G., Stadler P., Sweedler J.V., Tafer H., Thomsen B., Wali R., Wang J., Wang J., White S., Xu X., Yerle M., Zhang G., Zhang J., Zhang J., Zhao S., Rogers J., Churcher C., Schook L.B. 2012. Pig genomes provide insight into porcine demography and evolution. Nature 491:393–398.

107. Wilke, V.L., Nettleton, D., Wymore, M.J., Gallup, J.M., Demirkale C.Y., Ackermann M.R., Tuggle C.K., Ramer-Tait A.E., Wannemuehler M.J., Jergens A.E. 2012. Gene expression in intestinal mucosal biopsy specimens obtained from dogs with chronic enteropathy. Am J Vet Res. 73:1219-29.

106. Kapetanovic, R., Fairbairn, L., Beraldi, D., Sester, D.P., Tuggle, C.K., and D.A. Hume. 2012. Pig bone marrow-derived macrophages resemble human macrophages in their response to bacterial lipopolysaccharide. J. Immunology 188:3382-94.

105. Huang, T., Uthe J.J., Bearson S.M.D., Demirkale, C., Nettleton D., Knetter, S., Christian, C., Ramer-Tait, A., Wannemuehler, M.J., and C.K. Tuggle. 2011. Distinct Peripheral Blood RNA Responses to *Salmonella* in Pigs Differing in *Salmonella* Shedding Levels: Intersection of IFNG, TLR and miRNA Pathways. PLOS-One 6(12):e28768.
Top 25% most cited *PLOS ONE* articles- 2017

104. Uthe J.J., Qu L., Couture, O., Bearson S.M.D., O'Connor A.M., McKean J.D., Rodriguez Torres Y., Dekkers J.C., Nettleton D., and C.K. Tuggle. 2011. Use of bioinformatic SNP predictions and gene expression profiling data to find and analyze SNPs associated with *Salmonella* colonization in swine. J. Animal Breeding and Genetics 128:354-65.

103. Uthe J.J., Bearson S.M.D., Dekkers J.C., Qu L., Nettleton D., Rodriguez Torres Y., O'Connor A.M., McKean J.D., and C.K. Tuggle. 2011. Integrating Comparative Expression Profiling Data with Association of SNPs to *Salmonella* Shedding for Improved Food Safety and Porcine Disease Resistance. Animal Genetics 42:521-34.

102. Engrav, L. H., Tuggle, C.K., Kerr, K.F., Zhu, K.Q., Numhom, S., Couture, O.P., Beyer, R.P., Hocking, A.M., Carrougher, G.J., Ramos, M.L.C., Klein, M.B., Gibran, N.S. Functional Genomics Unique to Week 20 Post Wounding in the Deep Cone/Fat Dome of the Duroc/Yorkshire Porcine Model of Fibroproliferative Scarring. 2011. PLOS-One 6:e19024.

101. Ciraci, C., C.K. Tuggle, M. Wannemuehler, D. Nettleton, S.J. Lamont. 2010. Unique Genome-wide Transcriptome Profiles of Chicken Macrophages upon exposure to *Salmonella*-derived Endotoxin. BMC Genomics 11:545.

100. Tuggle, C.K., Bearson, S.M.D., Uthe, J.J., Huang, T.H., Couture, O.P., Y. F. Wang, Y.F., Kuhar, D., Lunney, J.K. and V. Honavar. 2010. Methods for transcriptomic analyses of the porcine host immune response: Application to *Salmonella* infection. Veterinary Immunology and Immunopathology 138:280–291.

99. Coulombe, Y., M. Lemieux, J. Moreau, J. Aubin, M. Joksimovic, Félix-Antoine Bérubé-Simard, S. Tabariès, O. Boucherat, F. Guillou, C. Larochelle, C.K. Tuggle and L. Jeannotte. 2010. Multiple Promoters and Alternative Splicing: *Hoxa5* Transcriptional Complexity in the Mouse Embryo. PLOS-One 5:e10600.

98. Barb, C.R., Hausman, G.J., Rekaya, R. Lents, C.A., Lkhagvadorj, S., Qu, L., Cai, W., Couture, O.P., Anderson, L.L., Dekkers, J.C.M., Tuggle. C.K. 2010. Gene expression in hypothalamus, liver and adipose tissues and feed intake response to melanocortin-4 receptor (MC4R) agonist in pigs expressing MC4R mutations. Physiological Genomics 41: 254-268.

97. Towfic, F., VanderPlas, S., Oliver, C.A., Couture, O., Tuggle, C.K., Greenlee, M.H.W., and V. Honavar. 2010. Detection of Gene Orthology Based On Biomolecular Networks. BMC Bioinformatics 11:S7.

96. Lkhagvadorj, S., L. Qu, W. Cai, O. P. Couture, C. R. Barb, G. J. Hausman, D. Nettleton, L.L. Anderson, J.C.M. Dekkers, C. K. Tuggle. 2010. Gene expression profiling of the short-term adaptive response to acute caloric restriction in liver and adipose tissues of pigs differing in feed efficiency. American Journal of Physiology: Regulatory, Integrative and Comparative Physiology 298:494-507.

95. Couture, O., K. Callenberg, N. Koul, S. Pandit, R. Younes, Z. Hu, J. Dekkers, J. Reecy, V. Honavar, C.K. Tuggle. 2009. ANEXdb: an integrated animal Annotation and microarray EXpression database. Mammalian Genome 20:768-77.

94. Lkhagvadorj, S., Qu., L., Cai, W., Couture, O., Barb, C.R., Hausman, G., Nettleton, D., Anderson, L.L., Dekkers, J.C.M., C.K. Tuggle. 2009. Microarray gene expression profiles of fasting induced changes in liver and adipose tissues of pigs expressing the melanocortin-4 receptor D298N variant. Physiological Genomics 38:98-111.

93. Ross, J.A., M. D. Ashworth, D.R. Stein, O. Couture, C.K. Tuggle, and R. Geisert. 2009. Identification of Differential Gene Expression during Porcine Conceptus Rapid Trophoblastic Elongation and Attachment to the Uterine Luminal Epithelium. Physiological Genomics 36: 140-148.

92. Uthe, J.J., Y. Wang, L. Qu, D. Nettleton, C.K. Tuggle and S.M.D. Bearson. 2009. Correlating blood immune parameters and a CCT7 genetic variant with the shedding of Salmonella enterica serovar Typhimurium in swine. Veterinary Microbiology 135:384-388.

91. Wang Y.F., Couture O.P., Qu L., Uthe J.J., Bearson S.M.D., Kuhar D., Lunney J., Nettleton D., Dekkers J.C.M., and C.K. Tuggle. 2008. Analysis of Porcine Transcriptional Response

to *Salmonella Enterica* Serovar Choleraesuis suggests novel targets of NFκB are activated in the Mesenteric Lymph Node. BMC Genomics 9:437.

90. Tuggle, C.K., Y. F. Wang, O. P. Couture, L. Qu, J. J. Uthe, D. Kuhar, J. K. Lunney, D. Nettleton, J. C. Dekkers, and S. M. D. Bearson. 2008. Computational integration of structural and functional genomics data across species to develop information on the porcine inflammatory gene regulatory pathway. Dev. Biol (Basel) 132:105-13.

89. Zhu, K. Q., Carrougher, G.J., Gibran, N.S., Couture, O.P., Tuggle, C. K., L.H. Engrav. 2008. Expression of Collagen Genes in the cones of skin in the Duroc/Yorkshire porcine model of Fibroproliferative scarring. Journal of Burn Care and Research 29:815-27 (PMC2853751).

88. Wang, Y.F., Qu, L., Uthe, J.J., Bearson, S.M.D., Kuhar, D., Lunney, J.K., Couture, O.P., Nettleton, D., Dekkers, J.C.M., and C. K. Tuggle. 2007. Global Transcriptional Response of Porcine Mesenteric Lymph Nodes to *Salmonella enterica* serovar Typhimurium. Genomics 90:72-84.

87. Uthe, J.J., Royaee, A., Lunney, J.K., Stabel, T.J., Zhao, S.-H., Tuggle, C.K., Bearson, S.M.D. 2007. Porcine differential gene expression in response to Salmonella enterica serovars Choleraesuis and Typhimurium. Molecular Immunology 44:2900-2914.

86. Tuggle C.K., Y.F. Wang and O. Couture. 2007. INVITED REVIEW: Advances in Swine Transcriptomics. International Journal of Biological Sciences 3:132-152.

85. Tuggle, C.K., Dekkers. J., J. Reecy. 2006. Integration of Structural and Functional Genomics. Animal Genetics 37 (Supp. 1): 1-6.

84. Zhao. S.H., D. Kuhar, J. K. Lunney, H. Dawson, C. Guidry, J.J. Uthe, S. M. D. Bearson, J. Recknor, D. Nettleton, C.K. Tuggle. 2006. Gene expression profiling in *Salmonella* Choleraesuis infected porcine lung using a long oligonucleotide microarray. Mammalian Genome 17:777-89.

83. Uthe, J.J., Stabel, T.J., Bearson, S.M.D., S.-H. Zhao, S.-H., C.K. Tuggle. 2006. Analysis of Porcine Differential Gene Expression Following Challenge with Salmonella enterica Serotype Choleraesuis using Suppression Subtractive Hybridization. Vet. Micro. 114:60-71.

82. Kim, J.W., S.-H. Zhao, J.J. Uthe, S.M.D. Bearson, C.K. Tuggle. 2006. Assignment of the Scavenger receptor class B, member 2 (SCARB2) gene to Porcine Chromosome 8q11-q12 by somatic cell and radiation hybrid panel mapping. Cytogenet. Genome Res., 112:342H.

81. Zhao, S.-H. J. Recknor, J.K. Lunney, D. Nettleton, D. Kuhar, S. Orley, H. Dawson, C. K Tuggle. 2005. Validation of a first-generation long-oligonucleotide microarray for transcriptional profiling in the pig. Genomics 86:618-625.

80. Abbott, M.A., and C.K. Tuggle. 2005. Ectopic HOXA5 expression results in abnormal differentiation, migration and p53-independent cell death of superficial dorsal horn neurons. Brain Res. Dev. Brain Res. 159:87-97.

79. Demeure, O., Pomp, D., Rothschild, M.F., Milan, D., C.K. Tuggle. 2005. Large-scale EST mapping refines the comparative maps for SSC1 and SSC7 with the human genome. Animal Genetics 36:381-389.

78. Kim, J.W., S.-H. Zhao, J.J. Uthe, S.M.D. Bearson, C.K. Tuggle. 2005. Physical mapping of eight pig genes whose expression level is acutely affected by *Salmonella* challenge. Animal Genetics,36: 359-362.

77. Caetano, A.R., Edeal, J.B., Burns, K., Johnson, R.K., C.K. Tuggle. Pomp D. 2005. Physical Mapping of Genes in the Porcine Ovarian Transcriptome. Animal Genetics 36:322-330.

76. Joksimovic, M., Jeannotte, L., C.K. Tuggle. 2005. Dynamic expression of murine HOXA5 protein in the central nervous system. Mechanisms of Development-Gene Expression Patterns 5: 792-800.

75. Tabariès, S., Lapointe, J., Besch, T., Carter, M., Woollard, J., Tuggle, C.K., and Jeannotte, L. 2005. Cdx Protein Interaction to Hoxa5 Regulatory Sequences Contributes to Hoxa5 Regional Expression along the Axial Skeleton. 2005. Molecular and Cellular Biology 25:1389-1401.

74. Zhao, S.-H. C. K. Tuggle. 2005. Mapping of the porcine suppressor of cytokine signaling 3 (*SOCS3*) gene to chromosome 12 by using somatic cell and radiation hybrid panels. Anim. Genet. 36:88-90.

73. Li, S.-J., Zhao, S.-H., C,.K. Tuggle 2005. Somatic Cell hybrid and RH mapping of tachykinin 3 (*TAC3*) gene to porcine chromosome 5. Anim. Genet. 36:90-91.

72. Lee, S.-H., Zhao, S.-H., Recknor, J., Nettleton, D., Orley, S., Kang S.-K., Lee B.-C., Hwang W.-S., Tuggle C.K. 2005. Transcriptional profiling using a novel cDNA array identifies differential gene expression during porcine embryo elongation. Mol. Reprod. Dev. 71:129-139.

71. Krieger, K.E., M.A. Abbott, M. Joksimovic, P.A. Lueth, I.M. Sonea, L. Jeannotte, and C.K. Tuggle. 2004. Transgenic mice ectopically expressing HOXA5 in the dorsal spinal cord (SC) show structural defects of the cervical SC along with sensory and motor defects of the forelimb. Brain Res. Develop. Brain Res. 150:125-139.

70. Moller, M., F. Berg, J. Riquet, D. Pomp, A. Archibald, S. Anderson, K. Feve, Y. Zhang, M.F. Rothschild, D. Milan, L. Andersson and C.K. Tuggle. 2004. High-resolution comparative mapping across pig chromosome 4 (SSC4), emphasizing the FAT1 region. Mammalian Genome 15: 717-31.

69. Zhao, S.-H., D. G. Simmons, J.C. Cross, T.E. Scheetz, T.L. Casavant, M. B. Soares, and C.K. Tuggle. 2004. PLET1, a highly expressed and processed novel gene in pig and mouse placenta is transcribed but poorly spliced in human. Genomics 84;114-125.

68. Zhao, S.-H. A. Erickson, and C.K. Tuggle. 2004. Physical and Linkage mapping of lymphocyte antigen 86 (Ly86) gene to porcine chromosome 7. Anim. Genet. 35:164.

67. Zhao, S.-H. and C.K. Tuggle. 2004. Linkage mapping and expression analyses during early gestation in the pig of a novel gene, Placentally Expressed Transcript 1 (*PLET1)*. Anim. Genet. 35:72-74.

66. Zhao, S.-H. and C.K. Tuggle. 2003. Assignment of lymphocyte antigen 64 homolog, radioprotective 105 kDa (LY64) gene to porcine chromosome band 16q14 with somatic cell hybrids and linkage mapping. Cytogenet Genome Res. 101:92B.

65. Pan, P.-W., K. Li, C.K. Tuggle, M. Yu, B. Liu, and S.-H. Zhao. 2003. Sequencing, tissue distribution and physical mapping of the porcine homologue of cardiomyopathy associated 3 (*CMYA3)*. Anim. Genet. 34: 373-374.

64. Tuggle, C.K., J.A. Green, C. Fitzsimmons, R. Woods, R.S. Prather, S. Malchenko, M.B. Soares, T. Kucaba, K. Crouch, C. Smith, D. Tack, N. Robinson, B. O'Leary, T. Scheetz, T. Casavant, D. Pomp. J.B. Edeal, Y. Zhang, M.F. Rothschild, K. Garwood, and W. Beavis. 2003. EST-based gene discovery in pig: virtual expression patterns and comparative mapping to human. Mamm. Gen. 14:565-579.

63. Zhao, S.-H., D. Nettleton, W. Liu, C. Fitzsimmons, C.W. Ernst, N.E. Raney, and C.K. Tuggle. 2003. Complementary DNA macroarray analyses of differential gene expression in porcine fetal and postnatal muscle. J. Anim. Sci. 81:2179-2188.

62. Shi, X.W., Y.D. Zhang, and C.K. Tuggle. 2002. Linkage mapping of porcine STCH further refines the HSA3/21 breakpoint on pig chromosome 13. Anim. Genet. 33:395-396.

61. Shi, X.W., Y.D. Zhang, M.F. Rothschild, and C.K. Tuggle. 2002. Rapid Communication: Genetic linkage and physical mapping of the porcine cholesteryl ester transfer protein (*CETP*) gene. J. Anim. Sci. 80:1390-1391.

60. Sun, H.S., C.K. Tuggle, A. Goureau, C.J. Fitzsimmons, P. Chardon, P. Pinton, and M. Yerle. 2002. Precise mapping of breakpoints in conserved synteny between human chromosome 1 and pig chromosomes 4, 6, and 9. Anim. Gen. 33:91-96.

59. Sun, H.S., L. L. Anderson, T.-P. Yu, K.S. Kim, J. Klindt, and C. K. Tuggle. 2002. Neonatal Meishan pigs show POU1F1 genotype effects on plasma GH and PRL concentration. Anim. Reprod. Sci. 69:223-237.

58. Shi, X.-W., C. J. Fitzsimmons, C. Genet, R. Prather, K. Whitworth, J. A. Green, and C. K. Tuggle. 2001. Radiation hybrid comparative mapping between human chromosome 17 and

porcine chromosome 12 demonstrates conservation of gene order. Anim. Genet. 32:205-209.

57. Van Poucke, M., Yerle, M., Tuggle, C., Piumi, F., Genet, C.Van Zeveren, A., and Peelman, L. J. 2001. Integration of porcine chromosome 13 maps. Cytogenet. Cell Genet. 93(3-4):297-303.

56. Shi, X.-W., and Tuggle, C. K. 2001. Rapid Communication: Genetic linkage and physical mapping of the Porcine Phospholipid Transfer (PLTP) gene. J. Anim. Sci. 79:1633-1634.

55. Tuggle, C. K., Genet, C., Shi, X.-W., Chardon, P., Sanchez-Serrano, I. L., Cravens, G., Milan, D., and Yerle, M. 2001. Cytogenetic and radiation hybrid mapping reveals conserved synteny and gene order between human chromosome 21 and pig chromosome 13. Mammalian Genome 12:397-399.

54. Yu, T.-P., Sun, H. S., Wahls, S., I. Sanchez-Serrano, M. F. Rothschild, and C. K. Tuggle. 2001. Cloning of the full length pig PIT1 (POU1F1) cDNA and a novel alternative PIT1 transcript, and functional studies of their encoded proteins. Anim. Biotech. 12(1):1-19.

53. Shi, X.-W., and Tuggle, C. K. 2001. Rapid Communication: Genetic and physical mapping of the porcine lipopolysaccaride binding protein (LBP) gene. J. Anim. Sci. 79:556-557.

52. Didion, B. A., A. A. Paszek, G. A. Rohrer, H. S. Sun, and C. K. Tuggle. 2000. Rapid Communication: Genetic linkage and physical mapping of a porcine sequence characterized amplified region (SCAR) to chromosome 6. J. Anim. Sci. 78:3195-3196.

51. Marklund, L., S. Kaul, and C. K. Tuggle. 2000. Rapid Communication: Mapping of the *Myeloperoxidase (MPO)* gene to pig chromosome 12. J. Anim. Sci. 78:3189-3190.

50. Marklund, L., X. Shi, and C. K. Tuggle. 2000. Rapid Communication: Mapping of the *Mannose-binding lectin 2(MBL2)* gene to pig chromosome 14. J. Anim. Sci. 78:2992-2993.

49. Woollard, J., F. A. Ponce de Leon, and C. K. Tuggle. 2000. Rapid Communication: Localization of POU1F1 to bovine, ovine, and caprine 1q21-22. J. Anim. Sci. 78:242-243.

48. Heltemes, L. M., C. K. Tuggle, and S. J. Lamont. 1999. Tissue expression patterns of chicken octamer-binding proteins. Poultry Sci. 78:574-578.

47. Larsen, N. J., S. Marklund, K.A. Kelly, M. Malek, C.K. Tuggle, M. Yerle, and M. F. Rothschild. 1999. New insights into porcine-human synteny conservation. Mammal. Genome 10:488-491.

46. Nowling, T., W. Zhou, K.E. Krieger, C. Larochelle, M. C. Nguyen-Huu, L. Jeannotte, and C. K. Tuggle. 1999. *Hoxa5* gene regulation: a gradient of binding to a brachial spinal cord element. Developmental Biology 208:134-146.

45. Sun, H. S., C.W. Ernst, M. Yerle, P. Pinton, M. F. Rothschild, P. Chardon, C. Rogel-Gaillard, and C.K. Tuggle. 1999. Human chromosome 3 and pig chromosome 13 show complete synteny conservation but extensive gene-order differences. Cytogenet. Cell Genet. 85:273-278.

44. Sun, H. S., L. Wang, M. F. Rothschild, and C. K. Tuggle. 1999. Rapid Communication: Assignment of porcine serotonin receptor subtype 2 alpha and endothelin-B receptor to chromosome 11 by linkage analysis. J. Anim. Sci. 77:795-796.

43. Sun, H. S., M. Yerle, P. Pinton, P. Chardon, C. Rogel-Gaillard, L. A. Lyons, T. F. Laughlin, and C. K. Tuggle. 1999. Physical assignments of human chromosome 13 genes on pig chromosome 11 demonstrate extensive synteny and gene order conservation between pig and human. Anim. Genet. 30:304-308.

42. Tuggle, C. K., I. Sanchez-Serrano, B. Smith, C. Ernst, and L. Marklund. 1999. Cloning, sequencing and mapping the pig gene for the muscle-specific intermediate filament protein desmin (DES). Anim. Genet.30(6):459-461.

41. Yerle, M., Y. Lahbib-Mansais, A. Goureau, G. Tosser-Klopp, P. Pinton, H. S. Sun, C. K. Tuggle, and J. Gellin. 1999. Contribution to the comparative map between humans and pigs. Anim. Biotechnol. 10(3):93-97.

40. Yu, T. P., L. Wang, C. K. Tuggle, and M. F. Rothschild. 1999. Mapping genes for fatness and growth on pig chromosome 13: a search in the region close to the pig *PIT1* gene. J. Anim. Breed. Genet. 116:269-280.

39. Kenealy, S., N. J. Larsen, C. K. Tuggle, and M. F. Rothschild. 1998. Rapid Communication: the very-long-chain acyl-CoA dehydrogenase gene maps to pig chromosome 12. J. Anim. Sci. 76:915-916.

38. Larsen, N. J., S. Kenealy, C. K. Tuggle, and M. F. Rothschild. 1998. Rapid Communication: A *Hinc*II polymorphism in the porcine *Calpain, Large polypeptide* L3 (*CAPN3*) gene. J. Anim. Sci. 76:918-919.

37. Sun, H. S., C.W. Ernst, M.F. Rothschild and C. K. Tuggle. 1998. A strategy to rapidly identify restriction fragment length polymorphism (RFLP) in PCR products for gene mapping in animal families. Technical Tips OnLine: T01369.

36. Sun, H. S., L. Wang, M. F. Rothschild, and C. K. Tuggle. 1998. Mapping of the Natural Resistance-Associated Macrophage Protein 1 (NRAMP1) gene to pig chromosome 15. Anim. Genet. 29:138-140.

35. Vincent, A., L. Wang, C. K. Tuggle, and M. F. Rothschild. 1998. Linkage and physical mapping of prolactin to porcine chromosome 7. Anim. Genet. 29:27-29.

34. Wang, L., T.-P. Yu, C. K. Tuggle, H.-C. Liu, and M. F. Rothschild. 1998. A directed search for quantitative trait loci on chromosomes 4 and 7 in the pig. J. Anim. Sci. 76:2560-2567.

33. Heltemes, L. M., C. K. Tuggle, and S. J. Lamont. 1997. Isolation and mapping of two chicken POU family genes and the identification of a syntenic group with human and mouse. Anim. Genet. 28:346-350.

32. Heltemes, L. M., C. K. Tuggle, and S. J. Lamont. 1997. Octamer function in the chicken lambda immunoglobulin light chain promoter. Immunogenet. 47:73-76.

31. Heltemes, L. M., C. K. Tuggle, and S. J. Lamont. 1997. Taq1 polymorphism in oct-1 in chickens. Anim. Genet. 28:70.

30. Messer, L. A., L. Wang, C. K. Tuggle, M. Yerle, P. Chardon, D. Pomp, J. E. Womack, A. M. Crawford, D. R. Notter, and M. F. Rothschild. 1997. Mapping of the melatonin receptor 1a (MTNR1A) gene in pig, sheep, and cattle. Mammalian Genome 8:368-370.

29. Short, T. H., M. F. Rothschild, O. I. Southwood, D. G. McLaren, A. DeVries, H. van der Steen, C. K. Tuggle, J. Helm, D. A. Vaske, A. J. Mileham, and G. S. Plastow. 1997. Effect of the estrogen receptor locus on reproduction and production traits in four commercial pig lines. J. Anim. Sci. 75:3138-3142.

28. Sun, H. S., C. Taylor, L. Wang, M. F. Rothschild, and C. K. Tuggle. 1997. Mapping of growth hormone releasing hormone receptor to swine chromosome 18 extends conserved synteny with human chromosome 7. Anim. Genet. 28:351-353.

27. Sun, H. S., L. Wang, M. F. Rothschild, and C. K. Tuggle. 1997. Assignment of porcine ceruloplasmin and v-RAF1 murine viral oncogene homolog 1 to chromosome 13 by linkage analysis. Mammalian Genome 8:626-627.

26. Tuggle, C. K., C. B. Schmitz, and D. Gingerich-Feil. 1997. Rapid communications: cloning of a pig full-length natural resistance associated macrophage protein (NRAMP1) cDNA. J. Anim. Sci. 75:277.

25. Tuggle, C. K., T. P. Yu, H. S. Sun, L. Wang, and M. F. Rothschild. 1997. Rapid Communications: Mapping the pig VCAM1 locus to chromosome 4 using a double-stranded conformation polymorphism marker (VCAM1-2). J. Anim. Sci. 75:2286.

24. Vincent, A., L. Wang, C. K. Tuggle, A. Robic, and M. F. Rothschild. 1997. Prolactin receptor maps to pig chromosome 16. Mammalian Genome 8:793-794.

23. Rothschild, M.F., D. Vaske, C. K. Tuggle, C. Jacobson, T. Short, D. McLaren, A. Mileham and G. Plastow. 1996. The Estrogen Receptor Locus is Associated with a Major Gene Influencing Litter Size in Pigs. Proc. Natl. Acad. Sci. USA 93:201-205.

22. Rothschild, M. F., H. C. Liu, C. K. Tuggle, T. P. Yu, and L. Wang. 1996. Analysis of pig chromosome 7 genetic markers for growth and carcass performance traits. J. Anim. Breed. & Genet. 112:341-348.

21. Tuggle, C.K. and A. Trenkle. 1996. INVITED REVIEW: Control of Growth Hormone Synthesis. Domestic Animal Endocrinology 13:1-34.

20. Archibald, A., J. Brown, S. Couperwhite, H. McQueen, D. Nicholson, C. Haley, W. Coppieters, A. van de Weghe, A. Stratil, A. Wintero, M. Fredholm, N. Larson, V. Nielsen, D. Milan, N. Woloszyn, A. Robic, M. Dalens, J. Riquet, J. Gellin, J.-C. Caritez, D. Hue, G. Burgaud, L. Ollivier, J.-P. Bidanel, M. Vaiman, C. Renard, H. Geldermann, R. Davoli, D. Ruyter, E. Verstege, M. Groenen, W. Davies, B. Hoyheim, A. Keiserud, L. Andersson, H. Ellegren, M. Johansson, L. Marklund, R. Miller, D. Dear, E. Signer, A. Jeffreys, C. Moran, P. Le tissier, Muladno., M.Rothschild, C. Tuggle, D. Vaske, J. Helm, H.-C. Liu, A. Rahman, T.-P. Yu, R. G. Larson and C. Schmitz. 1995. The PiGMaP consortium linkage map of the pig (*Sus scrofa*). Mammalian Genome 6: 157-175.

19. Tuggle C.K., C.B. Schmitz, L. Wang, and M.F. Rothschild. 1995. Cloning and mapping of porcine OTF1 extends a synteny group conserved on SSC 4 and HSA1. Mammalian Genome 6:673-676.

18. Yu, T.-P., C. K. Tuggle, C. B. Schmitz, and M. F. Rothschild. 1995. Association of PIT-1 genotypes with quantitative growth and carcass traits in swine. J. Anim. Sci. 73:1282-1288.

17. Helm, J.T., C. B. Schmitz, C. K. Tuggle and M.F. Rothschild. 1994. Rapid Communication: SacI restriction fragment length polymorphism with a porcine vascular cellular adhesion molecule (VCAM1) cDNA fragment. J. Anim. Sci. 72:2764.

16. Rahman, A., J. Woollard, M. Rothschild, and C. K. Tuggle. 1994. Rapid Communication: SstI polymorphism at the swine OCT-11 locus. J. Anim. Sci. 72:2201.

15. Schmitz, C. B., M. F. Rothschild, and C. K. Tuggle. 1994. Rapid Communication: Length polymorphism in the swine a-Actin locus. J. Anim. Sci. 72:1910.

14. Tuggle, C. K. and C. B. Schmitz. 1994. Cloning and characterization of pig muscle cDNAs by an expressed sequence tag approach. Anim. Biotech. 5:1-13.

13. Tuggle, C. K., J. Helm, and M. F. Rothschild. 1994. Cloning, sequencing and restriction fragment length polymorphism analysis of a porcine cDNA for OCT2. Anim. Genet. 25: 141-145.

12. Woollard, J., C. B. Schmitz, A. E. Freeman, and C. K. Tuggle. 1994. Rapid Communication: HinfI polymorphism at the Bovine PIT1 locus. J. Anim. Sci. 72:3267.

11. Yu, T.-P., C. B. Schmitz, M. F. Rothschild, and C. K. Tuggle. 1994. Expression pattern, genomic cloning and RFLP analyses of the swine PIT-1 gene. Anim. Genet. 25: 229-233.

10. Schmitz, C. B., M. F. Rothschild, and C. K. Tuggle. 1993. Rapid communication: BslI polymorphism at the swine a-Actinin2 locus. J. Anim. Sci. 71:3477.

9. Tuggle, C. K. 1993. Rapid Communications: Cloning and sequence analysis of swine Oct-2 POU-domain genomic region. J. Anim. Sci. 71:3172.

8. Tuggle, C. K., J. Helm, T.-P. Yu, and M. F. Rothschild. 1993. Cloning and RFLP analysis of a cDNA for swine PIT-1, a gene controlling growth hormone expression. Anim. Genet. 24:17-21.

7. Yu, T.-P., M. F. Rothschild, and C. K. Tuggle. 1993. Rapid Communication: MspI RFLP at the Swine PIT-1 Locus. J. Anim. Sci. 71:2275.

6. Tuggle, C. K. and J. A. Fuchs. 1990. Regulation of the operon encoding ribonucleotide reductase: Characterization of the nrd repressor. J. Bact. 172:1711-1718.

5. Tuggle, C. K., J. Zakany, L. Cianetti, C. Peschle, and M. C. Nguyen-Huu. 1990. Region-specific enhancers near two mammalian homeobox genes define adjacent rostrocaudal domains in the central nervous system. Genes & Devel. 4:180-189.

4. Zakany, J., C. Tuggle, and M. C. Nguyen-Huu. 1989. The use of lacZ gene fusions in the study of mammalian development: developmental regulation of mammalian homeobox genes in the CNS. J. Physiology (Paris) 83:18-23.

3. Zakany, J., C. K. Tuggle, M. Patel, and M. C. Nguyen-Huu. 1988. Spatial regulation of homeobox gene fusions in the embryonic central nervous system of transgenic mice. Neuron 1:679-691.

2. Tuggle, C. K. and J. A. Fuchs. 1986. Regulation of the expression of the operon encoding ribonucleotide reductase genes: evidence for both positive and negative control. EMBO J. 5:1077-1085.

1. Tuggle, C. K. and J. A. Fuchs. 1985. Glutathione reductase is not required for maintenance of reduced glutathione in Escherichia coli K-12. J. Bact. 162:448-450.

Chapters in Books (reverse chronological order)

4. Schroyen, M., H. Liu, C. Loving, and C.K. Tuggle. 2016. Applications of Systems Biology to improve pig health. In: Systems Biology in Animal Production and Health. Vol. 2. H. Kadarmideen, Ed. Springer-Verlag GmbH. pp. 33-59. DOI 10.1007/978-3-319-43332-5_2.

3. Tuggle, C.K., F. Towfic, and V. Honavar. 2011. Introduction to systems biology for animal scientists. In: Systems Biology and Livestock Science. M. te Pas, A. Bannink and H. Woelders (eds). John Wiley & Sons, Malden, MA pp 1-30.

2. Fuchs, J. A. and C. K. Tuggle. 1985. Regulation of the synthesis of ribonucleotide reductase in Escherichia coli. In: Thioredoxin and Glutaredoxin Systems - Structure and Function. C.-I. Branden, A. Holmgren, J.-O. Hoog, H. Jornvall, B.-M. Sjoberg (eds). Raven Press, NY, pp 227-232.

1. Fuchs, J. A., B. Haller, and C. K. Tuggle. 1983. Mutants of Escherichia coli altered in glutathione metabolism. In: Functions of Glutathione: Biochemical, Physiological, Toxicological and Clinical Aspects. A. Larson, S. Orrenius, A. Holmgren, and B. Mannervik (eds). Raven Press, NY, pp 385-393.

Patents Awarded (reverse chronological order)

7. Dekkers, J., C. Tuggle, et al., "Genetic Test and Genetic Basis for SCID in pigs" issued on August 29, 2017, Patent # 9,745,561.

6. Rothschild, M. F., A. Vincent, C. K. Tuggle, C. Gladney, A. Mileham, O. Southwood, G. Plastow, and C. Sargent, "Prolactin Receptor Gene as a Genetic Marker for Increased Litter Size in Animals", issued on July 26, 2006, Patent # 7,081,335.

5. Tuggle, C.K., T. A. Stabel, X.W. Shi, M.A. Mellencamp. "Genetic markers for screening animals for improved disease resistance (BPI), Issued July 4, 2006, Patent #7,070,929.

4. Tuggle, C. K., L. Marklund, T. Stabel, M. Mellencamp, and A. Stumbaugh "Genetic markers for screening animals for improved disease resistance (NRAMP)," issued on 01/18/05, Patent # 6,844,159

3. Rothschild, M. F., C. K. Tuggle, and A. Vincent. Prolactin Receptor Gene as a Genetic Marker for Increased Litter Size in Pigs. Issued August 12, 1999, # 5,935,784.

2. Tuggle, C.K. and A.E. Freeman. A Genetic Marker for Improved Milk Production Traits in Cattle. Issued March 25, 1997, # 5,614,364

1. Rothschild, M.F., C. K. Tuggle, C. Jacobson, D. Vaske, A. Mileham, G. Plastow. Genetic Markers for Pig Litter Size. Issued August 27, 1996, # 5,550,024

Popular Press articles

5. Tuggle's research on SCID pigs was featured in an on-line article by Nature Lab Animal: https://www.nature.com/articles/s41684-019-0403-x

4. Tuggle's research on SCID pigs was featured in Science Daily: https://www.sciencedaily.com/releases/2015/10/151015120320.htm

3. Tuggle's research was featured in an October 2015 news story in Feedstuffs: http://feedstuffs.com/story-scid-pigs-make-ideal-models-human-medicine-45-133091.

2. Tuggle's research was featured in article in National Hog Farmer in 2012: http://nationalhogfarmer.com/health/novel-genetic-markers-may-protect-against-salmonella-shedding

1. Tuggle, C.K. and J. Dekkers. 2009. Genotyping: How useful is it to Producers? Published in Pig Progress magazine 25: 2-4.

Abstracts and Meeting Papers (reverse chronological order)

193. Liu, H., B. Niu, B.N. Keel, D. Nonneman, T.P.L. Smioth, and C.K. Tuggle. 2020. Allele-Biased Expression and Histone Modification in Fetuses from Reciprocal Crosses of Divergent Pig Breeds. Proceedings of Plant and Animal Genome XXVIII. San Diego, CA, USA. Abstract#PO0401.

192. Pan, Z.Y., C. Kern, X.Xu, Y. Wang, M. Halstead, G. Chanthavixay, H.H. Cheng, C. Ernst, P. Ross, C.K. Tuggle, and H. Zhou. 2020. Identification of genome-wide regulatory elements of gut tissues in livestock species. Proceedings of Plant and Animal Genome XXVIII. San Diego, CA, USA. Abstract#PE0404.

191. Tuggle, C.K. 2020. Iowa State University Swine Workshop Station Report. Proceedings of Plant and Animal Genome XXVIII. San Diego, CA, USA. Abstract# TBD

190. Tuggle, C.K., H. Zhou, C. Ernst, C.L. Loving, J.E. Koltes, J.M. Reecy, P. Ross, D. Nonneman, T.P.L. Smith, J. Steibel, W. Huang. H. Liu, J. Herrera-Uribe, K. Byrne, Z. Pan, C. Kern, and R. Corbett. 2020. Functional Annotation of the Porcine Genome- 2019 Update. Proceedings of Plant and Animal Genome XXVIII. San Diego, CA, USA. Abstract# TBD

189. Lim, K.-S., J. Cheng, C.K Tuggle, M. Dyck, PigGen Canada, F. Fortin, J. Harding, G. Plastow, and J. C.M. Dekkers. 2020. Quantitative genetic analysis of the blood transcriptome of young healthy pigs to improve disease resilience. Proceedings of Plant and Animal Genome XXVIII. San Diego, CA, USA Abstract#PO0419.

188. Herrera-Uribe, J., H. Liu, K. Byrne, Z. Olson, C.L. Loving, and C.K. Tuggle Christopher K 2020. Combined Analysis Reveal Association of Changes in Gene Expression and H3K27ac Chromatin Modification at Regulatory Regions in Porcine Alveolar Macrophage in

Response to LPS and Poly(I:C). Proceedings of Plant and Animal Genome XXVIII. San Diego, CA, USA. Abstract#PO0409.

187. Corbett, R.J., H. Liu, D.J. Nonneman, T.P.L. Smith, N.E. Raney, C.K. Tuggle, and C.W. Ernst. 2020. Developmental and allele-specific methylation patterns in fetal liver of pigs derived from White Composite x Meishan reciprocal crosses. Proceedings of Plant and Animal Genome XXVIII. San Diego, CA, USA. Abstract#PE0406.

186. Tuggle, C.K. 2019. FAANG: Functional Genome Annotation and Its Value for Pig Breeding. Proceedings of the National Swine Improvement Federation Annual Meeting, Indianapolis, IN Dec 5-6, 2019. https://www.nsif.com/conference/program-day-1/.

185. Tuggle, C.K., and J.C.M. Dekkers. 2019 The Structure and Function of the Pig Genome: Application to PRRSV research. Proceedings of the North American PRRS Symposium. Chicago, IL p. 11, Abstract #S02.

184. Herrera-Uribe, Juber1; Liu, H1; Olson, ZF2; Byrne, K2; Loving, C2; Tuggle. 2019 Combined chromatin state and transcriptional analysis of pig alveolar macrophages reveals specific regulatory elements of the inflammatory response. Proceedings of the International Veterinary Immunology Symposium, Seattle, WA, p. 67. Abstract #061.

183. Tuggle, C.K. 2019. SCID pig use in understanding immunity and advancing cancer and regenerative medicine therapies. Proceedings of the International Veterinary Immunology Symposium, Seattle, WA, Speaker Program Book p. 8, https://ivis2019.org/scientific-information/speaker-program/.

183. Byrne K.A., M.V. Palmer, C.K. Tuggle, and C.L. Loving. 2019. Differential induction of innate training and tolerance in porcine monocytes by β-glucans or BCG. Proceedings of the International Veterinary Immunology Symposium, Seattle, WA, p. 27. Abstract #009.

182. Halstead, M.M., C. Kern, Y. Wang, X. Xu, G. Chanthavixay, P. Saelao, S. M. Waters, J. F. Medrano, A. L. Van Eenennaam, M. E. Delany, H. H. Cheng, C. K. Tuggle, C. W. Ernst, H. Zhou, and P. J. Ross. 2019. Identification of orthologous tissue-specific enhancer-gene pairs across chicken, pig and cattle. Proceedings of International Society of Animal Science meeting, Lleida, Spain, #OP5, p.2.

181. Liu, H., K. Byrne, C. Loving, and C. K. Tuggle Single-cell RNA-seq (scRNA-seq) analysis of porcine peripheral blood mononuclear cells identifies replicating B, αβ-T, and γδ-T cells, as well as all major known circulating cell types. Proceedings of International Society of Animal Science meeting, Lleida, Spain, #OP34, p. 10

180. Tuggle, C.K. and E. Giuffra. 2019. Introduction to functional annotation of animal genomes consortium. Midwest AASA Meeting, Omaha, NE. Journal of Animal Science, **97** (Supp2):17.

179. Tuggle, C.K., H. Zhou, C.W. Ernst, C. Loving, J.E. Koltes, J.M. Reecy, P.J. Ross, D. Nonneman, T.P.L Smith, J.P. Steibel, W. Huang. 2019. Functional Annotation of the Porcine Genome and ISAFG Update. Proceedings of Plant and Animal Genome XXVII. San Diego, CA, USA. Abstract #W448.

178. Kern, C., Y. Wang, P. Saelao, G. Chanthavixay, S.M. Waters, X. Xu, M.E. Delany, H.H. Cheng, J.F. Medrano, A. Van Eenennaam, C.K. Tuggle, C. W. Ernst, P.J. Ross and H. Zhou. 2019. Correlating Gene Expression with the Histone Modifications H3K4me3 and H3K27ac in High and Low CpG Content Promoters of Chickens, Cattle, and Pigs. Proceedings of Plant and Animal Genome XXVII. San Diego, CA, USA. Abstract #PO0425.

177. Liu, H., K. Byrne, C. Loving, C.K. Tuggle. 2019. Profiling the Porcine Peripheral Immune System with Single Cell RNA-Seq (scRNA-seq). Proceedings of Plant and Animal Genome XXVII. San Diego, CA, USA. Abstract #PO0421.

176. Herrera-Uribe, J.L., H. Liu, Z. Olson, K. Byrne, C. Loving, C.K. Tuggle. 2019. Integrated Analysis of Whole-Genome ChIP-Seq and RNA-Seq Data of Alveolar Macrophages Stimulated with LPS and Poly (I:C). Proceedings of Plant and Animal Genome XXVII. San Diego, CA, USA. Abstract #PO0417.

175. Niu, B., H. Liu, D. Nonneman and C.K. Tuggle. 2019. Transcriptome and Genome-Wide Histone Modifications in Swine Fetal Liver. Proceedings of Plant and Animal Genome XXVII. San Diego, CA, USA. Abstract #PE0420.

174. Tuggle, C.K., H. Zhou, C.W. Ernst, C. Loving, J.E. Koltes, J.M. Reecy, P.J. Ross, D. Nonneman, T.P.L Smith, J.P. Steibel, W. Huang. 2018. Functional Annotation of the Porcine Genome: From Descriptive to Predictive Biology. Proceedings of the Livestock genomics conference Hinxton, U.K., p.33.

173. Lunney, J.K., Q. Dong, Y. Nguyen, K. Walker, L. Hong, J. M. Reecy, J.R Dunkelberger, C.K. Tuggle, R.R.R. Rowland, Jack C.M. Dekkers. 2018. Pig Response to Co-infection with PRRSV and PCV2, with or without prior Vaccination for PRRS. Proceedings of the 6th European Veterinary Immunology Workshop (EVIW), Sept 5-7, 2018 Utrecht, The Netherlands. p.18.

172. Zhou, H., P.J. Ross, C. Kern, P. Saelao, Y. Wang, M.M. Halstead, K. Chanthavixay, I. Korf, M. E. Delany, H.H. Cheng, J.F. Medrano, A. Van Eenennaam, C.W. Ernst and C. K. Tuggle. 2018. Genome Wide Identification and Annotation of Functional Regulatory Regions in Livestock Species. Proceedings of Plant and Animal Genome XXVI. Abstract #W0440.

171. Tuggle., C.K. 2018. Towards Understanding the Function of the Porcine Genome. Proceedings of Plant and Animal Genome XXVI. San Diego, CA, USA. Abstract # W1049.

170. Tuggle, C.K., J. Huang, H. Beiki, and Martine Schroyen. 2018. Developing Tools for Evaluating Chromatin Preps for Porcine Functional Genomics. Proceedings of Plant and Animal Genome XXVI. San Diego, CA, USA. Abstract # W985.

169. Ross, P.J., C. Kern P. Saelao, Y. Wang, M.M. Halstead, K. Chanthavixay, C.W. Ernst, C.K. Tuggle and H. Zhou. 2018. Identification of Regulatory Regions in the Swine Genome. Proceedings of Plant and Animal Genome Proceedings of Plant and Animal Genome XXVI. San Diego, CA, USA. Abstract # W166.

168. Kern, C., P. Saelao, Y. Wang, M.M. Halstead, K. Chanthavixay, I. Korf, M.E. Delany, H.H. Cheng, J.F. Medrano, A. Van Eenennaam, C.K. Tuggle, C. W. Ernst, P.J. Ross and H. Zhou. 2018. Genome-Wide Identification and Analysis of CTCF Binding Sites in Chickens and Pigs. Proceedings of Plant and Animal Genome Proceedings of Plant and Animal Genome XXVI. San Diego, CA, USA. Abstract # P0527.

167. Beiki, H., H. Liu, J. Huang, N. Manchanda, D. Nonneman, T.P.L. Smith and C. K. Tuggle. 2018. Additional Annotation of the Pig Transcriptome using Integrated Iso-Seq and Illumina RNA-Seq Analysis. Proceedings of Plant and Animal Genome Proceedings of Plant and Animal Genome XXVI. San Diego, CA, USA. Abstract # P0439.

166. Lim, K-S., Q. Dong, P. Moll, J. Vitkovska, G. Wiktorin, S. Bannister, D. Daujotyte, C. K. Tuggle and J. C.M. Dekkers. 2018. The Effects of a Globin Blocker on the Resolution of QuantSeq 3' mRNA-Seq Data in Porcine Blood. Proceedings of Plant and Animal Genome Proceedings of Plant and Animal Genome XXVI. San Diego, CA, USA. Abstract # P0447.

165. Byrne, K.A., C. K. Tuggle, and C.L. Loving. 2017. Tolerated vs trained: porcine monocyte responses to beta-glucan. Oral presentation at the Conference for Research Workers in Animal Diseases (CRWAD), December 4th, 2017. pp. 88.

164. Boettcher AN, Cino-Ozuna AG, Owens JL, Loving CL, Cunnick JE, Powell EJ, Rowland RRR, Charley SE, Dekkers JCM, and Tuggle CK. 2017. Preliminary evidence of CD3+ cell generation in pigs with severe combined immunodeficiency (SCID): a leaky causative mutation within the Artemis gene. Oral presentation at the Conference for Research Workers in Animal Diseases (CRWAD), December 4th, 2017. p. 81.

163. Varley, L.M., E. Powell, A.N. Boettcher, S. Charley, J. Cunnick, C.K. Tuggle. 2017. Investigation of circulating immunoglobulin-gamma (IgG) in swine with Severe Combined Immunodeficiency (SCID) and development of an IgG supplementation regimen. Poster P094, the Conference for Research Workers in Animal Diseases (CRWAD), December 4th, 2017. p. 186.

162. Beiki, H. M. Schroyen, A. Rakhshandeh, N. Gabler, J. Dekkers, and C. Tuggle. 2017. Rewiring of porcine mRNA and miRNA networks in response to selection for residual feed intake. Proceedings of International Society of Animal Science meeting, Dublin, Ireland, #MT275, p.65

161. Vella, G., M. Schroyen, H. Beiki, C. L. Loving, and C. K. Tuggle. 2017. Porcine bloodomics: Identification of porcine neutrophil-specific genes through gene expression correlations to neutrophil abundance and comparative expression data. Proceedings of

International Society of Animal Science meeting, Dublin, Ireland, #MT164, p.55.

160. Kern C., Y. Wang, P. Saelao, K. Chanthavixay, I. Korf, C. K. Tuggle, C. Ernst, P. Ross, and H. Zhou, 2017. Genome-wide analysis of H3K4me3 and H3K27me3 in three tissues in pigs. Proceedings of International Society of Animal Science meeting, Dublin, Ireland, #MT10, p.41

159. Zhou, H., P. Ross, C. Kern, P. Saelao, Y. Wang, M. Halstead, K. Chanthavixay, I. Korf, M. Delany, H. Cheng, J. Medrano, A. Van Eenennaam, C. Tuggle, and C. Ernst. 2017. Identification of regulatory elements in livestock species. Proceedings of International Society of Animal Science meeting, Dublin, Ireland, #WT58 p.78.

158. Huang, J., M. Schroyen, N. Gabler, J. Dekkers, and C. Tuggle, Combining transcriptome and epigenetic analysis of H3K36me3 and H3K4me3 marks to explore mechanisms of liver-specific gene expression in pigs. 2017. Proceedings of International Society of Animal Science meeting, Dublin, Ireland, #WT70 p.79.

157. Li, Y., Adur, MK, Wang, W, Hale, B, Wierson, W, Essner, J, Tuggle, CK, Ross, JW. 2017 Effect of injection timing on CRISPR/Cas9 mediated gene modification efficiency in parthenogenetically activated and in vitro fertilization derived porcine embryos. 50th Annual Meeting for Society for the Study of Reproduction Annual Meeting, July 13-16, Washington, D.C.

156. Trakooljul, N., H. Zhou, P. Ross., I. Korf, M.E. Delany, H. Cheng, C.K. Tuggle, C. Ernst, S. Ponsuksili, K. Wimmers. 2017. Comparative DNA Methylome of the Chicken and Pig: An Evolutionary Bridge Between Avian and Mammalian 25h Plant and Animal Genomics Conference, 14-18 January, San Diego, CA, US. Abstract P0274.

155. Huang, J., M. Schroyen, Y. Nguyen, N. Gabler, D. Nettleton, J.C.M. Dekkers, C.K. Tuggle. 2017. Identifying tissue specific gene expression using RNAseq data from multiple porcine tissues. 25h Plant and Animal Genomics Conference, 14-18 January, San Diego, CA, US. Abstract P1163.

154. Liu, H., N. Manchanda 1, D. Nonneman, T.P.L. Smith, C.K. Tuggle 2017. Cataloguing multi-tissue transcriptomes by PacBio IsoSeq and Illumina RNA-seq, and its application in annotating new-generation swine reference genome assemblies: Lessons learned from and recommendations given. 25h Plant and Animal Genomics Conference, 14-18 January, San Diego, CA, US. Abstract P1162.

153. Powell, E.J., A.N. Boettcher, L. Varley, J. Cunnick, M. Sauer, A. Putz, M. Schroyen, S. Charley, C.K. Tuggle. 2016. Contact hypersensitivity testing shows long-term hapten-specific memory associated with increased liver NK cell populations up to 32 days post-sensitization. 45th Annual Autumn Immunology Conference November 18-21. Chicago, Illinois.

152. Boettcher, A.N., Powell E.J., Cunnick J.E., Loving C.L., Tuggle C.K. 2016. Porcine SIRPA recognition of human CD47: Implications for human hematopoietic stem cell transplantation into SCID pigs. 45th Annual Autumn Immunology Conference, November 18-21. Chicago, Illinois.

151. Boettcher, A.N., Powell E.J., Cunnick J.E., Loving C.L., Tuggle C.K. 2016. Porcine SIRPA recognition of human CD47: Implications for human hematopoietic stem cell transplantation into SCID pigs. 1st Annual Iowa One Health Conference. November 5th. Iowa City, Iowa.

150. Powell, E.J., Boettcher A.N., Cunnick J.E., Loving, C.L., Tuggle C.K. 2016. Swine SIRPA protein has specific IgV residues associated with recognition of human CD47 and can bind human CD47 in vitro. 16th Annual International Congress of Immunology Conference 2016, August 21-26. Melbourne, Australia.

149. Tuggle, C.K. and the FAANG Consortium. 2016. Comparative Aspects of Functional Annotation of Genomes in the FAANG project. 35th Conference of the International Society for Animal Genetics. July 28 - August 1, Salt Lake City, UT. Abstract #P3051.

148. Schroyen, M. K. M. Feye, Y. T. Nguyen, A. Rakhshandeh, N. K. Gabler, D. Nettleton, J. C. M. Dekkers, and C. K. Tuggle. 2016. Towards robust blood biomarkers for residual feed intake in pigs. 35th Conference of the International Society for Animal Genetics. July 28 - August 1, Salt Lake City, UT. Abstract #P3011.

147. Zhou, H., M. E. Delany, H. Cheng, P. J. Ross, I. Korf, C. Kern, P. Saelao, Y. Wang, T. Kim, J. Chitwood, M. Halstead, J. F. Medrano, A. L. Van Eenennaam, C. K. Tuggle, and C. W. Ernst. 2016. Identification of regulatory elements in three domesticated species. 35th Conference of the International Society for Animal Genetics. July 28 - August 1, Salt Lake City, UT. Abstract #P1043.

146. Bao, H., A. Kommadath, I. Choi, J.M. Reecy, J.E. Koltes, E. Fritz-Waters, C.J. Eisley, R.R.R. Rowland, C.K. Tuggle, J.C.M. Dekkers, J.K. Lunney, L. Guan, P. Stothard, G.S. Plastow. 2016. Genetic architecture of gene expression underlying variation in host response to porcine reproductive and respiratory syndrome virus (PRRSV) infection: Associations between cis expression quantitative trait loci (cis-eQTL) markers and phenotypes. 35th Conference of the International Society for Animal Genetics. July 28 - August 1, Salt Lake City, UT. Abstract #P6034.

145. Liu, H., T.P.L. Smith , D.J. Nonneman, J.C.M. Dekkers, C.K. Tuggle. 2016. A comprehensive porcine blood transcriptome. 35th Conference of the International Society for Animal Genetics. July 28 - August 1, Salt Lake City, UT. Abstract #P3033.

144. Tuggle, C.K., H. Liu, Y.Nguyen, K. Feye, A. Rakhshandeh, N. Gabler, D. Nettleton, J. Dekkers. 2016. The porcine blood transcriptomic response to lipopolysaccharide (LPS) is highly similar to that of human. Proceedings of Biology of Genomes meeting, Cold Spring Harbor, NY, p. 296.

143. Groenen, M.A.M., A. Archibald, and C.K. Tuggle. 2016. Communications as an important Component of the Functional Annotation of Animal Genomes. Proceedings of Plant and Animal Genome XXIV. San Diego, CA, USA. Abstract # P0097.

142. Kern, C., P.J. Ross, P. Saelao, Y. Wang, M.M. Halstead, J. L. Chitwood, I. Korf, M. Delany, J.F. Medrano, H. Cheng, A. Van Eenennaam, C.K. Tuggle, C.W. Ernst, and H. Zhou. 2016. Identification of Tissue-Specific Long Non-Coding RNAs in Three Livestock Species. Proceedings of Plant and Animal Genome XXIV. San Diego, CA, USA. Abstract #P0675

141. Zhou, H., Kern, C., P.J. Ross, C. Kern, P. Saelao, Y. Wang, M.M. Halstead, J. L. Chitwood, I. Korf, T.H. Kim, M. Delany, H. Cheng, J.F. Medrano, A. Van Eenennaam, C.K. Tuggle, and C.W. Ernst. 2016. Genome-wide Functional Annotation of Regulatory Elements in Livestock Species. Proceedings of Plant and Animal Genome XXIV. San Diego, CA, USA. Abstract #P0676.

140. Smith, T.P.L. S. Koren, A. Phillippy, D.M. Bickhart, B. D. Rosen, K. C. Worley, S. G. Schroeder, B. L. Sayre, I. Liachko, S. T. Sullivan, J. N. Burton, A. R. Hastie, T. S. Sonstegard, C. M. Kelley, A. L. Archibald, M. Watson, R. Green, J. Chin, D. Nonneman, G. A. Rohrer, C. K. Tuggle, H. Liu, D.C. Ciobanu, J.F. Medrano, A. Zimin, S. J. Schultheiss, D. E. Hagen, C. G. Elsik, B. Dalrymple, J. W. Kijas, N. Cockett, and M. P. Heaton. 2016. Approaches Taken, Progress Made, and Enhanced Utility of Long Read-based Goat, Swine, Cattle and Sheep Reference Genomes Proceedings of Plant and Animal Genome XXIV. San Diego, CA, USA. Abstract #W635.

139. Lunney, J.K., I. Choi, H. Bao, A. Kommadath, L.L. Guan, G. S. Plastow, R. R. R. Rowland, S. M. Abrams, J. M. Reecy, E. Fritz-Waters, C.K. Tuggle, J.C.M. Dekkers, and P. Stothard. 2016. Probing Porcine Reproductive and Respiratory Syndrome Virus (PRRSV) Infection Control Mechanisms using Differential Gene Expression. Proceedings of Plant and Animal Genome XXIV. San Diego, CA, USA. Abstract #W908.

138. Liu, H., N. T. Yet, D. Nettleton, J. C. M. Dekkers, and C. K. Tuggle. 2016. Post-Weaning Blood Transcriptomic Differences Between Yorkshire Pigs Divergently Selected for Residual Feed Intake. Proceedings of Plant and Animal Genome XXIV. San Diego, CA, USA. Abstract #W915.

137. Outhouse, A. C., J. Grubbs, C. Tuggle, N. Gabler, A. Rakhshandeh, and S. M. Lonergan. 2016. Immune system stimulation by repeated lipopolysaccharide injections alters longissimus dorsi sarcoplasmic protein profile in pigs. Meat Science 112.178. doi:10.1016/j.meatsci.2015.08.173

136. Waide, EH. C.K. Tuggle, NVL Serão, A Hess, RRR Rowland, JK Lunney, G Plastow, JCM Dekkers. Genome wide association analyses of piglet response to experimental infection with one of two isolates of the Porcine Reproductive and Respiratory Syndrome virus North American PRRS Symposium Chicago, IL Dec 5, 2015.

135. FAANG Communications Committee, including C.K. Tuggle (Chair). Communications as an important Component of the Functional Annotation of Animal Genomes (FAANG) Consortium. Proceedings of Gathering-On FAANG Workshop, Washington, DC October 8, 2015. Page 8.

134. Waide, EH. C.K. Tuggle, NVL Serão, A Hess, RRR Rowland, JK Lunney, G Plastow, JCM Dekkers. Integration of genome-wide association analyses and functional annotation extends our understanding of piglet response to Porcine Reproductive and Respiratory Syndrome (PRRS) virus. Proceedings of Gathering-On FAANG Workshop, Washington, DC October 8, 2015. Page 23.

133. Outhouse, A., J. Grubbs, C.K. Tuggle, N. Gabler, A. Rakhshandeh, S. Lonergan. Immune system stimulation by repeated lipopolysaccharide infections alters Longissimus dorsi sarcoplasmic protein in pigs. Reciprocal Meat Conference, Lincoln, NE June 14-17, 2015.

132. Outhouse, A., J. Grubbs, C.K. Tuggle, N. Gabler, A. Rakhshandeh, S. Lonergan. Immune system stimulation by repeated lipopolysaccharide infections alters liver cytoplasmic protein in pigs. Proceedings Midwest meeting, American Society of Animal Science, Des Moines, IA March 16-18, 2015.

131. Liu, H., Y. Nguyen, D. Nettleton, J.C.M. Dekkers, and C.K. Tuggle. 2015. Identification of early differentially expressed genes between two pig lines divergently selected for feed efficiency: potential biomarkers for feed efficiency. Proceedings Midwest meeting, American Society of Animal Science, Des Moines, IA, USA. March 16-18, 2015.

130. Zhou, H., P.J. Ross, I. Korf, M. Delany, H. Cheng, J.F. Medrano, A.Van Eenennaam, C. K.Tuggle, C.W. Ernst. 2015. Annotation of functional regulatory elements in livestock species. Proceedings Midwest meeting, American Society of Animal Science, Des Moines, IA, USA.

129. Tuggle, C.K., D. Rajao, C. Loving, P.C. Gauger, E. H. Waide, J.C.M. Dekkers, and A. Vincent. 2015. Inability of Severe Combined Immune Deficient (SCID) pigs to control IAV replication despite innate immune activation. The Keystone symposia on Immunity to Veterinary Pathogens: Informing vaccine development. Keystone, CO. January 20-25, 2015. Abstract #3024.

128. Lunney J.K., R.R.R. Rowland, B. Trible, I. Choi, S.M. Abrams, J.M. Reecy, E. Fritz-Waters, J.E. Koltes, C.J. Eisley, C.K. Tuggle, M. Schroyen, A. Hess, J. Dunkelberger, J.C.M. Dekkers, N. Boddicker, J.P. Steibel, C.W. Ernst, L.L. Guan, H. Bao, A. Kommadath, P. Stothard, G.S. Plastow. 2015. Immunogenic analyses of swine responses to viral diseases. The Keystone symposia on Immunity to Veterinary Pathogens: Informing vaccine development.

127. Powell, E., J. Cunnick, S. Knetter, E. Waide, J.C.M. Dekkers, C.K. Tuggle. 2014. Increased numbers of functional NK cells in pigs with Severe Combined Immune Deficiency (SCID) caused by natural mutations in the Artemis gene. The Keystone symposia on Immunity to Veterinary Pathogens: Informing vaccine development.

126. Liu, H. and C.K. Tuggle 2015. Improving porcine transcriptome annotation by integrating EST, mRNAs and whole blood RNA-seq data. Proc of Plant and Animal Genome XXIII. San Diego, CA, USA.

125. Tuggle, C.K., E. Powell, D. Rajao, C. Loving, K. Feye, J. Cunnick, P.C. Gauger, A. Vincent, E. H. Waide, and J.C.M. Dekkers. 2015. Characterizing the Iowa State University Severe Combined Immune Deficient (SCID) pig. Proc of Plant and Animal Genome XXIII. San Diego, CA, USA.

124. Schroyen, M., Steibel J.P., I. Choi, J.E. Koltes, C. Eisley, E. Fritz-Waters, J.M. Reecy, J.C.M. Dekkers, Rowland R.R.R., Lunney J.K., Ernst C.W., and C.K. Tuggle. 2015. Whole blood micro-array analysis of pigs showing extreme phenotypes after a porcine reproductive and respiratory syndrome infection. Proc of Plant and Animal Genome XXIII. San Diego, CA, USA.

123. Schroyen, M., Steibel J.P., I. Choi, J.E. Koltes, C. Eisley, E. Fritz-Waters, J.M. Reecy, J.C.M. Dekkers, Rowland R.R.R., Lunney J.K., Ernst C.W., and C.K. Tuggle. 2014. Blood transcriptomics in response to porcine reproductive and respiratory syndrome (PRRS). Proc of the 2014 North American PRRS Symposium.

122. Powell, E., J. Cunnick, S. Knetter, E. Waide, J.C.M. Dekkers, C.K. Tuggle. 2014. Increased numbers of functional NK cells in pigs with Severe Combined Immune Deficiency (SCID) caused by natural mutations in the Artemis gene. 34th Conference of the International Society for Animal Genetics. July 28 - August 1, in Xi'an, China. Abstract #abs490.

121. Schroyen M., C. Eisley, E. Fritz-Waters[1] I. Choi, J.E. Koltes, N. Boddicker, J.M. Reecy, J.K. Lunney, S. Carpenter, P. Liu, J.C.M. Dekkers, C.K. Tuggle. 2014. GO annotation and WGCNA clustering of RNAseq data in response to Porcine Reproductive and Respiratory Syndrome (PRRS). 34nd Conference of the International Society for Animal Genetics. July 27 - August 1, 2014 Xian, China. Abstract #abs694.

120. Tuggle, C.K., D. Rajao, C. Loving, P.C. Gauger, E. H. Waide, J.C.M. Dekkers, and A. Vincent. 2014. Inability of Severe Combined Immune Deficient (SCID) pigs to control IAV replication despite innate immune activation. Vaccines Against Antigenically Variable Viruses Iowa State University meeting, Ames, IA. June 18-19, 2014. (Abstract #32).

119. Schroyen, M., M.S. Herrmann, E.J. Powell, E.H. Waide, J.C.M. Dekkers, C.K. Tuggle. 2014. Can quantification of sjTRECs be used to distinguish between SCID and non-SCID piglets? The International Plant & Animal Genome XXI Conference. January 11-15, 2014, San Diego, California. (Abstract # P0606).

118. Fritz-Waters, E., J.E. Koltes, I. Choi, N. Serao, M. Schroyen, J.K. Lunney, J.C.M. Dekkers, C.K. Tuggle, J. Reecy. 2014. Identification of a Putative Quantitative Trait Nucleotide (QTN) for Host Response to Porcine Respiratory and Reproductive Syndrome (PRRS) Virus

Infection. The International Plant & Animal Genome XXI Conference. January 11-15, 2014, San Diego, California. (Abstract # P0582).

117. Waide, E.H., C.K. Tuggle, N.M. Ellinwood, J.W. Ross, J.C.M. Dekkers. 2014. Not all SCID pigs are created equally: two natural mutations cause Severe Combined Immunodeficiency (SCID) in pigs. The International Plant & Animal Genome XXI Conference. January 11-15, 2014, San Diego, California. (Abstract # P0598).

116. Eisley, C.J., E. Fritz-Waters, I. Choi, J.E. Koltes, N. Boddicker, J. Reecy, J.K. Lunney, S. Carpenter, C.K. Tuggle, P. Liu, J.C.M. Dekkers. 2014. Analysis of gene expression in a region associated with host response to porcine reproductive and respiratory syndrome virus challenge. International Plant & Animal Genome XXI Conference. January 11-15, 2014, San Diego, California. (Abstract # P0592).

115. Powell, E.J., J. Cunnick, E. Waide, M. Schroyen, F.D. Goldman, J. W. Ross, N. M. Ellinwood, E. Snella, K. Esch, J.C.M. Dekkers, C. K. Tuggle. 2014. Toward Humanization of the Pig; Boldly Going where Only Mice have Gone Before. The International. Plant & Animal Genome XXI Conference. January 11-15, 2014, San Diego, California. (Abstract # P0582).

114. Eisley, C.J., E. Fritz-Waters, I. Choi, J.E. Koltes, N. Boddicker, J. Reecy, J.K. Lunney, S. Carpenter, C.K. Tuggle, P. Liu, J.C.M. Dekkers. 2013. Analysis of gene expression in a region associated with host response to porcine reproductive and respiratory syndrome virus challenge. 2013. North American PRRSV Symposium Chicago, IL, Dec. 7-8, 2013.

113. Wyatt, C.R, A.G. Cino Ozuna, R.R.R. Rowland, J. C. Dekkers, E.H. Waide, and C.K. Tuggle 2013. Characterization of a naturally occurring Severe Combined Immunodeficiency in pigs AAI meeting 2013.

112. Tuggle, C.K., H. D. Dawson, J. Loveland, C. Rogel-Gaillard and IRAG Consortium. 2013. Structural and Functional Annotation of the Porcine Immunome. Biology of Genomes, Cold Spring Harbor, NY, May 2013.

111. Steibel, J.P., I. Choi, M. Arceo, C. Ernst, N. Raney, Z. Hu, C. K. Tuggle, N. Boddicker, J.C.M. Dekkers, R.R.R. Rowland and J. K. Lunney. 2013. eQTL analysis of blood RNA from pigs challenged with PRRSV reveal numerous differentially expressed transcripts associated with viral load QTL region. ASAS meeting 2013.

110. Kich, J.D., J.J. Uthe, M.V. Benavides, M. Cantão, R. Zanella, C.K. Tuggle and S.M.D. Bearson. TLR4 single nucleotide polymorphisms (SNPs) associated with *Salmonella* shedding in pigs. American Society for Microbiology meeting, Denver, CO. May 2013.

109. Uthe, J.J., T. Huang, A. E. Ramer-Tait, S. M. Knetter, D. Nettleton, S.M.D. Bearson, M. J. Wannemuehler, C. K. Tuggle Modeling the Expression Patterns of IFN-gamma-Responsive Genes to Differentiate Pigs Shedding High and Low Levels of Salmonella. The International. Plant & Animal Genome XXI Conference. January 12-16, 2013, San Diego, California. (Abstract # P0606).

108. I. Choi, A. Hosseini, H. Bao, A. Kommadath, X. Sun, Y. Meng, P. Stothard, G.S. Plastow, C.K. Tuggle, J.M. Reecy, E. Fritz, S.M. Abrams, J.K. Lunney and L.L. Guan· Globin reduction in porcine whole blood for improving sensitivity and accuracy of transcriptome analysis. The International. Plant & Animal Genome XXI Conference. January 12-16, 2013, San Diego, California. (Abstract # P0595).

107. Knetter, S., C. Tuggle, M. Wannemuehler, A. Ramer-Tait. Barn dust exposure impairs swine alveolar macrophage function: implications for swine respiratory health Conference of Research Workers in Animal Disease, Chicago, IL, December 2-4, 2012. (Abstract # 087P).

106. Knetter, S., C. Tuggle, M. Wannemuehler, A. Ramer-Tait. Barn dust exposure impairs swine alveolar macrophage function: implications for swine respiratory health Autumn Immunology Conference, Chicago, IL 16-19 November, 2012. (Abstract #68).

105. Hu, Z.H., O. Couture, E. Fritz, C. Park, C. Tuggle and J. M. Reecy. Pig Genome Database: a central pig genome information hub to support the community activities. The International. Plant & Animal Genome XX Conference. January 14-18, 2012, San Diego, California. (Abstract # P0972).

104. Huang, T., Uthe, J.J., Knetter, S., Bearson, S.M.D., Nettleton, D., Ramer-Tait, A., Wannemuehler, M.J., and Tuggle, C.K. Using peripheral blood transcriptomic profiling in pigs to explore the immune response to *Salmonella* and discover expression patterns predictive of fecal Salmonella shedding phenotype. The International. Plant & Animal Genome XX Conference. January 14-18, 2012, San Diego, California. (Abstract # P0783).

103. Tuggle, C.K., Rogel-Gaillard, C., and Immune Response Annotation Group (IRAG) members. 2012. Structural and functional annotation of immunity-related genes in the pig genome. The International. Plant & Animal Genome XX Conference. January 14-18, 2012, San Diego, California. (Abstract # P0622).

102. Arceo, M.E., C.W. Ernst, J.K. Lunney, N.E. Raney, T. Huang, C.K. Tuggle, R.R.R. Rowland and J.P. Steibel. 2011. Differential gene expression and functional analysis of RNA from blood of PRRSV infected PHGC pigs. International Porcine Reproductive and Respiratory Syndrome Symposium. Chicago, IL. December 2-3, 2011.

101. C.K. Tuggle, Rogel-Gaillard, C., and Immune Response Annotation Group (IRAG) members. 2011. Community annotation of immunity-related genes in the pig genome. 4th International Symposium on Animal Functional Genomics. October 10-12, 2011, Dublin, Ireland. Abstract #P42, p.26.

100. Mathew, D.J., E.M. Newsom, R.D. Geisert, J.A. Green, C.K. Tuggle and M.C. Lucy. Characterization of nucleotide and predicted amino acid sequence of a porcine Interleukin-1 beta (IL1B) variant expressed in elongated porcine embryos. 2011. Midwest Animal Science Meeting, 14-16 March 2011, Des Moines, IA, Abstract #132.

99. Tuggle, C.K., Huang, T., Couture, O., Ramer-Tait, A., Christian, C., Uthe, J., Demirkale, C. Y., Ji, T., Nettleton, D., Wannemuehler, M.J., and S.M.D. Bearson. The porcine transcriptomic response to *Salmonella* Typhimurium and its endotoxin. The International. Plant & Animal Genome XIX Conference. January 15-19, 2011, San Diego, California.

98. Tuggle, C.K. A comparative analysis of the porcine response to *Salmonella typhimurium* and its endotoxin. European Macrophage and Dendritic Cell Society meeting, 6-8 September 2010, Edinburgh, Scotland.

97. Rogel-Gaillard, C., C.K. Tuggle and Immune Response Annotation Group (IRAG) members. 2010. Annotation of the immunity-related genes in the pig genome. 32nd Conference of the International Society for Animal Genetics. July 26-30, Edinburgh, Scotland. Abstract # P5054, p. 133.

96. Uthe, J.J., S.M.D. Bearson, J.C. Dekkers, L. Qu, D.S. Nettleton, Y. Rodriguez Torres, A.M. O'Connor, J.D. McKean, and C.K. Tuggle. 2010 Integrating Comparative Expression Profiling Data with Association of SNPs to Salmonella Shedding for Improved Food Safety and Porcine Disease Resistance. 32nd Conference of the International Society for Animal Genetics. July 26-30, Edinburgh, Scotland. Abstract #P5070, p. 137.

95. Tuggle, C.K. T. Huang, J.J. Uthe, S. Knetter, C. Christian, O. Couture, C.Y. Demirkale, D. Nettleton, V. Honavar, J.K. Lunney, and S.M.D. Bearson, A.M. Ramer-Tait, M.J. Wannemuehler. Whole blood gene expression patterns measured during Salmonella infection of pigs correlate with bacterial shedding traits. Animal Genomics for Animal Health, 31 May- 2 June 2010, Paris, France. Abstract #1-SA04, page 9.

94. Tuggle, C.K. Jolita J Uthe, C. Christian, O. Couture, C.Y. Demirkale, D. Nettleton, V. Honavar, J.K. Lunney, S.M.D. Bearson. 2010. Developing Predictive Models For Identifying Pigs With Superior Immune Response And Improved Food Safety. The International. Plant & Animal Genome XVIII Conference. January 9-13, 2010, San Diego, California. Abstract #W610, page 156.

93. Ceraci, C. C.K. Tuggle, M.J. Wannemuehler, D. Nettleton, S.J. Lamont 2010. Unique Genome-Wide Transcriptome Profiles Of Chicken Macrophages Upon Exposure To *Salmonella*-Derived Endotoxin. The International. Plant & Animal Genome XVIII Conference. January 9-13, 2010, San Diego, California. Abstract #P738, page 233.

92. Couture, O., K. Callenberg, N. Koul, S. Pandit, R. Younes, Z. Hu, J. Dekkers, J. M. Reecy, V. Honavar, C. K. Tuggle. 2009 ANEXdb: An Integrated Animal ANnotation and Microarray EXpression Database. Systems Biology: Integrative, Comparative, and Multi-Scale Modeling. 11-15 June, 2009. Iowa State University, Ames, IA. Abstract #48, page 49.

91. Ceraci, C., C.K. Tuggle, M.J. Wannemuehler, S.J. Lamont. 2009. Salmonella Endotoxin Effects on Expression of Immune-response genes in Chicken Macrophages. Systems Biology: Integrative, Comparative, and Multi-Scale Modeling. 11-15 June, 2009. Iowa State University, Ames, IA. Abstract #11, page 31.

90. Kenkel, E.J., O. Couture, and C.K. Tuggle 2009. Confirming NF-κB Target Motifs in Genes Responding Earlier to Salmonella Infection in Swine. GFST Symposium on Systems Biology: Integrative, Comparative, and Multi-Scale Modeling, 11-15 June, 2009. Iowa State University, Ames, IA. Abstract #47, page 49.

89. Lkhagvadorj, S. L. Qu, W. Cai, O. Couture, Y. Wang, R. Barb, G. Hausman, R. Rekaya, L.A. Anderson, J. Dekkers, D. Nettleton, C. K. Tuggle. Leptin mediates discriminate response to feed restriction in feed efficient pigs. Experimental Biology Meeting, April 18-22, 2009,New Orleans, LA, Abstract E6 1375.

88. Christian, C., O. Couture, C. Y. Demirkale, D. Nettleton, J.J. Uthe, S.M.D. Bearson, V. Honavar, C. K. Tuggle. Identification of Common Functions of Differentially Expressed Gene Sets in Porcine Whole Blood in Response to Infection with *Salmonella enterica* serovar Typhimurium Plant and Animal Genome meeting: January 10-14, 2009, San Diego; abstract #P641; page 120.

87. Uthe, J.J., S.M.D.Bearson, J. Dekkers, A. O'Connor, J. McKean, K. M. Steffensmeier, C. K. Tuggle. Identifying genetic polymorphisms associated with Salmonella shedding for improved food safety and porcine disease resistance. Plant and Animal Genome meeting: January 10-14, 2009, San Diego; abstract #P168; page 69.

86. Couture, O., K. Callenberg, N. Koul, R. Younes, J. Dekkers, V. Honavar, C. Tuggle. "ANEXdb: An Intuitive Animal Microarray Expression and Functional Annotation Database" International Society of Animal Genetics meeting Amsterdam, The Netherlands July 20-24, 2008. Abstract #5028.

85. Wang Y.F., Couture O.P., Christian C., Qu L., Uthe J.J., Kuhar D., Lunney J., Nettleton D., Dekkers J.C.M., Bearson S.M.D. and Tuggle C.K. "Comparative bioinformatic analysis of the transcriptional response to *Salmonella enterica* serovar Choleraesuis suggests novel targets of NFκB are activated in the porcine mesenteric lymph node" International Symposium on Animal Functional Genomics, Edinburgh, Scotland April 2008 Abstract #P68.

84. Uthe J.J., Wang Y., Bearson S.M.D., O,Connor A.M., McKean J., Nettleton D., Dekkers J.C., Tuggle C.K. Identifying genes associated with bacterial shedding through transcriptional profiling. Midwest ASAS meeting: March 17-19, 2008, Des Moines; abstract# 41, page 13.

83. Sender Lkhagvadorj, Long Qu, Weiguo Cai, Oliver Couture, Yanfang Wang, Richard Barb, Gary Hausman, Romdhane Rekaya, Lloyd Anderson, Jack Dekkers, Dan Nettleton, Christopher Tuggle. "Sterol Regulatory Transcription Factor-1: Key regulator of Fasting Response in the Adipose Tissue in Pigs" Experimental Biology Meeting, April 5-9, 2008, San Diego, CA, Abstract E6 1205.6, page 429.

82. Sender Lkhagvadorj, Long Qu, Weiguo Cai, Oliver Couture, Yanfang Wang, Richard Barb, Gary Hausman, Romdhane Rekaya, Lloyd Anderson, Jack Dekkers, Dan Nettleton, Christopher Tuggle. "Use of transcriptional profiling to understand genetic mechanisms responding to fasting in pigs". Midwest Animal Science Meeting, March 17-19, 2008, Des Moines, IA, Abstract 46, page 15.

81. C. K. Tuggle, S.-H. Zhao, L. Qu, Y.-F. Wang, O. P. Couture, D. Kuhar, J. K. Lunney, J.W. Ross, M. Lucy, D. Nettleton, J. C. M. Dekkers and R.D. Geisert. "Differential Endometrial Transcript Expression Between Yorkshire And The Prolific Meishan Breed Of Pigs During The Critical Stage Of Conceptus Elongation And Early Attachment." Proceedings Plant & Animal Genome XIV meeting, January 12-16, 2008, San Diego, CA, Abstract P730, page 300.

80. C. K. Tuggle, Y. F. Wang, O. P. Couture, L. Qu, J. J. Uthe, D. Kuhar, J. K. Lunney, D. Nettleton, J. C. Dekkers, S. M. D. Bearson. "Computational Integration of structural and functional genomics data across species to develop porcine inflammatory gene regulatory pathway information". Animal Genomics for Animal Health meeting, 23-25 October 2007. Paris, France.

79. C. K. Tuggle, Y. F. Wang, O. P. Couture, L. Qu, J. J. Uthe, D. Kuhar, J. K. Lunney, D. Nettleton, J. C. Dekkers, S. M. D. Bearson. "Bioinformatic integration of structural and functional genomics data across species to develop porcine inflammatory gene regulatory pathway information". 5-7 October 2007. Evanston, IL.

78. C. K. Tuggle, Y. F. Wang, O. P. Couture, L. Qu, J. J. Uthe, D. Kuhar, J. K. Lunney, D. Nettleton, J. C. Dekkers, S. M. D. Bearson. "Characterizing the porcine transcriptional regulatory response to infection by Salmonella: identifying putative new NFkB direct targets through comparative bioinformatics". Genomics for Animal Health: E coli and Salmonella workshop. 7 June 2007. Utrecht, The Netherlands.

77. Tuggle, C.K., Y.F. Wang, and O. Couture. "Advances in Swine Transcriptomics" Proceedings Plant & Animal Genome XV meeting, January 15-20, 2007, Abstract W425, page 95.

76. Lkhagvadorj, S., L. Qu, W. Cai, O. Couture, Y. F. Wang, R. Barb, G. Hausman, R. Rekeya, L. Anderson, J. Dekkers, D. Nettleton, C. K. Tuggle "Use of transcriptional profiling to understand genetic mechanisms controlling feed intake and efficiency in pigs." Proceedings International Society of Animal Genetics meeting, August 2006, Abstract C532, page 22.

75. Zhao, S.H., L. Qu, D. Nettleton, J. Peng, Y.F. Wang, J.K. Lunney, R. Geisert, C. K. Tuggle "Comparative Functional Genomics: Gene expression profiling in early pregnant and cycling Yorkshire gilts using the Affymetrix porcine GeneChip©." Proceedings International Society of Animal Genetics meeting, August 2006, Abstract C263, page 20.

74. Couture, O., X. Zhao, S.H. Zhao, J. Recknor, S. Lkhagvadorj, L. Qu, D. Nettleton, J. Dekkers, C.K. Tuggle. "Improved annotation of the porcine Affymetrix Genechip© and

functional comparison to QIAGEN-NRSP8 oligonucleotide array data." Proceedings International Society of Animal Genetics meeting August 2006, Abstract E246, page 25.

73. Wang, Y.F., J. J. Uthe, S. M. B. Bearson, D. Kuhar, J. Lunney, L. Qu, D. Nettleton, C. K. Tuggle "Lack of a strong NFκB-dependent transcriptional response during infection with *Salmonella enterica* serovar Typhimurium as compared to that observed in *S.* Choleraesuis infection." Proceedings International Society of Animal Genetics meeting August 2006, Abstract C264, page 20.

72. Tuggle, C.K., L. Qu, Y. F. Wang, O. Couture, D. Nettleton, J. Dekkers, S.H. Zhao, J.J. Uthe, S.M.D. Bearson. Using a first-generation porcine Affymetrix GeneChip to investigate the functional genomics of immune response and reproductive biology 2006. Proceedings Plant & Animal Genome XIV meeting, January 13-18, 2006, San Diego, CA, Abstract W242, page 61.

71. Wang, Y.F., J. J. Uthe, S. M. B. Bearson, L. Qu, D. Nettleton, C. K. Tuggle Transcriptional suppression of specific porcine immune pathways during infection with *Salmonella enterica* serotype Typhimurium compared to Choleraesuis. 2006. Proceedings Plant & Animal Genome XIV meeting, January 13-18, 2006, San Diego, CA, Abstract W242, page 61.

70. Zhao S.-H., L. Qu, D. Nettleton, J. Peng, Y.F. Wang, J.K. Lunney, R. Geisert C.K. Tuggle 2006. Identification of differentially expressed genes in endometrium RNAs collected from early pregnant and cycling Yorkshire and Meishan gilts using the Affymetrix porcine GeneChip™ Proceedings Plant & Animal Genome XIV meeting, January 13-18, 2006, San Diego, CA, Abstract P568, page 243.

69. Zhao, S.-H., Lkhagvadorj, S., Whitworth, K., Prather, P., C. Tuggle. 2005. Identification of porcine genes in term placenta affected by nuclear transfer and cloning of pigs. UI-ISU Bioinformatics Workshop, Iowa City, IA July 19,2005.

68. Wang, Y.F., J.J. Uthe, S.M.B. Bearson, L. Qu, D. Nettleton, C.K. Tuggle. 2005. Differential transcript response to infection to host-specific and host-generalist *Salmonella.* UI-ISU Bioinformatics Workshop, Iowa City, IA July 19,2005

67. Zhao, S.H., J. Bastiaansen, M. Mellencamp, T.A. Stabel, C.K. Tuggle 2005. Polymorphisms in NFKB1 are associated with host resistance to salmonella choleraesuis infections in this pig. Genetics of Animal Health Symposium, Ames, IA. p. 132

66. Uthe, J. J., S.H. Zhao, C.K. Tuggle, and S. M.D. Bearson.. 2005. Differential expression of porcine cytoskeleton genes during infection with *Salmonella enterica* serotype choleraesuis. Genetics of Animal Health Symposium, Ames, IA. p. 128.

65. Uthe, J. J., A. Royaee, J.K. Lunney, T.J. Stabel, S.H. Zhao, C.K. Tuggle, and S. M.D. Bearson. 2005. Differences in the swine response to infection with *Salmonella enterica* serovars Choleraesuis and Typhimurium. American Society for Microbiology, Atlanta, GA.

64. Zhao, S.H., J. Recknor, D. Nettleton, J. Lunney, J.J. Uthe, S. Bearson, C. Tuggle 2005. Identification of Differentially Expressed Genes in Porcine Lung Tissue During *Salmonella enterica* Serovar choleraesuis Infection Using a 13,000 Swine Gene Oligo Microarray. Proceedings Plant & Animal Genome XIII meeting, January 15-19, 2005, San Diego, CA, Abstract P568, page 212.

63. Zhao, S.H., J. Recknor, D. Nettleton, M. Rothschild, C.Tuggle. 2004. Current Transcript profiling experience with the Qiagen-Operon Porcine Long Oligonucleotide Set (Porcine AROS 1.0). Proceedings Plant & Animal Genome XII meeting, January 11-15, 2004, San Diego, CA, Abstract W160, page 45.

62. Zhao, S.H., D. Simmons, J. Cross, T. E. Scheetz, T. L. Casavant, M. B. Soares, C. K. Tuggle 2004. PLET1, a highly expressed and processed novel gene in pig and mouse placenta is transcribed but poorly spliced in human. Proceedings Plant & Animal Genome XII meeting, January 11-15, 2004, San Diego, CA, Abstract P674, page 239.

61. Lee , S.H., S. Zhao, J.C. Recknor, D. Nettleton, S.K. Kang, B.C. Lee, W.S. Hwang, C. K. Tuggle 2004. Gene expression analysis of porcine peri-implantation concepti during trophoblastic elongation using cDNA macroarray screening. Proceedings Plant & Animal Genome XII meeting, January 11-15, 2004, San Diego, CA, Abstract P683, page 241.

60. Zhang, Y.D., C.K. Tuggle, M.F. Rothschild, K. Garwood, and W. Beavis. Annotation of Porcine Expressed Sequence Tags and Creation of Porcine-Human Orthologous Gene Resources. 15th Association for the Advancement of Animal Breeding and Genetics Conference, 7-11 July 2003, Melbourne, Australia.

59. Tuggle, C.K., J.A. Green, C. Fitzsimmons, R. Woods, R.S. Prather, S. Malchenko, M.B. Soares, T. Kucaba, K. Crouch, C. Smith. D. Tack, N. Robinson, B. O'Leary, T. Scheetz, T. Casavant, D. Pomp, J.B. Edeal, Y.D. Zhang, Z. Hu, M.F. Rothschild, K. Garwood, and W. Beavis. Completion of the Midwest Consortium Project: Sequencing of 21,499 Reproduction ESTs and Comparative Mapping of 721 Selected Genes. Triennial Reproduction Symposium, Am. Soc. Animal Science Meeting, Phoenix, AZ June 21-23, 2003.

58. Joksimovic , M., Abbott, M. Jeannotte, L., Tuggle, C. The Use of new antibodies specific for murine HOXA5 reveals a dynamic pattern of expression in the developing central nervous system. Proceedings of the Great Lakes Developmental Biology Meeting, Toronto, CA, March 14-16, 2003.

57. Shi, X.-W., M.A. Mellencamp, T. Stabel, L. Galina-Pantoja, J. Bastiaansen, C.K. Tuggle, Complete cDNA Cloning and Polymorphisms at Porcine BPI: Associations with Bacterial Load and Immune Response Traits in Pigs. Proceedings Plant & Animal Genome XI meeting, January 11-15, 2003, San Diego, CA, Abstract 627, page 231.

56. Tuggle C.K., T.A. Stabel, L. Marklund, A. Stumbaugh, L. Galina-Pantoja, J. Bastiaansen, M.A. Mellencamp NRAMP1 polymorphisms associated with bacterial load and immune response traits in pigs. Proceedings Plant & Animal Genome XI meeting, January 11-15, 2003, San Diego, CA, Abstract 626, page 231.

55. Zhao Z.H., D. Nettleton, W. Liu, C. Fitzsimmons, C.W. Ernst, N. Raney, and C.K. Tuggle cDNA Macroarray analyses of Differential Gene Expression on Porcine Fetal and Postnatal Muscle. Proceedings Plant & Animal Genome XI meeting, January 11-15, 2003, San Diego, CA, Abstract 623, page 230.

54. Tuggle, C.K., J.A. Green, C. Fitzsimmons, R. Woods, R.S. Prather, S. Malchenko, M.B. Soares, C.A. Roberts, K. Pedretti, T. Casavant, D. Pomp, A.R. Caetano, J.B. Edeal, S. Olberding, Y.D. Zhang, M.F. Rothschild, K. Garwood, and W. Beavis. 2002. INVITED SEMINAR: Development of EST sequence data and map locations for genes expressed in major female reproductive tissues. J. Animal. Sci. 80(Suppl 2): 39.

53. Zhang, Y.D., K. Garwood,W.D. Beavis, C.K. Tuggle, and M.F. Rothschild. 2002. Porcine Expressed Sequence Tags (ESTs): Comparative Analysis and Database Development. Proceedings Plant & Animal Genome X meeting, January 14-18, 2002, San Diego, CA, Abstract 811, page 280.

52. Kim, K. S., L. L. Anderson, C. K. Tuggle, and M. F. Rothschild. 2002. Mapping and functional analysis of the porcine ghrelin gene - A candidate gene for growth and appetite traits. Proceedings Plant & Animal Genome X meeting, January 14-18, 2002, San Diego, CA, Abstract 606, page 229.

51. Stumbaugh, A.N., T. J. Stabel, C. J. Fitzsimmons, C. K. Tuggle. 2002. TaqMan Real-Time RT-PCR detection of NRAMP1 transcripts in porcine *Salmonella choleraesuis* infected tissues**.** Proceedings Plant & Animal Genome X meeting, January 14-18, 2002, San Diego, CA, Abstract 773, page 271.

50. Tuggle, C. K., J. A. Green, C. Fitzsimmons, et al., 2002. A Pig Reproduction EST Project: Development of EST Sequence data and map locations for genes expressed in major female reproductive tissues. Proceedings Plant & Animal Genome X meeting, January 14-18, 2002, San Diego, CA, Abstract 82, page 98.

49. Tuggle , C. K., R. S. Prather, M. B. Soares, T. Casavant, D. Pomp, M. F. Rothschild, W. Beavis. Gene Discovery and Functional Genomics in the Pig. Proceedings the National Swine Improvement Federation, St. Louis, MO, December 6-7, 2001, p. 12.

48. Jeannotte, L., J. Lapointe, S. Tabaries, T. Besch, and C.K. Tuggle. 2001. Characterization of regulatory elements responsible for Hox15 regional expression. Developmental Biology, Vol. 235, SDB Meeting Abstracts (516), Page 285.

47. Krieger, K.E., I.M. Sonea, M. Abbott, and C.K. Tuggle. 2001. Hoxa5-overexpressing mice have spinal cord defects that impair sensory performance. Developmental Biology, Vol 235, Society for Developmental Biology Meeting Abstracts (241), Page 223.

46. Krieger, K., I.M. Sonea, M. Abbott, P. Lueth, and C.K. Tuggle. 2001. Transgenic mice overexpressing *Hoxa5* in the brachial spinal cord have pain pathway defects that impair motor and sensory performance. Proceedings of the Stowers Institute Symposium, From Genes and Genetics to Molecular Medicine, Kansas City, MO, October 30-31, Page 13.

45. Tuggle, C. K., J.A. Green, C. Fitzsimmons, R. Woods, R. Prather, S. Malchenko, M.B. Soares, C. A. Roberts, K. Pedretti, and T. Casavant. 2001. Production of 17 cDNA libraries and successful EST sequencing of 10,124 clones from porcine female reproductive tissues. J. Anim. Sci. Vol. 79(Suppl. 1):338.

44. Zhao, S., C. Fitzsimmons, C. Ernst, and C. Tuggle. 2001. Macroarray analyses of differential gene expression in porcine fetal and postnatal skeletal muscle RNA. J. Anim. Sci. Vol. 79(Suppl. 1):338.

43. Fitzsimmons, C.J., L. Marklund, T. Stabel, L. Galina, and C.K. Tuggle. 2001. Evaluation of cross-species hybrizations with porcine mRNA to human microarrays. Proceedings Plant and Animal Genome IX, p. 212.

42. Tuggle, C.K., J. Green, C.J. Fitzsimmons, R. Woods, R. Prather, S. Malchenko, B. Soares, C. Roberts, K. Pedretti, T. Casavant, C. Harger, Y. Zhang, and M.F. Rothschild. 2001. Development of resources for functional genomics in the pig: production of 14 cDNA libraries and sequencing of over 7,000 clones from female reproductive tissues. Proceedings Plant and Animal Genome IX, p. 77.

41. Shi, X-W. and C.K. Tuggle. 2001. Physical and linkage assignment of three members (LBP, PLTP, and CETP) of a gene family to porcine chromosomes 6 and 17. Proceedings Plant and Animal Genome IX, p. 211.

40. Abbott, M., K. Krieger, and C. K. Tuggle. 2000. Developing inducible Hoxa5 gene expression in transgenic mice. Proceedings of Mouse Molecular Genetics Meeting, Cold Spring Harbor, NY, August 30-September 3, P. 20.

39. Krieger, K., M. Abbott, and C. K. Tuggle. 2000. Hoxa-5 overexpressing transgeneics show motor and sensory defects of the forelimb. Proceedings of Mouse Molecular Genetics Meeting, Cold Spring Harbor, NY, August 30-September 3, P. 97.

38. Fitzsimmons, C. J., L. Marklund, T. J. Stabel, and C. K. Tuggle. 2000. Development of a real-time PCR detection method for the quantitation of MPO transcripts in porcine tissues. ISAG Proceedings, Minneapolis, MN, July 22, Abstract #C026.

37. Shi, X.-W., C. J. Fitzsimmons, R. Prather, K. Whitworth, J. A. Green, and C. K. Tuggle. 2000. High resolution physical mapping confirms similar gene order with an inversion

between human 17 (Hsap 17) and porcine chromosome 12 (Sscr12). ISAG Proceedings, Minneapolis, MN, July 22, Abstract #A057.

36. Sun, H. S., C. K. Tuggle, A. Goureau, C. J. Fitzsimmons, P. Chardon, and M. Yerle. 2000. Precise mapping of breakpoints in conserved synteny between human chromosome 1 and pig chromosomes 4, 6, and 9. ISAG Proceedings, Minneapolis, MN, July 22, Abstract #A061.

35. Tuggle, C. K., S. Malchenko, R. Woods, K. Whitworth, J. A. Green, R. Prather, C. A. Roberts, C. J. Fitzsimmons, T. Casavant, and M. B. Soares. 2000. Development of new placental and fetal ESTs for gene discovery in pig reproduction. ISAG Proceedings, Minneapolis, MN, July 22, Abstract #A065.

34. Tuggle, C. K., X.-W. Shi, K. Whitworth, J. A. Green, R. Prather, M. F. Rothschild, D. Pomp, L. Messer, C. Roberts, T. Casavant, and M. B. Soares. 2000. Gene discovery in porcine reproduction: physical mapping of 19 genes and ESTs. Proceedings Plant and Animal Genome VIII, p. 201.

33. Abbott, M., K. Krieger, L. Bendickson, M. Nilsen-Hamilton, and C. K. Tuggle. 1999. Inducible control of hoxa5 gene expression in mammalian cells. Transgenic Res. 8:478.

32. Marklund, L., and C. K. Tuggle. 1999. SNP analysis of the porcine NRAMP1 gene using base excision sequence scanning. Proceedings Plant Animal Genome VII, P. 204.

31. Marklund, S., C. K. Tuggle, and M. F. Rothschild. 1999. Assignment of three genes to porcine chromosome 7q. Proceedings Plant Animal Genome VII, P. 165.

30. Larsen, J. J., A. Robic, C. K. Tuggle, and M. F. Rothschild. 1998. Mapping the myocyte enhancer factor 2a (MEF2A) gene in the pig confirms the existence of a region of homology between the telomeric end of HSA15 and SSC1. Proceedings Plant Animal Genome VI, P. 159.

29. Larsen, N. J., K. A. Kelly, G. R. Bertani, Z. L. Hu, K. S. Kim, M. Malek, S. Marklund, J. Seifert, A. Bothwell, M. Yerle, C. K. Tuggle, and M. F. Rothschild. 1998. Addition of sixteen genes to the porcine comparative gene map reveals new regions of conserved synteny. Anim. Genet. Abstract, ISAG Conference Proceedings, Auckland, NZ.

28. Larsen, N. J., L. A. Messer, C. K. Tuggle, A. Robic, and M. F. Rothschild. 1998. Mapping of the mitochondrial uncoupling protein (UCP1) gene in pigs narrows the human chromosome 4 region containing a break in synteny conservation with pig (*Sus scrofa*) chromosomes 8 and 17. Proceedings Plant and Animal Genome VI, P. 159.

27. Rothschild, M. F., A. L. Vincent, C. K. Tuggle, G. Evans, T. H. Short, O.I. Southwood, R. Wales, and G. S. Plastow. 1998. A mutation in the prolactin receptor gene associated with increased litter size in pigs. Anim. Genet. Abstract, ISAG Conference Proceedings, Auckland, NZ.

26. Sun, H.-F., M. Yerle, P. Pinton, P. Chardon, C. Rogel-Gillard, L. Wang, M. F. Rothschild, and C. K. Tuggle. 1998. Refinement of the boundaries of conserved synteny in human chromosome 1 with pig chromosomes 4 and 9. Proceedings Plant and Animal Genome VI, P. 110.

25. Vincent, A. L., G. Evans, T. H. Short, O. I. Southwood, G. S. Plastow, C. K. Tuggle, and M. F. Rothschild. 1998. The prolactin receptor gene is associated with increased litter size in pigs. 6th World Cong. Genet. Appl. Livestock Prod., Armidale, Australia, January 11-16.

24. Yerle, M., H. S. Sun, P. Pinton, C. W. Ernst, L. Schribler, M. F. Rothschild, C. Rogel-Gaillard, E. P. Cribiu, P. Chardon, and C. K. Tuggle. 1998. Comparative mapping of human chromosome 3 genes in pig reveals extensive rearranged gene order. ISAG Proceedings/Chromosome 13 Workshop, Auckland, New Zealand. August 8-14.

23. Yu, T. P., L. Wang, C. K. Tuggle, and M. F. Rothschild. 1998. Mapping genes for fatness and growth on pig chromosome 13: A search in the region close to the pig PIT1 gene. ISAG Proceedings/Chromosome 13 Workshop, Auckland, New Zealand. August 8.

22. Larsen, N. J., C. K. Tuggle, M. Yerle, and M. F. Rothschild. 1997. ADCYAP1 maps to pig chromosome (SSC) 6, not to the expected location on SSC1. Proceedings 10th North Amer. Coll. on Gene Mapping and Cytogenetics.

21. Sun, H. S., L. Wang, M. F. Rothschild, A. Robic, and C. K. Tuggle. 1997. Comparative gene mapping of human chromosome 13 in pigs. J. Anim. Sci. 75 (Suppl. 1):150.

20. Sun, H. S., T. P. Yu, L. Wang, M. F. Rothschild, M. Yerle, and C. K. Tuggle. 1997. Refinement of the syntenic boundary of pig chromosomes 4 and 6 to human chromosome 1. J. Animal Science 75 (Suppl 1):30.

19. Vincent, A. L., L. Wang, and M. F. Rothschild. 1997. Linkage mapping of the leptin receptor to pig chromosome 6. J. Anim. Sci. 75 (Suppl. 1):145.

18. Vincent, L., L. Wang, C. K. Tuggle, and M. F. Rothschild. 1997. Prolactin receptor maps to pig chromosome 16. J. Animal Science 75 (Suppl 1):31.

17. Wahls, S., T.-P. Yu, C. Tuggle. 1997. Analysis of pig PIT-1 gene structure identifies a new polymorphism in the coding region. J. Animal Science 75 (Suppl 1):30.

16. Wang, L., T.-P. Yu, H. W. Chung, C. K. Tuggle, and M. F. Rothschild. 1997. Pinpointing QTLs on chromosome 7 for performance traits in the pig. J. Animal Science 75 (Suppl 1):145.

15. Yu, T.-P., L. Wang, M. F. Rothschild, and C. K. Tuggle. 1997. Progress toward an interval map for birth weight and early growth quantitative trait loci on pig chromosome 13. J. Animal Science 75 (Suppl 1):145.

14. Tuggle, C. K., C. Schmitz, S. Wahls, D. Gingerich Feil and M. F. Rothschild 1996 Cloning and analysis of pig NRAMP and other candidate genes for disease resistance and comparative genome mapping in pigs. J Animal Science 74(Suppl 1):24.

13. Yu, T.-P., M. F. Rothschild and Tuggle, C. K. 1996 Functional Studies of the pig PIT-1 protein and a PIT-1 delta 3 protein encoded by an alternative transcript. J Animal Science 74(Suppl 1):24.

12. Liu, H. C., M. R. Rothschild, and C. K. Tuggle. 1995. Analysis of pig chromosome 7 genetic markers for growth and carcass performance traits. J. Anim. Sci. 73 (Suppl. 1):41.

11. Rothschild, M. F., C. K. Tuggle, D. A. Vaske, and L. Wang. 1995. Development of a consensus map for chromosome 1 in the pig. J. Anim. Sci. 73 (Suppl. 1):40.

10. Tuggle, C. K., C. Schmitz, L. Wang, and M. F. Rothschild. 1995. Cloning, polymorphism identification and mapping of OCT1. J. Anim. Sci. 73 (Suppl. 1):39.

9. Rothschild, M. F., C. Jacobson, D. A. Vaske, C. K. Tuggle, T. Short, S. Sasaki, G. R. Eckardt and D. G. McLaren. 1994. A major gene for litter size in pigs. Proceeding of the 5th World Congress on genetics Applied to Livestock Production 21:225-228.

8. Rothschild, M. F., D. Vaske, R. Larson, H. Liu, C. Tuggle, C. Warner, Muladno, P. Le Tissier, C. Moran, L. Andersson, I. Edfors-Lilja, M. Johansson, A. Archibald and C. Haley. 1994. Conserved synteny between human chromosome 6 and pig chromosomes 1 and 7. Anim. Genet. 25 (Suppl. 2):53.

7. Rothschild, M. F., P.L. Spike, C. K. Tuggle and L. L. Christian. 1994. Coordination of U.S. pig gene mapping efforts. J. Anim. Sci. 72: (suppl. 2) 36.

6. Tuggle, C., C. Schmitz, J. Woollard, A. Rahman, M. Rothschild, C. Haley, and A. Archibald. 1994. Cloning, characterization and mapping of candidate genes in swine. Animal Genetics 25 (Suppl. 2):56.

5. Tuggle, C. K., C.B. Schmitz, T.-P. Yu and M. F. Rothschild. 1994. Identification of swine genes expressed in muscle and their association with quantitative traits. J. Anim. Sci. 72 (Suppl. 2):36

4. Tuggle, C. K., C.B. Schmitz, T.-P. Yu and M. F. Rothschild. 1994. Identification of swine genes expressed in muscle and their association with quantitative traits. J. Anim. Sci. 72 (Suppl. 1):248.

3. Yu, T.-P., M. F. Rothschild and C.K. Tuggle. 1994. Isolation and analysis of alternative transcripts of the swine PIT-1 gene using PCR. J. Anim. Sci. 72: (suppl. 1) 314.

2. Tuggle, C. K., J. Helm, R. Larson and M. F. Rothschild. 1993. Cloning of a new swine gene with potential major effects on disease resistance. J. Anim. Sci. 71 (Suppl. 1):36.

1. Yu, T.-P., C. B. Schmitz, M. F. Rothschild, and C. K. Tuggle. 1993. Cloning and application of the swine PIT-1 gene: use as a molecular marker in swine breeding studies. J. Anim. Sci. 71 (Suppl. 1):99.

Extension Research Reports (reverse chronological order)

40. Grubbs, K., C.K. Tuggle, J. Dekkers, Y. Nguyen, E. Huff-Lonergan, D. Nettleton, S. Lonergan. Development of protein biomarker identification protocols. AS Leaflet R2940. Animal Industry Report 2015. Iowa State University, Ames, IA.

39. Outhouse, A., Grubbs, K., C.K. Tuggle, J.Dekkers, N. Gabler, S. Lonergan. Changes in the protein profile of porcine liver in response to immune system stimulation. AS Leaflet R2941. Animal Industry Report 2015. Iowa State University, Ames, IA.

38. Waide, E., C. Tuggle, N. Serao, A. Hess, E. Snella, R. Rowland, J. Lunney, G. Plastow, J. Dekkers. Genomic Association and Prediction of Response to Infection for Two Isolates of Porcine Reproductive and Respiratory Syndrome Virus AS Leaflet R2755. Animal Industry Report 2015. Iowa State University, Ames, IA.

37. Schroyen M., J.P. Steibel, I. Choi, J. E. Koltes, C. Eisley, E. Fritz-Waters, J. M. Reecy, J. C. M. Dekkers, R R. R. Rowland, J. K. Lunney, C.W. Ernst, and C. K. Tuggle. Identifying Molecular Differences in Pigs with Extreme Phenotypes for Weight Gain and Viral Load in Response to PRRSV. AS Leaflet R3014. Animal Industry Report 2015. Iowa State University, Ames, IA.

36. Liu, H., Y. Nguyen, D. Nettleton, J. Dekkers, C.K. Tuggle. Differentially expressed genes in blood from young pigs between two swine lines divergently selected for feed efficiency: potential biomarkers for improving feed efficiency. ASL3015 Animal Industry Report 2014. Iowa State University, Ames, IA.

35. Eisley, C. J, E. Fritz-Waters, I. Choi, J.E. Koltes, N. Boddicker, J.M. Reecy, J. Lunney, S.. Carpenter, C. K. Tuggle, P. Liu, J.C.M. Dekkers. Analysis of Gene Expression in a Region Associated with Host Response to Porcine Reproductive and Respiratory Syndrome Virus Challenge. AS Leaflet R2919. Animal Industry Report 2014. Iowa State University, Ames, IA.

34. Wright, E.C., C-X. Yang, C.K. Tuggle, J.W. Ross. Heat Stress during Pig Oocyte In Vitro Maturation Impacts Embryonic Development and Gene Expression AS Leaflet-R2739. Animal Industry Report 2012. Iowa State University, Ames, IA.

33. Waide, E., C. Tuggle, M. Ellinwood, J. Ross, N. Boddicker, D. Thekkoot, J. Young, E. Snella, S. Ho, R. Rowland, C. Wyatt, H. He, J. Dekkers. Discovery and Use of a Natural

Mutation that results in Severe Combined Immuno Deficency in Pigs. AS Leaflet-R2755 Animal Industry Report 2012. Iowa State University, Ames, IA.

32. Ciraci, C., C.K. Tuggle, M.J. Wannemuehler, D. Nettleton, S.J. Lamont. Kinetic Profile of Chicken Macrophage Immune Response upon exposure to *Salmonella*-derived Endotoxin. AS Leaflet-R2481 Animal Industry Report 2010. Iowa State University, Ames, IA.

31. Couture, O., K. Callenberg, N. Koul, S. Pandit, R. Younes, Z. Hu, J. Dekkers, J. Reecy, V. Honavar, C.K. Tuggle. ANEXdb: An Integrated Animal Annotation and Microarray EXpression Database AS-Leaflet-R2556 Animal Industry Report 2010. Iowa State University, Ames, IA.

30. Lkhagvadorj, S. L. Qu, W. Cai, O. Couture, L. Anderson, J. Dekkers, D. Nettleton, C. Tuggle. Transcriptional Profiling of the Caloric Restriction in Key Metabolic Tissues of Pigs Differing in Feed Efficiency. AS-Leaflet-R2558 Animal Industry Report 2010. Iowa State University, Ames, IA.

29. Lkhagvadorj, S., L. Qu, W. Cai, O. Couture, Y. Wang, L. Anderson, J. Dekkers, D. Nettleton, C. Tuggle, 2007. Use of Transcriptional Profiling and Assessment of Blood Parameters to Understand Biological Mechanisms Controlling Feed Intake and Efficiency in Pigs. A.S. leaflet R2233, Animal Industry Report 2007. Iowa State University, Ames, IA.

28. Tuggle, C.K., X.W. Shi, L. Marklund, A. Stumbaugh, T.J. Stabel, M.A Mellencamp, L. Galina-Pantoja, and J. Bastiaansen 2004. Association of bacterial infection traits with genetic variation at candidate genes for porcine disease resistance. Bulletin AS 650, Animal Industry Report 2004. Iowa State University, Ames, IA ASL-R1952.

27. Tuggle, C. K. and Midwest Consortium. 2004. Finding the genes expresses in female reproductive tissues in pigs. Bulletin AS 650, Animal Industry Report 2004, Iowa State University, Ames, IA ASL-R1950.

26. Tuggle, C.K., Y. Zhang, M. Rothschild, M. Moller, L. Andersson, J. Riquet, D. Milan, D. Pomp, A. Archibald, S. Anderson. 2004. A detailed gene map of pig chromosome 4, where the first quantitative trait locus in livestock was mapped. Bulletin AS 650, Animal Industry Report 2004, Iowa State University, Ames, IA ASL-R1951.

25. Fitzsimmons, C. J., L. Marklund, T. J. Stabel and C. K. Tuggle. 2000. Development of a real-time PCR detection method for the quantitation of MPO transcripts in porcine tissues. ISU Swine Research Reports ASL-R665.

24. Shi, X. W., C. J. Fitzsimmons, R. Prather, K. Whitworth, J. A. Green, and C. K. Tuggle. 2000. High-resolution physical mapping confirms similar gene order with an inversion between human 17 (Hsap17) and porcine chromosome 12 (Sscr12). ISU Swine Research Reports ASL-R666.

23. Tuggle, C. K., S. Malchenko, R. Woods, K. Whitworth, J. A. Green, R. Prather, C. A. Roberts, C. J. Fitzsimmons, T. Casavant, and M. B. Soares. 2000. Development of new placental and fetal ESTs for gene discovery in pig production. ISU Swine Research Reports ASL-R668.

22. Marklund, S., C. K. Tuggle, and M. F. Rothschild. 1999. Mapping of three genes to porcine chromosome 7q enlightens the sysnteny with human chromosomes 14q and 15q. ISU Swine Research Reports ASL-1673.

21. Sun, H. S., L. L. Anderson, C. K. Tuggle, and J. Klindt. 1998. Quantitative measurement of GH and PRL mRNA and circulating hormone levels in pig families segregating PIT1 genotypes. ISU Swine Research Reports. ASL-R1575

20. Tuggle, C. K., B. Smith, I. Sanchez-Serrano, C. Ernst, and L. Marklund. 1998. Muscle ESTs II: cloning, sequencing, and mapping of the pig gene for the intermediate filament protein desmin. ISU Swine Research Reports. ASL-R1576.

19. Yu, T.-P., L. Wang, C. K. Tuggle, and M. F. Rothschild. 1998. Mapping genes for fatness and growth on pig chromosome 13, a search in the region close to the pig *PIT1* gene. ISU Swine Research Reports. ASL-R1574.

18. Sun, H. S., W. Ernst, M. F. Rothschild, and C. K. Tuggle. 1997. Comparative mapping of human chromosome 3 genes in the pig shows different gene order. ISU Swine Research Reports ASL-R1S19.

17. Sun, H. S., M. F. Rothschild, and C. K. Tuggle. 1997. Comparative mapping of human chromosome 13 genes in the pig shows a similar gene arrangement. ISU Swine Research Report ASL-R1S20.

16. Yu, T.-P., H. S. Sun, M. F. Rothschild, and C. K. Tuggle. 1997. Cloning of the complete gene for pig PIT1 and analysis of PIT1 protein function. ISU Swine Research Report ASL-R1492.

15. Messer, L. A., L. Wang, C. K. Tuggle, and M. F. Rothschild. 1996. Mapping of the melatonin receptor 1a (MTNR1A) gene in pigs, sheep, and cattle. ISU Swine Research Reports, ASL-R1377.

14. Tuggle, C. K., C. Schmitz, and D. Gingerich-Feil. 1996. Cloning of the pig counterpart of a gene involved in resistance to bacterial infection. ISU Swine Research Reports, ASL-R1382.

13. Tuggle, C. K., T.-P. Yu, H.-F. Sun, L. Wang, M. F. Rothschild, and M. Yerle. 1996. Genetic and physical mapping of the pig vascular cell adhesion molecule 1 (VCAM1) gene to pig chromosome 4. ISU Swine Research Reports, ASL-R1378.

12. Rothschild, M. F., C. Jacobson, D. A. Vaske, and C. K. Tuggle. 1994. Discovery of a major gene for litter size in pigs. ISU Swine Research Reports, ASL-R1178.

11. Rothschild, M. F., C. K. Tuggle, D. A. Vaske, C. M. Warner, and PiGMaP Consortium. 1994. Similarity of human chromosome 6 and pig chromosomes 1 and 7. ISU Swine Research Reports, ASL-R1179.

10. Tuggle, C. K., M. F. Rothschild, and PiGMaP Consortium. 1994. Chromosomal mapping of four POU-domain genes and two muscle specific genes in the pig. ISU Swine Research Reports, ASL-R1185.

9. Woollard, J., C. B. Schmitz, and C. K. Tuggle. 1994. Cloning and sequence analysis of the POU-domain region of swine BRN1 and BRN3. ISU Swine Research Reports, ASL-R1184.

8. Rothschild, M. F. and C. K. Tuggle. 1993. Iowa State to Coordinate U.S. Pig Gene Mapping Efforts. ISU Swine Research Reports, ASL-R1082.

7. Tuggle, C. K. and C. B. Schmitz. 1993. Eleven New Pig Muscle cDNAs: Initial Results of an Expressed Sequence Tag Project. ISU Swine Research Reports, ASL-R1089.

6. Tuggle, C. K., C. B. Schmitz, and J. Woollard. 1993. Development of New Genetic Markers for Disease Resistance in Pigs. ISU Swine Research Reports, ASL-R1088.

5. Tuggle, C. K., J. Helm, and M. F. Rothschild. 1993. Cloning, Sequencing and Restriction Fragment Length Polymorphism Analysis of a Pig cDNA for OCT2. ISU Swine Research Reports, ASL-R1086.

4. Yu, T.-P., C. B. Schmitz, M. F. Rothschild, C. K. Tuggle. 1993. Cloning and Application of the Swine PIT-1 Gene. Use as a Molecular Marker in Breeding Studies. ISU Swine Research Reports, ASL-R1087.

3. Tuggle, C. K. and M. F. Rothschild. 1992. Cloning of a New Swine Gene with Potential Major Effects on Disease Resistance. ISU Swine Research Reports, ASL-R959.

2. Rothschild, M. F. and C. K. Tuggle. 1992. Progress Toward Mapping the Pig Genome. ISU Swine Research Reports, ASL-958.

1. Tuggle, C. K. and M. F. Rothschild. 1991. Cloning of New Swine Genes with Potential Major Effects on Growth and Development. ISU Swine Research Reports, ASL-R863.

X. SIGNIFICANT PRESENTATIONS (reverse chronological order)

113. Provided <u>invited talk</u> entitled “Introduction to Functional Annotation of ANimal Genomes (FAANG)--Goals and Opportunities” at the National Swine Improvement Federation Annual meeting, Dec 5, 2019, Indianapolis, IN.

112. Provided invited talk entitled "The Structure and Function of the Pig Genome: Application to PRRSV research" at the NA-PRRSV Symposium, November 2, 2019, Chicago, IL.

111. Provided invited talk entitled "SCID pig use in understanding immunity and advancing cancer and regenerative medicine therapies" at the International Veterinary Immunology Symposium, August 15, 2019, Seattle, WA.

111. Provided invited talk entitled "Using New Genetic Lines and Genomic Approaches in the Porcine Biomedical Model" to Department of Internal Medicine, University of Iowa, May 2, 2019, Iowa City, IA.

110. Provided invited talk entitled "Genetics and Genomics of Large Animal Models for Agriculture and Biomedicine", University of Wisconsin – Platteville. April 11, 2019, Platteville, WI.

109. Provided invited talk entitled "Introduction to Functional Annotation of Animal Genomes Consortium" Midwest ASAS meeting March 11, 2019, Omaha, NE.

108. Provided invited talk entitled "Introduction to FAANG and Update" International Symposium on Animal Functional Genomics, November 14, 2018, Adelaide, Australia

107. Provided invited talk entitled "An improved functional annotation of the domestic pig genome". International Symposium on Animal Functional Genomics, November 13, 2018, Adelaide, Australia

106. Provided invited talk entitled "Creation and validation of an improved annotation of the domestic pig genome through integration of Iso-Seq and RNA-seq data. Livestock genomics conference, September 21-22, 2018, Hinxton, U.K.

105. Provided invited talk entitled "Listening to your Inner Goddess: a spontaneous SCID pig as an emerging model for cancer and regenerative medicine research" AALAS meeting, Oct 29, 2018. Baltimore, MD.

104. Provided invited talk entitled "Porcine Bloodomics: Identification of porcine neutrophil-specific genes through gene expression correlations to neutrophil abundance and comparative expression data" given at International Society of Animal Genetics Conference, Dublin, Ireland July 18, 2017.

103. Provided invited talk entitled "Combining transcriptome and epigenetic analysis of H3K36me3 and H3K4me3 marks to explore mechanisms of liver-specific gene expression in pigs" given at International Society of Animal Genetics Conference, Dublin, Ireland July 17, 2017.

102. Provided invited talk entitled "Characterization and Development of a Large Animal SCID model for Regenerative Medicine and Cancer Research" given to Mayo Clinic, Rochester MN May 5, 2017.

101. Provided invited talk entitled "Thicker than water: Bloodomics for genome annotation and biomarker discovery in pigs" given to Department of Animal Science, University of Maryland- College Park, MD March 7, 2017.

100. Provided invited talk entitled "Serendipity in Science: Finding Important Biomedical Models where you least expect them" given to Department of Genetics, Development, and Cell Biology, Iowa State University, Ames, IA November 29, 2016.

99. Provided invited talk entitled "Serendipity in Science: Finding Important Biomedical Models where you least expect them" given as part of series entitled "Science at the Edge" Michigan State University, East Lansing, MI, November 10, 2016.

98. Provided invited talk entitled "Improvement of porcine genome annotation through comprehensive analysis of the blood transcriptome" given at Livestock Genomics Workshop, Cambridge, UK, September 14, 2016.

97. Provided invited talk entitled "Creating Effective Biocontainment Facilities to Maintain a Specific Pathogen Free Colony for Producing Severe Combined Immunodeficiency (SCID) Large Animals" at Comparative Medicine Directors meeting, Bethesda, MD August 9, 2016.

96. Provided invited talk entitled "Comparative Aspects of Functional Annotation of Genomes in the FAANG project" given at International Society of Animal Genetics Conference, Salt Lake City, UT, July 25, 2016.

95. Provided invited talk entitled "Research on biomarkers to predict feed efficiency in pigs" given at International Conference on Feed Efficiency in Swine, Omaha, NE October 21, 2015.

94. Provided invited talk entitled "The effect of RFI selection on Robustness and Resilience" given at International Conference on Feed Efficiency in Swine, Omaha, NE October 21, 2015.

93. Provided invited talk entitled "Serendipity in Research: Discovery of SCID) Severe Combined Immune Deficiency pigs" given at International Conference on Feed Efficiency in Swine, Omaha, NE October 21, 2015.

92. Provided invited talk entitled "Functional Annotation of Animal Genomes: Charge to Attendees" given at Gathering On FAANG Workshop, Washington DC October 7, 2015.

91. Provided invited talk entitled "Understanding the Effect of Genotype on Phenotype: Variation in Host Response to PRRS Virus" given at University of Nebraska-Lincoln Systems Biology Symposium Oct 20, 2015

90. Provided invited talk entitled "Response of Pigs to PRRSV infection and Analysis of Feed Efficient Pigs" given at Erciyes University, Kayseri, Turkey, May 28, 2015.

89. Provided invited talk entitled "Discovery and Analysis of the SCID pig" given at Erciyes University, Kayseri, Turkey, May 28, 2015.

88. Provided invited talk entitled "Characterizing the Iowa State University Severe Combined Immune Deficient (SCID) pig" given at Plant and Animal Genome Meetings, San Diego, CA. January 10, 2015 Abstract # W832.

87. Provided invited talk entitled "GO annotation and WGCNA clustering of RNAseq data in response to Porcine Reproductive and Respiratory Syndrome (PRRS) given at 34th ISAG Conference, Xian China July 31, 2014.

86. Provided seminar entitled "Porcine genomics research at Iowa State, focusing on immune response and feed efficiency" given at Huazhong Agricultural University, Wuhan, China, July 26, 2014.

85. Provided seminar entitled "Porcine genomics research at Iowa State, focusing on immune response and feed efficiency" given at Chinese Academy of Agricultural Sciences, July 24, 2014.

84. Provided invited talk entitled "Pig SCID Model" to ASN-ASAS Preconference Workshop prior to National American Society of Animal Science meeting, Kansas City, MO, July 20, 2014.

83. Provided seminar entitled "A line of pigs carrying a naturally occurring mutation causing Severe Combined Immune Deficiency" given to Interdepartmental Genetics Faculty seminar series, Ames, IA October 14, 2013.

82. Provided invited talk entitled "A line of pigs carrying a naturally occurring mutation causing Severe Combined Immune Deficiency" to Innovate 2013- Innovations in Animal Growth and Health- The next generation of Cell Biology. ASAS-ASN meeting Brazelton, GA Sept. 22-24, 2013.

81. Provided seminar entitled "Severe Combined Immune Deficiency (SCID) in Pigs" given to Interdepartmental Genetics Faculty seminar series, Ames, IA October 22, 2012.

80. Provided invited talk entitled "Towards Biomarkers for Improving Disease Resistance in Pigs using Blood Transcriptomics" given at USDA National Centers for Animal Health, Ames, IA, May 9, 2012.

79. Provided invited talk entitled "Biomarkers for Improving Disease Resistance in Pigs using Blood Transcriptomics" given at Iowa Academy of Science annual meeting, North Iowa Area Community College, Mason City, IA, April 20, 2012.

78. Provided seminar entitled "A wee frolic in Edinburgh: my Fulbright project at Roslin Institute" given at Department of Animal Science seminar series, Iowa State University, Ames, IA, 3 February, 2012.

77. Provided invited talk entitled "*Advancing porcine transcriptomics using a second-generation GeneChip Whole Transcript Array*" given at Affymetrix Workshop, Plant and Animal Genome Meetings, January 16, 2012.

76. Provided seminar entitled "Multiple bioinformatic analyses of blood RNA patterns during the porcine response to *Salmonella* to identify biomarkers for reducing disease given to Bioinformatics and Computational Biology Faculty seminar series, Ames, IA, November 16, 2011.

75. Provided invited talk entitled "*Blood transcriptomic analysis of the early porcine immune response to identify biomarkers associated with superior disease control*" given at International Symposium on Animal Functional Genomics, Dublin Ireland October 11, 2011.

74. Provided invited talk entitled "Annotation and Analysis of the Porcine Transcriptomic Response to Pathogens" given at Roslin Institute, Edinburgh, U.K. June 10, 2011.

73. Provided invited talk entitled "Annotation and Analysis of the Porcine Transcriptomic Response to Pathogens" given at Teagasc, Grange, Country Meath, Republic of Ireland May 25, 2011.

72. Provided invited talk entitled "Measuring porcine blood transcriptomic responses to pathogens to find critical pathways and biomarkers for improving disease resistance and food safety" given at Scottish Agriculture College, Edinburgh, U.K. March 11, 2011.

71. Provided invited talk entitled "A comparative analysis of the porcine response to *Salmonella typhimurium* and its endotoxin" given at Plant and Animal Genome Meeting, NRSP-8 Workshop. January 16, 2011.

70. Provided invited talk entitled "Using transcriptomics to study porcine reproduction and immunology" given at INA- Jouy-en-Josas, Reproductive Biology group and Immune Response group, Jouy-en-josas, France October 16, 2010.

69. Provided invited talk entitled "A comparative analysis of the porcine response to *Salmonella* Typhimurium and its endotoxin" given at Systems Biology of Macrophages and Dendritic Cells in Health and Disease meeting of EMD Society, Edinburgh, U.K. 6-8 September 2010.

68. Provided invited talk "Whole Blood Gene Expression Patterns Measured During *Salmonella* Infection of Pigs Correlate with Bacterial Shedding" given at Animal Genomics for Animal Health meeting, Paris, France, May 31-June 2, 2010.

67. Provided invited talk entitled "The use of transcriptomics to identify genes and markers controlling variation in resistance to *Salmonella* in pigs" given at Alberta Ingenuity Centre for Livestock Genomics Annual Meeting, April 12, 2010.

66. Provided invited talk entitled "Comparative transcriptomics: similarity and differences in vertebrate innate immune response pathways" given at Center for Integrated Animal Genomics April 8, 2010.

65. Provided invited talk entitled "Using transcriptomic data to develop tools for predicting Salmonella shedding traits in growing pigs." given at CRWAD annual meeting, Chicago, IL December 6-8, 2009.

64. Provided invited talk entitled "Transcript profiling of the porcine response to *Salmonella"* given at Interdepartmental Genetics Faculty seminar, November 28, 2009.

63. Provided invited talk entitled "Developing Predictive Models for Identifying Pigs with Superior Immune Response and Improved Food Safety" given at Animal Breeding and Genetics seminar Sept 29, 2009.

62. Provided invited talk entitled "Using transcriptomics to develop predictive tools for identifying pigs with superior immune response and improved food safety" given at Genomics for Animal Health: Outlook for the Future-EADGENE meeting, Paris France, October 12-15, 2009.

61. Provided invited talk entitled "ANEXdb: An Integrated Animal ANnotation and Microarray EXpression Database"given at Swine Genome Sequencing Consortium meeting held at Wellcome Trust-Sanger Institute campus, Hinxton, U.K. November 2-5, 2009.

60. Provided seminar entitled "Developing Predictive Models for Identifying Pigs with Superior Immune Response and Improved Food Safety " given at ISU Animal Breeding and Genetics seminar series September 28, 2009

59. Provided invited talk entitled "Using transcriptomics and bioinformatics to understand why Meishan pigs have larger litters than Yorkshire pigs" given at International Scientific Advisory Committee meeting of EMBRYOGene, Quebec City, Quebec, Canada July 9, 2009.

58. Provided Invited seminar "Identifying genes associated with Salmonella shedding to increase pork safety through improved genetic resistance" given at National Pork Board meeting on Animal Health, December 11, 2008.

57. Provided seminar entitled "Host transcriptomic response to *Salmonella*" given at Iowa State University BBMB departmental seminar series, October 16, 2008.

56. Provided Invited Talk "Transcriptomic analysis of immune response to *Salmonella* infection in the pig" given at International Society of Animal Genetics meeting, Amsterdam, The Netherlands, July 20-24, 2008.

55. Provided Invited Talk "How to publish in Animal Genetics" given at Huazhong Agricultural University, Wuhan, PRC June 30, 2008.

54. Provided Invited Talk "Transcriptomic analysis at peri-implantation in the pig" given at Huazhong Agricultural University, Wuhan, PRC June 28, 2008.

53. Provided Invited Talk "Porcine transcriptional response to *Salmonella enterica* serovar Choleraesuis and Typhimurium: finding novel targets of NFκB and tools to predict disease resistance" given at Huazhong Agricultural University, Wuhan, PRC June 26, 2008.

52. Provided invited talk entitled "Comparative bioinformatic analysis of the transcriptional response to *Salmonella enterica* serovar Choleraesuis suggests novel targets of NFκB are activated in the porcine mesenteric lymph node" given at International Symposium on Animal Functional Genomics, Edinburgh, Scotland April 8, 2008.

51. Provided invited talk entitled "Transcriptional profiling of the peri-implantation Meishan and Yorkshire porcine conceptus and endometrium" given at Department of Animal Science, University of Missouri-Columbia, Columbia, MO, November 28, 2007

50. Provided Invited Talk entitled "Computational integration of structural and functional genomics data across species to develop porcine inflammatory gene regulatory pathway information" given at Animal Genomics for Animal Health meeting, Paris, France, October 23-25, 2007

49. Provided Invited Talk entitled "Characterizing the porcine transcriptional regulatory response to infection by *Salmonella*:
Identifying putative new NFκB direct targets through comparative bioinformatics" given at *E. coli-Salmonella* Workshop, Utrecht, Netherlands, June 6, 2007

48. Provided Invited Talk entitled "Advances in Swine Transcriptomics" given at NRSP-8 Swine Workshop, Plant and Animal Genome meeting, San Diego, CA, January 13, 2007

47. Provided Invited Talk entitled "Lack of a strong NFκB-dependent transcriptional response during infection with *Salmonella enterica* serovar Typhimurium as compared to that observed in *S.* Choleraesuis infection " given at Immune Response Workshop, International Society of Animal Genetics meeting, Porto Seguro, Brazil, August 16, 2006

46. Provided Invited Talk entitled "Comparative Functional Genomics: Gene expression profiling in early pregnant and cycling Yorkshire gilts using the Affymetrix porcine GeneChip©" given at Comparative Genomics Workshop, International Society of Animal Genetics meeting, Porto Seguro, Brazil, August 14, 2006

45. Provided Invited Talk entitled “Using a first-generation porcine Affymetrix GeneChip® Array to investigate the functional genomics of immune response and reproductive biology” given at Plant and Animal Genome meeting January 17, 2006, San Diego, CA

44. Provided Invited Talk entitled “Integration of Functional Genomics and Quantitative Genetics to Improve Feed Efficiency in Pigs” given at inaugural USDA-CSREES Genome Project Directors meeting, San Diego, CA, January 15, 2006

43. Provided Invited Talk entitled “USDA-MGET Training Grant in Computational Biology for Animal Agriculture” given at inaugural USDA-CSREES Genome Project Directors meeting, San Diego, CA, January 15, 2006

42. Provided Invited Talk entitled "Gene Expression Profiling - Applications in Agricultural Risk Assessment?" given at USDA-EPA Symposium for Agricultural Biotechnology Risk Analysis Research, November 29-December 1, 2005, Washington, D.C.

41. Provided seminar entitled "Transcriptional Profiling in Pigs: Initial results with two types of arrays" given at ISU-UI Joint Workshop in Bioinformatics, Iowa City, IA July 2005.

40. Provided Invited Talk entitled "Functional Genomics in Pigs: Validation and Use of a New Porcine Microarray" given at Prospectives in Animal Biotechnology, hosted by Institute of Biotechnology, Yeungnam University, Kyongsan, Korea, November 10, 2004.

39. Provided Invited Talk entitled "Identification of differentially expressed genes and transcriptome of four porcine tissues: Validating a 13K oligonucleotide array " given at International Society of Animal Genetics conference, Tokyo, Japan, September 13, 2004.

38. Provided Invited Talk entitled "Gene expression patterns in embryo and adult pig tissues by the use of novel porcine gene arrays" given to Department of Theriogeneology and Biotechnology, Seoul National University, Seoul, Korea, September 8, 2004.

37. Provided Invited Talk entitled “Current transcript profiling experience with the Qiagen-Operon Porcine Long Oligonucleotide AROS 1.0 “ given in Microarray Workshop at 2004 Plant and Animal Genome Meeting, January 11, 2004

36. Provided Invited Talk entitled “Gene discovery and comparative genomics in the pig” given at International Workshop on Animal Genome Analysis, Tokyo, Japan, November 6-7, 2002.

35. Provided Invited Talk entitled “Development of EST sequence data and map locations for genes expressed in major female reproductive tissues” given at Midwest American Society of Animal Science, Des Moines, IA, March 19, 2002.

34. Provided seminar entitled "A possible role for Hoxa-5 protein in development or maintenance of the substantia gelatinosa lineage" given at Interdepartmental Neuroscience Spring Seminar Series, Iowa State University, March 7, 2002.

33. Provided Invited Talk entitled "Gene Discovery and Functional Genomics in the Pig" given at Kunming Institute for Zoology, Kunming, PRC, December 17, 2001.

32. Provided Invited Talk entitled "Gene Discovery and Functional Genomics in the Pig" given at Huazhong Agricultural University, Wuhan, Hubei, PRC, December 14, 2001.

31. Provided Invited Talk entitled "Comparative mapping in mammals: surprises, conclusions and future directions", given at Huazhong Agricultural University, Wuhan, PRC, December 13, 2001.

30. Provided Invited Talk entitled "Gene Discovery and Functional Genomics in the Pig" given at Guangzhou Agricultural University, Guangdong, PRC, December 11, 2001.

29. Provided Invited Talk entitled "Gene Discovery and Functional Genomics in the Pig" given at National Swine Improvement Federation, St. Louis, MO, December 6-7, 2001.

28. Provided Invited Talk entitled "Genetic Manipulation of Mice: How and Why" given at 2001 Midwest Regional Meeting of American Association of Laboratory Animal Science, Ames, IA, April 27, 2001.

27. Provided Invited Talk entitled "Update on development of resources for functional genomics in the pig", given at NRSP-8 Swine Subcommittee Workshop, January 14, 2001.

26. Provided Invited Talk entitled "Comparative mapping in mammals: surprises, conclusions, and future directions", given at Aquaculture Species Genome Mapping Workshop, San Diego, CA, January 13, 2001.

25. Provided Invited Talk entitled "Genetic manipulation of mice—how and why", given to Iowa Meeting of American Association of Laboratory Animal Research, Des Moines, IA, October 6, 2000.

24. Provided Invited Talk entitled "Radiation hybrid and cytogenetic mapping of conserved breakpoints between human and pig", given at Comparative Mapping Workshop, ISAG Meeting, Minneapolis, MN, July 22, 2000.

23. Provided Invited Talk entitled "Comparative mapping in mammals: surprises, conclusions and future directions", given as first lecture in new lecture series of the Genomics Graduate Program, Department of Animal Science, North Carolina State University, Raleigh, NC, April 4, 2000.

22. Provided Invited Talk entitled "Development of resources for functional genomics in the pig", given at USDA Genome Grantee Workshop, Washington, DC, September 23, 1999.

21. Provided Invited Talk entitled “Mapping of HSA21 genes in pig confirms ZOO-FISH results and uncovers apparent high recombination rates at SSC13 loci distal to *PIT1*”, given at First International Chromosome 13 Workshop, Auckland, New Zealand, August 9, 1998.

20. Provided Invited Talk entitled "Comparative mapping of pig homologues of human genes shows complete synteny conservation between HSA3 and SSC13 and between HSA13 and SSC11", given at Plant and Animal Genome VI, San Diego, CA, January 20, 1998.

19. Provided Invited Talk entitled "Identification of cis and trans acting factors controlling expression of a mouse homeobox gene", given to MIPM Departmental Seminar Series, Iowa State University, September 23, 1997.

18. Provided Invited Talk entitled "A high resolution map of pig chromosome 13" given to Laboratoire de Radiobiologie Applique'e, INRA-CRJ, Jouy-en-Josas, France, July 7, 1997.

17. Provided Invited Talk entitled "A high resolution map of pig chromosome 13" given to Department of Animal Genetics and Breeding, Merelbeke, Belgium, July 4, 1997.

16. Provided Invited Talk entitled "A candidate gene for disease resistance in pigs" given to Pig Improvement Company, Fyfield, United Kingdom, July 1, 1997.

15. Provided Invited Talk entitled "A high resolution map of pig chromosome 13" given at Laboratorie de Genetique Cellulaire, INRA Toulouse, France, April 8, 1997.

14. Provided Invited Talk entitled "Mouse Hoxa-5: identifying cis and trans acting elements using a transgenic approach" given at Centre de Recherche, L'Hotel-Dieu de Quebec, Quebec City, Canada, November 12, 1996.

13. Provided Invited Talk entitled “Cloning and analysis of pig NRAMP and other candidate genes for disease resistance and comparative genome mapping in pigs” given at Midwestern American Society of Animal Science Meeting, Des Moines, Iowa, March 18-20, 1996.

12. Provided Invited Talk entitled “Cloning, polymorphism identification and mapping of the pig gene for OCT1” given at Midwestern American Society of Animal Science Meeting, Des Moines, Iowa, April 10-12, 1995.

11. Provided Invited Talk entitled "Cloning, characterization and mapping of candidate genes in swine" given at XXIV International Conference for Animal Genetics, Prague, Czech Republic, July 26, 1994.

10. Provided Invited Talk entitled "Isolation of candidate genes expressed in the immune system and muscle, and association of a pig muscle gene with quantitative traits" given at American Society of Animal Science National Meeting, Minneapolis, MN , July, 11-15, 1994

9. Provided Invited Talk entitled "Molecular Biology in Genetic Improvement of Livestock" given at All-Russian Institute for Farm Animal Breeding and Genetics, St. Petersburg, Russia, June 1, 1994

8. Provided Invited Talk entitled "Cloning of a new swine gene with potential major effects on disease resistance" given at Midwest Animal Science Meeting, March 29-31, 1993, Des Moines, Iowa

7. Provided Invited Talk entitled "Polymorphisms in the porcine POU domain genes" given at Animal Biotechnology Seminar Series, University of Minnesota, St. Paul, Minnesota, March 10-11, 1993.

6. Provided Invited Talk entitled "Identification of positively and negatively acting region-specific elements near Hox 1.3" given to European Molecular Biology Organization, Summer Seminar Series, Heidelberg, Germany, August 10, 1992.

5. Provided Invited Talk entitled "Cloning and analysis of porcine POU-domain genes for growth and lactation (PIT-1) and immune function (Oct-2)" given at XXIII International Conference for Animal Genetics, Interlaken, Switzerland, August 3-7, 1992.

4. Provided Invited Talk entitled "Developments in molecular biology and gene mapping", given at National Pork Board Meeting, Ames, IA, January 27, 1992.

3. Provided Invited Talk entitled "Region-specific Homeobox Enhancers Control Expression of Hox 1.3 and Hox 5.1 Gene Fusions in Transgenic Mice", West Coast Developmental Biology meeting, Stanford Sierra Camp, South Lake Tahoe, California, May 3-6, 1990.

2. Provided Invited Talk entitled "Candidate Genes Controlling Mammalian Development", Institute of Genetics, Hungarian Academy of Sciences, Szeged, Hungary, October 12, 1989.

1. Provided Invited Talk entitled "Spatial Regulation of a Homeobox Gene in Transgenic Mice", Northeastern Regional Conference on Developmental Biology, Woods Hole, Massachusetts, November 17-20, 1988.

XI. REVIEW AND EDITING

In addition to my six-year service as Functional Genomics Editor of Animal Genetics, I serve as a Review Editor for *Scientific Reports*, an Associate Editor of *BMC Genomics*, and serve as an Editorial Board member of *Mammalian Genome*, *Advances in Genomics and Gene Expression*, and *Animal Biotechnology*. In 2014-2015, I served as the Co-Editor of a special issue of *The ILAR Journal*, a National Academy of Science journal. The Special issue covered large animal models of disease.

I serve as an ad hoc article reviewer for the following journals:

Trends in Microbiology, BMC Genomics, BMC Genetics, Genesis, Journal of Animal Science; Journal of Dairy Science; Genetics Selection Evolution; Journal of Animal

Breeding and Genetics; Domestic Animal Endocrinology; Molecular Cell Biology; Mechanisms of Development; Animal Genetics; Animal Biotechnology, Genomics, Mammalian Genome, Biochimica et Biophysica Acta- Gene Structure and Expression.

I serve as an ad hoc grant reviewer for the following international organizations:

Genome Canada	2010-present
IBiSA (France)	2008-present
INRA (France)	2008-present
Wellcome Trust (U.K.)	2004-2005
BARD (U.S.-Israel)	2001-present
BBSRC (U.K.)	2001-present

I have served as review panel member (*ad hoc) for the following external review panels (Panel IDs are not shown for confidentiality but are available upon request):

2019*	SBIR Phase II, USDA-NIFA-AFRI
2019	Special Emphasis Panel/Scientific Review Group, NIH-3
2019	Special Emphasis Panel/Scientific Review Group, NIH-2
2019	Special Emphasis Panel/Scientific Review Group, NIH-1
2018	Animal Genome, USDA-NIFA-AFRI
2018	EPSCoR Research Infrastructure Improvement Track 2, NSF
2018	Special Emphasis Panel/Scientific Review Group, NIH-2
2018	Special Emphasis Panel/Scientific Review Group, NIH-1
2017	EPSCoR Research Infrastructure Improvement Track 2, NSF
2013*	Animal Health, USDA-NIFA-AFRI
2004	NIH/NCRR Genotyping Centers Special Emphasis Panel
2002	NIH/NIGMS-NSF Special Study Section; “Mathematics in Biology”
1996	Animal Molecular Genetics, USDA-NRI Competitive Grants Program
1993*	National Research Council Aid Competitive Research Program
1991	Animal Molecular Genetics, USDA-NRI Competitive Grants Program

I serve on several review panels within the College of Agriculture at ISU.

XII. PROFESSIONAL IMPROVEMENT ACTIVITIES

SABBATICAL (January 2011-July 2011) Roslin Institute, University of Edinburgh, Scotland, U.K. This activity centered on the Fulbright Scholarship described below.

FULBRIGHT SCHOLARSHIP application and award. Organized a meeting with prospective collaborators (Summer-Fall 2009) and developed a successful application to the US-UK Fulbright Commission, who funded a six-month stay in Edinburgh, Scotland, UK to work on systems biology of immunology relating to animal and human health (January 2011-July 2011).

Attended two courses in immunology on campus to develop more training in this field: BBMB 615 “Molecular Immunology” Fall 2009, and MICRO 475/575 “Immunology”, Spring 2010 and 2013.

Attended Gene Ontology Workshop, held at Iowa State University, June 11, 2009

Organized Systems Biology 2009 Symposium at Iowa State University, held June 11-15, 2009, Ames, IA. ~150-175 attendees.

Attended 2-day training session for Otterlace software for Swine Genome Annotation held at Wellcome Trust Sanger Centre, Hinxton, U.K. July 16-18, 2008.

Organized Comparative Genomics Workshop at International Society of Animal Genetics meeting, held August 14, 2006, Porto Seguro, Brazil, 90-100 attendees

Organized "Integration of Structural and Functional Genomics" Symposium at Iowa State University, held September 22-25, 2005, Ames, IA, 145 attendees.

Organized First International Pig Chromosome 13 Workshop, held August 9, 1998, Auckland, New Zealand, 40 attendees.

WORK REASSIGNMENT (April 1 - August 25, 1997; Laboratorie de Genetique Cellulaire, INRA, Toulouse, France). My primary responsibility was to use new Radiation Hybrid (RH) mapping resource available at INRA-Toulouse to develop an improved comparative pig chromosome 13 map. My additional duties: develop new markers for pig genome mapping, and to use the classical somatic cell hybrid panel (SCHP) for physical mapping. Results: 12 genes successfully mapped using the RH panel; 2 new gene markers developed, and 4 genes mapped using the SCHP. I obtained agreement from INRA staff to receive characterized RH panel in 1998 for long-term collaborative research; receipt was delayed until 1999.

MEMBERSHIP IN PROFESSIONAL AND HONOR SOCIETIES:

International Society of Animal Genetics
American Society of Animal Science
American Society for Biochemistry and Molecular Biology
Gamma Sigma Delta Honorary Agriculture Society
Sigma Xi Scientific Honorary Society

MEETINGS, CONFERENCES, WORKSHOPS ATTENDED (reverse chronological order):

National Swine Improvement Federation, Indianapolis, IN Dec 5-6, 2019.

North American-PRRS Symposium, Chicago, IL November 2-3, 2019.

International Veterinary Immunology Symposium, Seattle, WA, August 13-16, 2019

Holden Comprehensive Cancer Center Retreat, Iowa City, IA, June 19, 2019

Midwest American Society of Animal Science, Des Moines, IA, March 11-13, 2019

NRSP-8 Swine Sub-committee meeting, San Diego, CA, January 12, 2019 and Plant and Animal Genome XXVII, San Diego, CA, January 13-17, 2019

International Symposium on Animal Functional Genomics, Adelaide, Australia, November 11-15, 2018.

American Association of Laboratory Animal Science, Baltimore MD October 30-Nov 2, 2018.

NRSP-8 Swine Sub-committee meeting, San Diego, CA, January 13, 2017 and Plant and Animal Genome XXVI, San Diego, CA, January 14-18, 2018.

ISAG Meeting Dublin, Ireland, July 16-20, 2017.

NRSP-8 Swine Sub-committee meeting, San Diego, CA, January 14, 2017 and Plant and Animal Genome XXV, San Diego, CA, January 16-19, 2017.

Animal Genomics Workshop, European Commission, Brussels, Belgium, Oct 8-9, 2016.

Livestock Genomics meeting, Cambridge, UK, September 14-16, 2016

Comparative Medicine Resource Directors Meeting, Bethesda, MD, August 9,10, 2016.

ISAG meeting, Salt Lake City, UT, July 23-27, 2016

Biology of Genomes- Cold Spring Harbor, NY May 10-14, 2016.

NRSP-8 Swine Sub-committee meeting, San Diego, CA, January 9, 2016 and Plant and Animal Genome XIV, San Diego, CA, January 10-14, 2016

International Conference on Feed Efficiency in Swine, Omaha, NE October 21, 2015.

University of Nebraska-Lincoln Systems Biology Symposium, Lincoln, NE Oct 20, 2015

GO-FAANG Workshop Washington, DC, October 7-8, 2015

International Symposium on Animal Functional Genomics, Piacenza, Italy, July 27-30, 2015

Midwest American Society of Animal Science, Des Moines, IA, March 16-18, 2015

Keystone Meeting on Veterinary Immunology, Keystone, Colorado, January 20-15, 2015

NRSP-8 Swine Sub-committee meeting, San Diego, CA, January 10, 2015 and Plant and Animal Genome XVIII, San Diego, CA, January 11-15, 2015

Livestock Genomics meeting, Cambridge, UK, September 18-20, 2014

ISAG meeting, Xi'An, China, July 27- August 1, 2014.

Vaccines Against Antigenically Variable Viruses meeting, Ames, IA, June 18-20, 2014

NRSP-8 Swine Sub-committee meeting, San Diego, CA, January 12, 2014 and Plant and Animal Genome XVIII, San Diego, CA, January 13-16, 2014

AgENCODE meeting, San Diego, CA, January 10, 2014.

Innovate 2013- Innovations in Animal Growth and Health- The next generation of Cell Biology. ASAS-ASN meeting Brazelton, GA Sept. 22-24, 2013.

Biology of Genomes- Cold Spring Harbor, NY May 7-11, 2013.

NRSP-8 Swine Sub-committee meeting, San Diego, CA, January 14, 2012 and Plant and Animal Genome XVIII, San Diego, CA, January 15-18, 2012

Attended International Conference on Feed Efficiency in Swine, Omaha, Nebraska, November 8-9, 2011

Attended Livestock Gentec meeting Edmonton, Alberta, CA October 2011

Attended ISAFG meeting, Dublin, Ireland October 2011

Attended Swine in Biomedical Science meeting, Chicago, IL July 2011.

Attended proteomics mtg in Glasgow, Scotland, U.K. 2011

NRSP-8 Swine Sub-committee meeting, San Diego, CA, January 15, 2011

Attended Fulbright Opening London, U.K. September 2010

Attended European Macrophage mtg Edinburgh September 2010

Attended ISAG meeting, Edinburgh, Scotland, U.K. July 2010

Attended NRSP-8 Swine Sub-committee meeting, San Diego, CA, January 9, 2010 and Plant and Animal Genome XVIII, San Diego, CA, January 10-13, 2010.

CRWAD annual meeting held in Chicago, IL December 6-8, 2009.

Swine Genome Sequencing Consortium meeting held at Wellcome Trust-Sanger Institute campus, Hinxton, U.K. November 2-5, 2009.

Genomics for Animal Health: Outlook for the Future-EADGENE meeting, Paris France, October 12-15, 2009.

National ASAS meeting held in Montreal, Canada, July 11-14, 2009.

International Scientific Advisory Committee meeting of EMBRYOGene, Quebec City, Quebec, Canada July 9, 2009

NRSP-8 Swine Sub-committee meeting, San Diego, CA, January 10, 2009 and Plant and Animal Genome XVII, San Diego, CA, January 11-14, 2009.

Organized Comparative Genomics Workshop at International Society of Animal Genetics meeting, held July 21, 2008, 108 attendees and six speakers.

"Extracellular and Membrane Proteases in Cell Signaling" at Iowa State University, 18-21 September 2008

Emerging Disease Workshop, USDA- National Animal Disease Center, November 3, 2008.

Translational Biology Workshop, Iowa State University, October 28, 2008.

Iowa Biotechnology Association meeting, Iowa State University, September 17, 2008.

International Society of Animal Genetics, Amsterdam, The Netherlands, July 20-24, 2008.

First Porcine Genome Annotation Jamboree, Wellcome Trust Sanger Centre, Hinxton, U.K. July 16-18, 2008.

NC-1037 Multi-state research meeting, Beltsville, MD, May 14-15, 2008.

Lush Genetics Symposium, Iowa State University, April 25, 2008.

International Symposium on Animal Functional Genomics, Edinburgh, Scotland April 7-9, 2008

NRSP-8 Swine Sub-committee meeting, San Diego, CA, January 12, 2008 and Plant and Animal Genome XVI, San Diego, CA, January 13-16, 2008.

Animal Genomics for Animal Health meeting, Paris, France, October 23-25, 2007

1st Annual Midwest Symposium on Computational Biology and Bioinformatics, Northwestern University, Evanston, IL October 5-7, 2007

NC-1004 meeting and OW Robinson Symposium, Raleigh, NC, June 21-23, 2007

Animal Genetics Editorship meeting, Blackwell LLC, Oxford, U.K. June 14, 2007

EADGENE-SABRE meetings and *E. coli-Salmonella* Workshop, Utrecht, Netherlands, June 4-8, 2007

Nat. Pork. Board-PRRSV planning meeting, Des Moines IA, May 9, 2007

NRSP-8 Swine Sub-committee meeting, San Diego, CA, January 13, 2007

International Society of Animal Genetics, Porto Seguro, Brazil, August 12-17, 2006

ISU-UI-NMSU Joint Bioinformatics Workshop Ames, IA July 2006

NC-1004 meeting and NRSP-8 Swine Sub-committee meeting, San Diego, CA, January 14, 2006

ISU Symposium Integration of Structural and Functional Genomics, Ames, IA September 22-25, 2005

ISU Genetics of Animal Health meeting, Ames, IA, July 2005

ISU-UI Joint workshop in Bioinformatics, Iowa City, IA, July 2005

EPA-USDA Symposium for Agricultural Biotechnology Risk Analysis Research, Washington DC, Nov 29-December 1, 2005

NRSP-8 Swine Sub-committee meeting, San Diego, CA, January 15, 2005

NC-1004 meeting, Ames, IA, December 11, 2004.

"Prospectives in Animal Biotechnology" conference, hosted by Institute of Biotechnology, Yeungnam University, Kyongsan, Korea, November 10, 2004.

International Society for Animal Genetics (ISAG), Tokyo, Japan September 2004

Plant and Animal Genome XII, San Diego, CA, January 11-15, 2004

NC-1004 Meeting San Diego, CA, January 11, 2004

NRSP-8 Meeting, San Diego, CA, January 10, 2004

"Livestock genomes: sequence annotation and informatics challenges", Lake Conroe, TX, October 4-7, 2003

Midwest Neurobiology Meeting. Ames, IA, May 16-18, 2003

Midwest Regional Meeting, Society of Developmental Biology, Kansas City, MO, June 7-10, 2003

NC-1004, Clay Center, NE, May 29-31, 2003

American Society of Animal Science, Phoenix, AZ, June 21-23, 2003

23th Annual Great Lakes Mammalian Developmental Meeting, Toronto, CA, March 14-16, 2003.

NRSP-8 Meeting, San Diego, CA, January 10-12, 2003.

International Workshop on Animal Genome Analysis, STAFF-Institute, Tsukuba, Japan, November 6-7, 2002.

International Society for Animal Genetics (ISAG), Goettingen, Germany, August 10-16, 2002.

Society for Developmental Biology 61th Annual Meeting, Madison, WI, July 21-25, 2002.

Midwest American Society of Animal Science, Des Moines, IA, March 18-20, 2002

Plant & Animal Genome X Meeting, San Diego, CA, January 14-18, 2002.

National Swine Improvement Federation, St. Louis, MO, December 6-7, 2001.

Stowers Institute Symposium, "From Genes and Genetics to Molecular Medicine", Kansas City, MO, October 30-31, 2001.

Joint Meeting of the American Dairy Science Association, American Meat Science Association, American Society of Animal Science, Poultry Science Association Meetings, Indianapolis, IN, July 24-28, 2001.

Society for Developmental Biology 60th Annual Meeting, University of Washington, Seattle, WA, July 18-22, 2001.

Midwest American Society of Animal Science, Des Moines, IA, March 15-17, 2001

Plant and Animal Genome IX, San Diego, CA, January 13-18, 2001.

Mouse Molecular Genetics, Cold Spring Harbor, NY, August 30-September 3, 2000.

International Society for Animal Genetics (ISAG), Minneapolis, MN, July 22-26, 2000.

20th Annual Great Lakes Mammalian Developmental Meeting, Toronto, CA, April 7-9, 2000.

Midwest American Society of Animal Science, Des Moines, IA, March 13-15, 2000.

Plant and Animal Genome VIII, San Diego, CA, January 10-13, 2000.

Virulence Mechanisms of Bacterial Pathogens, Ames, IA, September 12-15, 1999.

Heartland Consortium on Genetically Modified Organisms, St. Louis, MO, September 9, 1999

Transgenic Animal Research Conference, Tahoe City, CA, August 15-19, 1999.

NC-210, "Positional and functional identification of economically important genes in the pig", East Lansing, MI, June 3-5, 1999.

Plant and Animal Genome VII; the International Conference on the Status of Plant and Animal Genome Research, San Diego, CA, January 17-21, 1999.

Mouse Molecular Genetics, Cold Spring Harbor Laboratory, Cold Spring Harbor, New York, September 2-6, 1998.

XXVI International Conference for Animal Genetics, Auckland, New Zealand, August 9-14, 1998.

First International Workshop on Pig Chromosome 13, Auckland, New Zealand, August 9, 1998.

Plant and Animal Genome VI; the International Conference on the Status of Plant and Animal Genome Research, San Diego, CA, January 17-22, 1998.

American Society of Animal Science Midwestern Section meetings, Des Moines, Iowa, March 17-18, 1997.

Plant & Animal Genome V: The International Conference on the Status of Plant and Animal Genome Research, San Diego, CA, January 12-16, 1997.

5th Annual University of Minnesota Developmental Biology Symposium, Earle Brown Center, University of Minnesota, October 7-8, 1996.

XXV International Conference for Animal Genetics, Tours, France, July 22-25, 1996.

Midwest American Society of Animal Science Meeting, Des Moines, Iowa, March 18-20, 1996.

Patterns of Life: The Nature of Biological Development, Copley Plaza Hotel, Boston, MA, November 9-10, 1995.

International Symposium on Swine in Biomedical Research, College Park, MD, October 22-25, 1995.

NC-210 "Mapping the Pig Genome" Regional Meeting, College Park, MD, October 24-27, 1995

National Animal Genome Technical Committee Meeting, , College Park, MD, October 24-27, 1995

PiGMaP II Annual Meeting, Cambridge, England, September 4-6, 1995

Midwest American Society of Animal Science Meeting, Des Moines, Iowa, April 10-12, 1995.

NC-210 "Mapping the Pig Genome" Regional Meeting, Minneapolis, MN, September 21-22, 1994

National Animal Genome Technical Committee Meeting, Minneapolis, MN, September 22-23, 1994

Mouse Molecular Genetics, Cold Spring Harbor, NY August 31-Sept 4, 1994

XXIV International Conference for Animal Genetics, Prague, Czech Republic, July 23-29, 1994

American Society of Animal Science Meeting, Minneapolis, MN , July, 11-15, 1994

Midwest American Society of Animal Science Meeting, Des Moines, IA, March, 1993.

American Society of Animal Science Meeting, Spokane, Washington, July 6-11, 1993.

2nd Annual University of Minnesota Symposium in Developmental Biology, St. Paul, Minnesota, November 1-2, 1993.

NC-210 "Mapping the Pig Genome" Regional Meeting, Salt Lake City, Utah, November 17-19, 1993.

National Animal Genome Technical Committee Meeting, Salt Lake City, Utah, November 17-19, 1993.

XXIII International Conference for Animal Genetics, Interlaken, Switzerland, August 3-7, 1992.

Ethics and Agricultural Biotechnology conference, Ames, IA, May 1992.