

**Aileen F. Keating**

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**Education:**

**1999-2003 Ph.D. Biochemistry: National University of Ireland, Galway, Ireland**

*Advisor:* Prof. T.J Smith (NUIG), Prof. R.P. Ross (Teagasc)

*Dissertation:* An investigation of polymorphisms in bovine mammary gland expressed genes

**1998-1999 M.Sc. Biomedical Science: University of Ulster at Coleraine, Northern Ireland**

*Advisor:* Prof. C.S. Downes

*Concentrations:* Immunology, Microbiology, Statistics, Oncology, Recombinant DNA technology

*Thesis:* An investigation of the effect of addition of deoxypurines on Fragile X sites

**1994-1998 B.Sc. (hons). Microbiology: National University of Ireland, Galway, Ireland**

*Advisor:* Dr. C. Carroll

*Minors:* Human Nutrition, Analytical and Industrial Chemistry, Computer programming

*Thesis:* An investigation into the incidence of *Campylobacter jejuni* in broiler chickens

**Experience:**

**July 2016-present**

*Associate Professor:* Department of Animal Science, Iowa State University, Ames, U.S.A.

*Emphasis:* Reproductive Physiology & Toxicology

**May 2010-June 2016**

*Assistant Professor:* Department of Animal Science, Iowa State University, Ames, U.S.A.

*Emphasis:* Reproductive Physiology & Toxicology

**April 2006-April 2010**

*Research Associate:* Department of Physiology, University of Arizona, Tucson, U.S.A.

*Mentor:* Dr. Patricia B. Hoyer

*Emphasis:* Reproductive Physiology & Toxicology

**Feb 2005-Feb 2006**

*Visiting Scientist:* Department of Animal Science, University of Vermont, Burlington, U.S.A.

*Mentor:* Dr. F.Q. Zhao

*Emphasis:* Mammary Physiology and Glucose Transport

**Feb 2004-Feb 2006**

*Post-Doctoral Fellow:* Department of Agricultural, Food and Nutritional Sciences, University of Alberta, Canada.

*Mentor:* Prof. J.J. Kennelly

*Emphasis:* Mammary Physiology and Glucose Transport

**Teaching Responsibilities:**

*Iowa State University*

Lecturer: AnS 511X; Contemporary Issues in Reproductive Biology (2017-present)

Lecturer: AnS 533; Physiology and Endocrinology of Animal Reproduction (2016-present)

Lecturer: TOX 689; Current Topics in Toxicology (2014-present)

Lecturer: TOX 504; Toxicology Seminar (2014-present)  
Lecturer: TOX 502; Toxicology Methods (2016-present)  
Lecturer: TOX 501; Principles of Toxicology (2011-present)  
Lecturer: ANS 332; Methods in Animal Reproduction (2011, 2012)  
Lecturer: ANS 569X; Reproductive and Developmental Toxicology (2011-present)  
Lecturer: ANS 214; Domestic Animal Physiology (2011-2017)  
Co-ordinator: ANS 633; Seminar in Reproduction (2011; 2016)  
Guest Lecturer: ANS 549; Vertebrate Animal Physiology I. Endocrine disruption (2011-present)

*University of Arizona*

Guest Lecturer: PSIO 467; Endocrine Physiology (2009)  
Guest Lecturer: ANS 315R; Physiology of Reproduction (2008)  
Guest Lecturer: ANS 560; Physiology of Lactation (2006)

*University of Alberta*

Guest Lecturer: ANS 472; Molecular Biology of Lactation (2005)  
Teaching Assistant: ANS 472; Applied Dairy Science (2005)

*National University of Ireland, Galway*

Teaching Assistant: MI 201; Microbiology (1998)

**Graduate Student Committees (Iowa State University):**

Major Professor:

*Ph.D. candidates:*

Imaobong Inyang, Interdepartmental Toxicology Program  
Jaspreet Rishi, Interdepartmental Genetics and Genomics Program  
Gulnara Novbotova, Interdepartmental Genetics, Development and Cell Biology Program  
Crystal Roach, Department of Animal Science  
Maria Estefania Gonzalez Alvarez, Interdepartmental Toxicology Program  
Kendra Clarke, Interdepartmental Genetics and Genomics Program (2019)  
Shanthi Ganesan, Interdepartmental Toxicology Program (2014)  
Jill Madden, Interdepartmental Genetics Program (2014)  
Jackson Nteebe, Interdepartmental Genetics Program (2014)

*M.S. candidates:*

Bailey McGuire, Interdepartmental Toxicology Program  
Doug Snider, Interdepartmental Toxicology Program (co-major professor; 2017)  
Katie Bidne, Department of Animal Science (2017)  
Mackenzie Dickson, Department of Animal Science (co-major professor; 2017)  
Porsha Thomas, Interdepartmental Toxicology Program (2016)  
Ahmad Al-Shaibi, Interdepartmental Genetics Program (2016)

Plan of Study Committee Member:

*Ph.D. candidates:*

Ashwini Rangaraj, Molecular, Cellular and Developmental Biology Interdepartmental Program  
Rachel Sorensen, Interdepartmental Toxicology Program  
Ronald Blythe Schulz, Department of Animal Science  
Carson De Mille, Department of Animal Science  
Leticia Sanglard, Department of Animal Science  
Cristina Santana Maldonado, Interdepartmental Toxicology Program  
Amanda Bries, Interdepartmental Nutritional Sciences Program (2020)

Beatriz Mizoguchi, Interdepartmental Genetics & Genomics Program (2020)  
Dharmin Rokad, Interdepartmental Toxicology Program (2019)  
Dr. Violet Klenow, University of Iowa, OBGYN research fellow (2019)  
Adhithiya Charli, Interdepartmental Toxicology Program (2018)  
Poojya Anantharam, Interdepartmental Toxicology Program (2017)  
Benjamin Hale, Interdepartmental Genetics & Genomics Program (2017)  
Jessica Colypos, Department of Animal Science (2015)  
Maria Victoria Sanz-Fernandez, Interdepartmental Nutritional Sciences Program (2014)  
Sarah Pearce, Department of Animal Science (2014)  
Elaine Wright, Interdepartmental Molecular Cellular and Developmental Biology Program (2012)

*M.S. candidates:*

Courtney Huerter, Interdepartmental Toxicology Program  
Jacob Johnson, Interdepartmental Toxicology Program  
Zoe Kiefer, Department of Animal Science  
Jamie Studer, Department of Animal Science  
Marcie Christianson, Department of Animal Science  
Jayamuni Silva, Department of Animal Science  
Mengisteab Wolday, Interdepartmental Toxicology Program (2019)  
Anita Corredor, Department of Animal Science (2019)  
Majd Abdulghani, Interdepartmental Genetics & Genomics Program (2018)  
Leticia Sanglard, Department of Animal Science (2018)  
Matthew Romoser, Department of Animal Science (2017)  
Kody Graves, Department of Animal Science (2015)  
Ellen Tisdale, Interdepartmental Genetics & Genomics Program (2015)  
Kirsten Larson, Interdepartmental Toxicology Program (2014)

**Other Teaching Contributions:**

Director of Graduate Education, Interdepartmental Toxicology Graduate Program (2018-present)  
Supervisory Committee, Toxicology and Pharmacology undergraduate minor (2016-present)  
Interdepartmental Molecular, Cellular and Developmental Biology Graduate Program, Faculty Advisor (2020-present)  
Interdepartmental Genetics & Genomics Program, Faculty Advisor (2011-present)  
Interdepartmental Toxicology Program, Supervisory Committee (2011-present)  
Interdepartmental Toxicology Program, Faculty Advisor (2011-present)  
Interdepartmental Genetics & Genomics Program Admissions Committee (2010-11)

**Undergraduate Advising:**

Advisor to ~ 25 undergraduate students

**Undergraduate Research Mentorship:**

Avery Korns (2018-2020)  
Isabelle Lee (2019)  
Chad Lawyer (2019)  
Delaney Ridgeway (2018)  
Bailey McGuire (2017-2018)  
Erin Wagner (2016-2018)  
Matt Finch (2015)  
Alexandra Kastli (2015)  
Bethany Isaacson (2015)  
Katelyn Samuelson (2014)

Aysha Mayeed (2014, 2015)  
Cody Branstad (2013)  
Mackenzie Dickson (2013, 2014)  
Brenna Gray (2012)  
Maria Arendt (2011)  
Emily Ullerich (2011)

**Additional Mentoring:**

Faculty mentor to three assistant professors and one lecturer (2017-onwards)  
Ames High School - Young Engineers and Scientists (YES) program (2016)  
K12: Engaging Youth in Science (2009)  
K12: Engaging Youth in Science (2008)  
High School Research Medical Ignorance Program (2008)

**Research Funding (total to date = \$7,498,961)**

Current

National Institute of Environmental Health Science  
R01ES030341-01  
Investigating obesity-induced altered ovarian intracellular signaling  
01/01/2020-10/31/2024  
\$2,394,307  
Role: Principal Investigator

Iowa State University Nutritional Sciences Council Martin Fund  
Remediating obesity-induced ovarian injury by caloric restriction  
07/01/2020-06/31/2021  
\$7,500 total costs  
Role: Principal Investigator.

National Institute of Child Health and Human Development  
R03 HD095091  
Dietary intervention strategies to support methyl group metabolism in polycystic ovary syndrome  
1/1/2019-12/31/2020  
\$146,551  
Role: Co-investigator

Iowa Pork Producers Association  
09/15/18-12/31/2020  
Advancing investigations in swine reproduction efficiency at Iowa State University Phase IV  
\$100,000 total costs  
Role: Principal Investigator

National Pork Board  
10/15/18-10/14/23  
An integrated approach to improve whole herd pig survivability  
\$1,999,772 total costs  
Role: Co-investigator.

Iowa State University Bailey Career Development Award  
08/01/17-12/31/20

Investigating mechanisms by which obesity alters the ovarian capacity to respond to chemical exposures  
\$150,000 total costs  
Role: Principal Investigator.

Completed

National Institute of Environmental Health Science  
02/01/18-08/31/20

Administrative Supplement: Investigating modes of action of glyphosate-induced ovotoxicity  
\$99, 281 total costs  
Role: Principal Investigator.

National Institute of Food and Agriculture  
04/01/17-03/31/20

Mechanisms of microRNA regulation impacting oocyte and early embryo development in the pig.  
\$460,000 total costs.  
Role: Co-investigator.

National Institute of Environmental Health Science  
R21 ES026282  
09/01/16-08/31/20

Investigating modes of action of glyphosate-induced ovotoxicity  
\$412,500 total costs  
Role: Principal Investigator.

Iowa State University Nutritional Sciences Council Martin Fund  
Investigating impact of obesity on zearalenone-induced ovarian toxicity  
07/01/2018-06/31/2019  
\$8,000 total costs  
Role: Principal Investigator.

Iowa Pork Producers Association  
10/01/17-08/31/18

Advancing investigations in swine reproduction efficiency at Iowa State University Phase III  
\$100,000 total costs  
Role: Co-investigator

National Pork Board  
11/01/17-10/31/18

Identification of putative factors contributing to pelvic organ prolapse in sows  
\$108, 595 total costs  
Role: Co-investigator

Iowa Pork Industry Center  
08/01/17-07/31/18

Investigating the genetic and genomic basis of gilt vulva size for genetic improvement of sow lifetime reproductive performance  
\$24, 180 total costs  
Role: Co-investigator

Iowa Pork Producers Association  
10/01/16-08/31/17

Advancing investigations in swine reproduction efficiency at Iowa State University Phase II

\$150,000 total costs

Role: Principal Investigator.

Iowa State University Nutritional Sciences Council Martin Fund

08/01/16-07/31/17

Evaluating dietary fat intake on ovarian inflammatory signaling.

\$7,500 total costs

Role: Principal Investigator.

Iowa Pork Producers Association

09/01/15-08/31/16

Advancing investigations in swine reproduction efficiency at Iowa State University Phase I

\$100,000

Role: Co-investigator.

Global Food Security Consortium

10/01/14-06/30/15.

Determination of lipopolysaccharide involvement in climate-induced infertility

\$25,000 total costs

Role: Principal Investigator.

Iowa Pork Producers Association

07/01/14-06/30/15

Investigating hyperinsulinemia and increased circulating lipopolysaccharide involvement in seasonal infertility

\$55,719 total costs

Role: Principal Investigator.

Iowa State University Internal Funding Program

05/01/14-06/30/15

Examination of Genomic Markers Associated with Heat Stress in Pigs

\$26,400 total costs

Role: Co-investigator.

Iowa State University Presidential Initiative bridge funding

01/06/14-31/11/14

\$10,170 total costs.

Role: Principal Investigator.

Wise Burroughs Memorial Endowment (ISU)

01/09/14-08/31/15

Determining how plasma exosomes facilitate intercellular communications and regulate growth in pigs.

\$31,954 total costs.

Role: Co-investigator.

National Institute of Environmental Health Science

05/01/09-04/30/13.

Glutathione S-transferase signaling in VCD-induced ovotoxicity.

\$837,000 total costs.

Role: Principal Investigator.

National Pork Board

10/1/12–09/30/14

Understanding the biology of seasonal infertility to develop mitigation strategies for swine.

\$158,318 total costs.

Role: Co-investigator.

National Pork Board

10/1/11–10/01/13

Development of Strategies to Improve Sow Productive Lifetime.

\$65,000 total costs.

Role: Co-investigator.

Iowa Pork Producers Association

05/1/12–04/30/13

Investigating Biological Reasons for Seasonal Infertility.

\$52,369 total costs.

Role: Principal Investigator.

Iowa State University College of Human Sciences Seed Grant

07/1/12-06/30-13.

Prenatal exposure to glyphosate and aspartame: a possible link with development of obesity?

\$22,896 total costs.

Role: Co-Investigator.

American Association of University Women

07/01/12-06/30/13.

Ganesan, S. International Doctoral Fellowship.

\$20,000 total costs (**A.F. Keating** as doctoral mentor).

## **Publications:**

### **Peer-Reviewed Original Research Articles:**

Corredor, F.A., Pereira Sanglard, L., Leach, R.J., Ross, J.W., **Keating, A.F.**, Serão, N.V.L. 2021. Phenotypic and genomic relationships between vulva score categories and reproductive performance in first-parity sows. *Journal of Animal Science and Biotechnology*. 2(1):7.

Clark, K.L., Roach, C.M., **Keating, A.F.** 2020. Obesity alters ovarian DNA damage response and apoptotic proteins. *Reproduction*. 160(5): 751-760.

Ganesan, S., **Keating, A.F.** 2020. Ovarian mitochondrial and oxidative stress proteins are altered by glyphosate exposure in mice. *Toxicology and Applied Pharmacology*. 402:115116.

Ganesan, S., McGuire, B.C., **Keating, A.F.** 2020. Absence of glyphosate-induced effects on ovarian folliculogenesis and steroidogenesis. *Reproductive Toxicology*. 96:156-164.

Corredor, F.A., Pereira Sanglard, L., Leach, R.J., Ross, J.W., **Keating, A.F.**, Serão, N.V.L. 2020. Genetic and genomic characterization of vulva size traits in Yorkshire and Landrace gilts. *BMC Genetics*. 21: 28.

Clark, K.L., **Keating, A.F.** 2020. Ataxia Telangiectasia Mutated coordinates the ovarian DNA repair and atresia-initiating response to phosphoramidate mustard. *Biology of Reproduction*. 102(1):248-260.

- Romoser, M.R., Hale, B.J., Seibert, J.T., Gall, T., Rademacher, C.J., Stalder, K.J., Baumgard, L.H., **Keating, A.F.**, Ross J.W. 2020. Methods for reproductive tract scoring as a tool for improving sow productivity. *Translational Animal Science*. 4 (1): 275–284.
- Graves, K.L., Mordhorst, B.R., Wright, E.C., Hale, B.J., Stalder, K.J., **Keating, A.F.**, Ross J.W. 2020. Identification of measures predictive of age of puberty onset in gilts. *Translational Animal Science* 4: 285-292.
- Seibert, J.T., Adur, M.K., Schultz, R.B., Thomas, P.Q., Kiefer, Z.E., **Keating, A.F.**, Baumgard, L.H., Ross, J.W. 2019. Differentiating between the effects of heat stress and lipopolysaccharide on the porcine ovarian heat shock protein response. *Journal of Animal Science*. 97(12):4965-4973.
- Clark, K.L., Talton, O.O., Ganesan, S., Schulz, L.C., **Keating, A.F.** 2019. Developmental Origins of Ovarian Disorder: Impact of Maternal Lean Gestational Diabetes on the Offspring Ovarian Proteome in Mice. *Biology of Reproduction*. 101(4):771-781.
- Hines, E.A., Romoser, M.R., Kiefer, Z.E., **Keating, A.F.**, Baumgard, L.H., Niemi, J., Haberl, B., Williams, N.H., Kerr, B.J., Touchette, K.J., Ross, J.W. 2019. The impact of dietary supplementation of arginine during gestation in a commercial swine herd: II. Offspring performance. *Journal of Animal Science*. 97(9):3626-3635.
- Hines, E.A., Romoser, M.R., Kiefer, Z.E., **Keating, A.F.**, Baumgard, L.H., Niemi, J., Gabler, N.K., Patience, J.F., Haberl, B., Williams, N.H., Kerr, B.J., Touchette, K.J., Ross, J.W. 2019. The impact of dietary supplementation of arginine during gestation in a commercial swine herd: I. Gilt reproductive performance. *Journal of Animal Science*. 97(9):3617-3625.
- Bidne, K.L., Romoser, M.R., Ross, J.W., Baumgard, L.H., **Keating, A.F.** 2019. Heat stress during the luteal phase decreases luteal size but does not impact circulating progesterone in gilts. *Journal of Animal Science*. 97(10):4314-4322.
- Dickson, M.J., Kvidera, S.K., Horst, E.A., Wiley, C.E., Mayorga, E.J., Ydstie, J., Perry, G.A., Baumgard, L.H., **Keating, A.F.** 2019. Impact of chronic and increasing lipopolysaccharide exposure on production and reproductive parameters in lactating Holstein dairy cows. *Journal of Dairy Science*. 102(4):3569-3583.
- Horst, E.A., Kvidera, S.K., Dickson, M.J., McCarthy, C.S., Mayorga, E.J., Al-Qaisi, M., Ramirez, A.A., **Keating, A.F.**, Baumgard, L.H. 2019. Effects of continuous and increasing lipopolysaccharide infusion on basal and stimulated metabolism in lactating Holstein cows. *Journal of Dairy Science*. 102(4):3584-3597.
- Bidne, K.L., Kvidera, S.S., Ross, J.W., Baumgard, L.H., **Keating, A.F.** 2018. Impact of repeated lipopolysaccharide administration on ovarian signaling during the follicular phase of the estrous cycle in post-pubertal pigs. *Journal of Animal Science*. doi: 10.1093/jas/sky226.
- Abuajamieh, M., Kvidera, S.K., Mayorga, E.J., Kaiser, A., Lei, S., Seibert, J.T., Horst, E.A., Sanz Fernandez, M.V., Ross, J.W., Selsby, J.T., **Keating, A.F.**, Rhoads, R.P., Baumgard, L.H. 2018. The effect of recovery from heat stress on circulating bioenergetics and inflammatory biomarkers. *Journal of Animal Science*. 96(11):4599-4610.
- Mayorga, E.J., Kvidera, S.K., Horst, E.A., Al-Qaisi, M., Dickson, M.J., Seibert, J.T., Lei, S., **Keating, A.F.**, Ross, J.W., Rhoads, R.P., Rambo, Z.J., Wilson, M.E., Baumgard, L.H. 2018. Effects of zinc amino acid



- complex on biomarkers of gut integrity and metabolism during and following heat stress or feed restriction in pigs. *Journal of Animal Science*. *Journal of Animal Science*. 96(10):4173-4185.
- Dickson, M.J., Hager, C.L., Al-Shaibi, A., Thomas, P.Q., Baumgard, L.H., Ross, J.W., **Keating, A.F.** 2018. Impact of heat stress during the follicular phase on porcine ovarian steroidogenic and phosphatidylinositol-3 signaling. *Journal of Animal Science*. 96(6):2162-2174.
- Horst, E.A., Kvidera, S.K., Mayorga, E.J., Shouse, C.S., Al-Qaisi, M., Dickson, M.J., Ydstie, J., Ramirez Ramirez, H.A., **Keating, A.F.**, Dickson, D.J., Griswold, K.E., Baumgard, L.H. 2018. Effect of chromium on bioenergetics and leukocyte dynamics following immunoactivation in lactating Holstein cows. *Journal of Dairy Science*. 101(6):5515-5530.
- Kim, K.S., Seibert, J.T., Edea, A., Graves, K.L., Kim, E.S., **Keating, A.F.**, Baumgard, L.H., Ross, J.W., and Rothschild, M.F. 2018. Characterizing the acute heat stress response in gilts: III. Identification of underlying genomic control. *Journal of Animal Science*. 96(6):2074-2085.
- Graves, K.L., Seibert, J.T., **Keating, A.F.**, Baumgard, L.H., Ross, J.W. 2018. Characterizing the acute heat stress response in gilts: II. Assessing repeatability and association with fertility. *Journal of Animal Science*. 96(6):2419-2426.
- Seibert, J.T., Graves, K.L., Johnson, T.P., **Keating, A.F.**, Baumgard, L.H., Ross, J.W. 2018. Characterizing the acute heat stress response in gilts: I. Thermoregulatory and production variables. *Journal of Animal Science*. 96(3):941-949.
- Hale, B.J., Hager, C.J., Seibert, J.T., Selsby, J.T., Baumgard, L.H., **Keating, A.F.**, Ross, J.W. 2017. Heat stress induces autophagy in pig ovaries during follicular development. *Biology of Reproduction*. 97(3):426-437.
- Kvidera, S.K., Horst, E.A., Sanz-Fernandez, M.V., Abuajamieh, M., Ganesan, S., Gorden, P.J., Green, H.B., Schoenberg, K.M., Trout, W.E., **Keating, A.F.**, Baumgard, L.H. 2017. Characterizing effects of feed restriction and glucagon-like peptide 2 administration on biomarkers of inflammation and intestinal morphology. *Journal of Dairy Science*. 100(11):9402-9417.
- Kvidera, S.K., Dickson, M.J., Abuajamieh, M., Snider, D.B., Sanz Fernandez, M.V., Johnson, J.S., **Keating, A.F.**, Gorden, P.J., Green, H.B., Schoenberg, K.M., Baumgard, L.H. 2017. Intentionally reduced intestinal barrier integrity causes inflammation, affects metabolism, and reduces productivity in lactating Holstein cows. *Journal of Dairy Science*. 100(5):4113-4127.
- Ganesan, S., Nteeba, J., Madden, J.A., **Keating, A.F.** 2017. Obesity alters phosphoramidate mustard-induced ovarian DNA repair in mice. *Biology of Reproduction*. 96(2):491-501.
- Nteeba, J., Ganesan, S., Madden, J.A., Dickson, M.J., **Keating, A.F.** 2017. Progressive obesity alters ovarian insulin, phosphatidylinositol-3 kinase and chemical metabolism signaling pathways and potentiates ovotoxicity induced by phosphoramidate mustard in mice. *Biology of Reproduction*. 96(2):478-490.
- Madden, J.A., Thomas P.Q., **Keating, A.F.** 2016. Phosphoramidate mustard induces autophagy markers and mTOR inhibition prevents follicle loss due to phosphoramidate mustard exposure. *Reproductive Toxicology*. 67:65-78.

- Ganesan, S., **Keating, A.F.** 2016. Bisphenol A-induced ovotoxicity involves DNA damage induction to which the ovary mounts a protective response indicated by increased expression of proteins involved in DNA repair and xenobiotic biotransformation. *Toxicological Sciences*. 52(1):169-80.
- Ganesan, S., **Keating, A.F.** 2016. The ovarian DNA damage repair response is induced prior to phosphoramidate mustard-induced follicle depletion, and ataxia telangiectasia mutated inhibition prevents PM-induced follicle depletion. *Toxicology and Applied Pharmacology*. 292:65-74.
- Johnson, J.S., Abuajamieh, M., Sanz Fernandez, M.V., Seibert, J.T., Stoakes, S.K., **Keating, A.F.**, Ross, J.W., Selsby, J.T., Rhoads, R.P., Baumgard, L.H. 2015. The impact of in utero heat stress and nutrient restriction on progeny body composition. *Journal of Thermal Biology*. 53:143-50.
- Nteeba, J., Sanz-Fernandez, M.V., Rhoads, R.P., Baumgard, L.H., Ross, J.W., **Keating, A.F.** 2015. Heat stress alters ovarian insulin mediated phosphatidylinositol-3 kinase and steroidogenic signaling in gilt ovaries. *Biology of Reproduction*, 92(6):148.
- Colpoys, J.D., Abell, C.E., Gabler, N.K., **Keating, A.F.**, Millman, S.T., Siegford, J.M., Young, J.M., Johnson, A.K. 2015. Feed efficiency effects on barrow and gilt behavioural reactivity to novel stimuli tests. *Journal of Animal Science*.93:1-9.
- Ganesan, S., Nteeba, J., **Keating, A.F.** 2015. Impact of obesity on 7,12-dimethylbenz[a]anthracene-induced altered ovarian connexin gap junction proteins in female mice. *Toxicology and Applied Pharmacology*. 282(1):1-8. Cover Picture.
- Ganesan, S., **Keating, A.F.** 2015. Phosphoramidate mustard exposure induces DNA adduct formation and the DNA damage repair response in rat ovarian granulosa cells. *Toxicology and Applied Pharmacology*. 282(3):252-258.
- Ganesan, S., Nteeba, J., **Keating, A.F.** 2014. Enhanced susceptibility of ovaries from obese mice to 7,12-dimethylbenz[a]anthracene-induced DNA damage. *Toxicology and Applied Pharmacology*. 281(2):203-210.
- Nteeba, J., Ganesan, S., **Keating, A.F.** 2014. Progressive obesity alters ovarian folliculogenesis with impacts on pro-inflammatory and steroidogenic signalling. *Biology of Reproduction*. 91(4):86.
- Madden, J.A., **Keating, A.F.** 2014. Ovarian xenobiotic biotransformation enzymes are altered during phosphoramidate mustard-induced ovotoxicity. *Toxicological Sciences*. 141(2):441-52.
- Madden, J.A., Hoyer, P.B., Devine, P.J., **Keating, A.F.** 2014. Involvement of a volatile metabolite during phosphoramidate mustard-induced ovotoxicity. *Toxicology and Applied Pharmacology*. 277(1):1-7.
- Madden, J.A., Hoyer, P.B., Devine, P.J., **Keating, A.F.** 2014. Acute 7,12-dimethylbenz[a]anthracene exposure causes large pre-antral follicle depletion and gene expression in neonatal rat ovaries. *Toxicology and Applied Pharmacology*. 276(3):179-87.
- Nteeba, J., **Keating, A.F.** 2014. Impact of obesity on ovotoxicity induced by 7,12-dimethylbenz[a]anthracene in mice. *Biology of Reproduction*. 90(3):68.
- Colpoys, J.D., Abell, C.E., Young, J.M., **Keating, A.F.**, Gabler, N.K., Millman, S.T., Siegford, J.M., Johnson, A.K. 2014. Effects of genetic selection for residual feed intake on behavioral reactivity of castrated male pigs to novel stimuli tests. *Applied Animal Behaviour Science*. 159: 34-40.

- Ganesan, S., **Keating, A.F.** 2014. Impact of 7,12-dimethylbenz[a]anthracene exposure on connexin gap junction proteins in cultured rat ovaries. *Toxicology and Applied Pharmacology*. 274(2):209-214. [Cover Picture](#).
- Nteeba, J., Ortinau L.C., Perfield, J.W. II, **Keating, A.F.** 2013. Diet-induced obesity alters immune cell infiltration and expression of inflammatory cytokine genes in mouse ovarian and peri-ovarian adipose depot tissues. *Molecular Reproduction and Development*. 80(11):948-58.
- Ganesan, S., Bhattacharya, P., **Keating, A.F.** 2013. 7,12-dimethylbenz[a]anthracene exposure induces the DNA repair response in neonatal rat ovaries. *Toxicology and Applied Pharmacology*. 272: 690-69. [ISU Toxicology Program Patricia A. Murphy High Impact Publication Award](#).
- Nteeba, J., Ross, J.W., Perfield, J.W. II, **Keating, A.F.** 2013. High fat diet induced obesity alters ovarian phosphatidylinositol-3 kinase signaling gene expression. *Reproductive Toxicology*. 42: 68–77.
- Mani, V., Harris, A.J., **Keating, A.F.**, Weber, T.E. Dekkers, J.C.M., Gabler. N.K. 2013. Intestinal integrity, endotoxin transport and detoxification in pigs divergently selected for residual feed intake. *Journal of Animal Science*. 91(5):2141-50.
- Bhattacharya, P., Madden, J.A., Sen, N., Hoyer, P.B., **Keating, A.F.** 2013. Glutathione *S*-transferase class mu regulation of apoptosis signal-related kinase 1 protein during VCD-induced ovotoxicity in neonatal rat ovaries. *Toxicology and Applied Pharmacology*. 267(1):49-56.
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#### **Invited Review Papers:**

Mayorga E.J., Ross, J.W., **Keating, A.F.**, Rhoads, R.P. Baumgard, L.H. 2020. Biology of heat stress; the nexus between intestinal hyperpermeability and reproduction in swine. *Theriogenology*. 154:73-83.

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Novbotova, G., Ganesan, S., McGuire, B.C., **Keating, A.F.** 2020. Maternal and ovarian impacts of chronic glyphosate exposure. Society for the Study of Reproduction annual meeting.

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Chipman, A.C., Rademacher, C.J., Johnson, C., Stalder, K., Johnson, A., Keating, A.F., Patience, J.F., Gabler, N.K., Linhares, D., Schwartz, K., Millman, S., Studer, J., Kiefer, Z., Schmitz-Esser, S., Silva, G., Ross, J.W. 2018. Pelvic Organ Prolapse: An industry-wide collaboration to identify putative contributing factors. St. Paul, MN, September 15-18.

Corredor, F.A., Sanglard, L.P., Ross, J.W., Keating, A.F., Seroo, N.L. 2019. Phenotypic and genomic relationships between vulva score and reproductive performance in first-parity sows. American Society of Animal Science Midwest Section Meeting. Omaha, NE. March 11-13.

Schultz, R.B., Bidne, K.L., Romoser, M.R., Adur, M.K., Baumgard, L.H., **Keating, A.F.**, Ross, J.W. 2019. Effect of heat stress on the corpus luteum proteome during early pregnancy establishment in pigs. Society for the Study of Reproduction annual meeting.

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Eti, N.A., Flor, S., Klenov, V.E., Iqbal, K., Watt, J., Watson, W.H., **Keating, A.F.**, Gibson-Corley, K.N., Ronis, M.J., Soares, M.J., Ludewig, G., Robertson, L.W. 2019. The involvement of the Aryl Hydrocarbon Receptor in the toxicity of Polychlorinated Biphenyls. Society of Toxicology annual meeting.

Yost, E.E., Arzuaga, X., Carlson, L.M., **Keating, A.F.**, Lehmann, G.M. 2019. Using evidence mapping to focus and refine the evaluation of reproductive endpoints in a systematic review of PCBs. Society of Toxicology annual meeting.

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Ganesan, S., Clark, K.L., McGuire, B.C., **Keating, A.F.** 2018. Dose-dependent effects of chronic glyphosate exposure in the estrous cycle, ovarian proteome and steroid hormone levels in mice. Society for the Study of Reproduction annual meeting, New Orleans.

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Parrish, J.J., **Keating, A.F.**, Pate, J.L., Pohler, K.G., Wiltbank, M.C., Ealy, A.D. 2018. Changing paradigm in graduate education: Collaborative on-line approach in Reproduction. American Society of Animal Science annual meeting.

Corredor, F.A., Leach, R., Ross, J.W., **Keating, A.F.**, Serão, N.V.L. 2018. Genetic and genomic analysis of vulva size in Landrace and Yorkshire gilts. American Society of Animal Science annual meeting.

Akter Eti, N., Klenov, V.E., Flor, S., Gibson-Corley, K.N., Watt, J., Watson, W.H., **Keating, A.F.**, Soares, M.J., Iqbal, K., Ludewig, G., Robertson, L.W. 2018. Study of the involvement of the aryl hydrocarbon receptor in the toxicity of polychlorinated biphenyls. Society of Toxicology annual meeting.

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- Dickson, M.J., Kvidera, S.K., Horst, E.A., Ydstie, J.A., Bidne, K.L., Wiley, C.E., Gunn, P.J., **Keating, A.F.**, Baumgard, L.H. 2017. Chronic lipopolysaccharide infusion has no impact on dominant follicular size but affects 17 $\beta$ -estradiol in lactating dairy cows. American Society of Dairy Science annual meeting.
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- Bidne, K.L., Lyte, J., Hollis, J.H., Gabler, N.K., **Keating, A.F.** 2017. Impact of dietary fatty acid source on ovarian phosphatidylinositol-3 kinase signalling. Mid-West American Society of Animal Science annual meeting.
- Baumgard, L.H., Seibert, J.T., Kvidera, S.K. Kvidera, Ross, J.W. **Keating, A.F.**, R.P. Rhoads. 2016. Production, Biological, and Genetic Responses to Heat Stress in Ruminants and Pigs. *J. Anim. Sci.* 94 (E-Suppl. 5):401.

- Bidne, K.L., Dickson, M.J., Kvidera, S.K., Baumgard, L.H., Ross, L.H., **Keating, A.F.** 2016. Lipopolysaccharide exposure in swine alters ovarian toll-like receptor 4 expression. *J. Anim. Sci.* 94(E-Suppl. 5):1090.
- Dickson, M.J., Bidne, K.L., Hale, B.J., Hager, C.L., Baumgard, L.H., Ross, J.W., **Keating, A.F.** 2016. Impact of heat stress and metabolic endotoxemia on porcine ovarian function. *J. Anim. Sci.* 94(E-Suppl. 5):1043.
- Bidne, K.L., Nteeba, J., Rector, R.S., Perfield II, J.W., Stahl, C.H., **Keating, A.F.** 2016. Obesity induces hyperinsulinemia and metabolic endotoxemia and alters ovarian phosphatidylinositol-3 kinase and steroidogenesis signaling in a porcine model. Society for the Study of Reproduction annual meeting.
- Dickson, M.J., Nteeba, J., Hale, B.J., Kvidera, S., Baumgard, L.H., Ross, J.W., **Keating, A.F.** 2016. Alterations in porcine ovarian signaling induced by metabolic endotoxemia. Society for the Study of Reproduction annual meeting.
- Hale, B.J., Hager, C.L., Baumgard, L.H., **Keating, A.F.**, Ross, J.W. Heat Stress Induces Anti-Apoptotic Signaling in the Ovary through BCL-2 Family Proteins. Society for the Study of Reproduction annual meeting.
- Thomas, P.Q., **Keating, A.F.** 2016. Regulation of ovarian multidrug resistance protein 1 and p-glycoprotein by phosphatidylinositol-3 kinase signaling. Society of Toxicology annual meeting.
- Al-Shaibi, A., Hale, B.J., Hager, C.J., Ross, J.W., Baumgard, L.H., **Keating, A.F.** 2016. Impact of cyclical heat stress during follicular development on ovarian TLR4, PI3K and steroidogenic proteins in synchronized post-pubertal gilts. Midwest American Society of Animal Science meeting.
- Hale, B.J., Hager, C.L., Al-Shaibi, A., Baumgard, L.H., **Keating, A.F.**, Ross, J.W. 2016. Heat stress induces autophagy in pig ovaries during follicular development. Midwest American Society of Animal Science meeting.
- Hines, E. A., Seibert, J.T., Stoakes, S., Graves, K., Hale, B., Abuajamieh, M., Hager, C., Rademacher, C., **Keating, A.F.**, Baumgard, L.H, and Ross, J.W. 2016. Evaluation of physiological indicators of heat stress and their association with seasonal infertility in first parity sows. Midwest American Society of Animal Science meeting.
- Keating, A.F.** 2015. Mechanisms of Phosphoramidate Mustard-Induced Ovotoxicity. Society for the Study of Reproduction annual meeting. *Invited symposium speaker.*
- Al-Shaibi, A.A., Schulz, L.C., Pollock, K.E., and **Keating, A.F.** 2015. Investigating influence of gestational hyperleptinemia on ovarian microsomal epoxide hydrolase 1. Society for the Study of Reproduction annual meeting.
- Thomas, P.Q., Majeed, A., Ganesan, S., **Keating, A.F.** 2015. Multidrug resistance associated protein involvement in phosphoramidate mustard-induced ovotoxicity. Society for the Study of Reproduction annual meeting.
- Hale, B.J., Hager, C.L., Al-Shaibi, A.A., Baumgard, L.H., **Keating, A.F.**, Ross, J.W. 2015. Heat Stress Induces Autophagy in Pig Ovaries during Follicular Development. Society for the Study of Reproduction annual meeting.
- Colpoys, J.D., Abell, C.E., Gabler, N.K., **Keating, A.F.**, Millman, S.T., Siegford, J.M., Johnson, A.K. 2015. Barrow behavioral reactivity to a human or novel object when fed low versus high energy diets. American Society of Animal Science annual meeting.

Cheng, L., Nteeba, J., **Keating, A.F.**, Cui, J.Y. 2015. Impact of Obesity on the Expression of Xenobiotic Metabolism Genes in the Mouse Liver. Society of Toxicology annual meeting.

**Keating, A.F.** 2015. Impact of phosphoramidate mustard exposure on ovarian drug transporter expression. Society of Toxicology annual meeting. *Invited symposium speaker.*

**Keating, A.F.** 2014. Impact of insulin on ovarian function. J. Anim. Sci. Vol 92. E-Suppl. 2: 46. *Invited symposium speaker.*

Sholar, J.F., Colpoys, J.D., Gabler, N.K., **Keating, A.F.**, Millman, S.T., Siegford, J.M., Johnson, A.K. 2014. Gilt approachability to a human when selected for feed efficiency. J. Anim. Sci. Vol 92. E-Suppl. 2: 114.

Colpoys, J.D., Abell, C.E., Gabler, N.K., **Keating, A.F.**, Millman, S.T., Siegford, J.M., Johnson, A.K. 2014. Gilt behavioral responsiveness to a novel object when selected for feed efficiency.

Johnson, J.S., M. Abuajamieh, M. Sanz Fernandez, J.T. Seibert, S.K. Stoakes, **A.F. Keating**, J.W. Ross, J.T. Selsby, R.P. Rhoads, L.H. Baumgard. 2014. The impact of *in utero* heat stress and nutrient restriction on progeny body composition. J. Anim. Sci. Vol 92. E-Suppl. 2: 583.

Baumgard, L.H., Ross, J.W., Gabler, N.K., Lonergan, S.M., **Keating, A.F.**, Selsby, J.T., R.P. Rhoads. 2014. Metabolic and health consequences of heat stress: Knowledge gaps and opportunities. J. Anim. Sci. Vol 92. E-Suppl. 2: 31.

Nteeba, J., Ganesan, S., **Keating, A.F.** 2014. Progressive obesity alters the expression of ovarian NF- $\kappa$ B and steroidogenic pathway members in mice. Society for the Study of Reproduction annual meeting.

Madden, J.A., **Keating, A.F.** 2014. Phosphoramidate mustard-induced autophagy in the neonatal rat ovary. Society for the Study of Reproduction annual meeting.

Ganesan, S., Nteeba, J., **Keating, A.F.** 2014. Impact of 7,12-dimethylbenz[a]anthracene exposure and obesity on ovarian connexin gap junction proteins in mice. Society for the Study of Reproduction annual meeting.

Madden, J.A., **Keating, A.F.** 2014. Phosphoramidate mustard-induced changes in glucose metabolism in the neonatal rat ovary. Society of Toxicology annual meeting.

Ganesan, S., **Keating, A.F.** 2014. Phosphoramidate mustard-induced DNA adduct formation and DNA damage repair response induction in rat ovarian granulosa cells. Society of Toxicology annual meeting.

Nteeba, J., **Keating, A.F.** 2014. Temporal impact of obesity on expression of genes encoding enzymes involved in ovarian xenobiotic biotransformation. Society of Toxicology annual meeting.

Ganesan, S., Nteeba, J., **Keating, A.F.** 2013. Altered DNA repair in ovaries of obese mice following chronic exposure to 7,12-dimethylbenz[a]anthracene. Iowa Physiological Society Annual Meeting.

Graves K.L., Mordhorst, B., Oldfather, N., Wright, E.C., Hale, B., Stalder, K., **Keating A.F.**, Ross, J.W. 2013. Identification of measures predictive of puberty onset. Society for the Study of Reproduction annual meeting.

Ganesan, S., Nteeba, J., **Keating, A.F.** 2013. Obesity alters the DNA repair response following chronic exposure to 7,12-dimethylbenz[a]anthracene in mouse ovaries. Society for the Study of Reproduction annual meeting.

- Madden, J.A., **Keating, A.F.** 2013. Glutathione depletion rescues phosphoramidate mustard-induced follicle loss in rat ovaries. Society for the Study of Reproduction annual meeting.
- Nteeba, J., Ganesan, S., Gray, B., and **Keating, A.F.** 2013. Effect of obesity on 7,12-dimethylbenz[a]anthracene-induced ovotoxicity in mice. Society for the Study of Reproduction annual meeting.
- Jenkins, J.D., Gabler, N.K., **Keating, A.F.**, Millman, S.T., Siegford, J.M., Johnson, A.K. 2013. Barrow approachability to a human when selected for feed efficiency. American Society of Animal Science annual meeting.
- Madden, J.A., **Keating, A.F.** 2013. Chloroethylaziridine: an ovotoxic metabolite of cyclophosphamide? Society of Toxicology annual meeting.
- Ganesan, S., **Keating, A.F.** 2013. Role of connexin proteins during the ovarian response to 7,12-dimethylbenz[a]anthracene exposure in rat ovaries. Society of Toxicology annual meeting.
- Keating, A.F.** 2012. Ovarian metabolism of Xenobiotics. 18<sup>th</sup> Ovarian Workshop, Pennsylvania State University. *Invited symposium speaker.*
- Graves, K.L., Mordhorst, B., Oldfather, N., Wright, E.C., Hale, B., Boddiker, R.L., **Keating, A.F.**, Ross, J.W. 2012. Identification of measures predictive of age at first puberty. Allen D. Lemman swine conference, St. Paul, MN.
- Bhattacharya, P., Sen, N., Hoyer, P.B., **Keating, A.F.** 2012. Role of Glutathione S-transferase class mu during VCD-induced ovotoxicity in neonatal rat ovaries. Society for the Study of Reproduction annual meeting.
- Ganesan, S., Madden, J.A., **Keating, A.F.** 2012. 7,12-dimethylbenz[a]anthracene-induced DNA damage following a single exposure in rat ovaries. Society for the Study of Reproduction annual meeting.
- Madden, J.A., **Keating, A.F.** 2012. Dose-dependent gene expression after 7,12-dimethylbenz[a]anthracene single exposure in the rat ovary. Society for the Study of Reproduction annual meeting.
- Nteeba, J., **Keating, A.F.** 2012. Effect of diet-induced obesity on inflammatory cytokine expression in the mouse ovary. Society for the Study of Reproduction annual meeting.
- Nteeba, J., Ullerich, E.E., Pearce, S.C., Boddicker, R., Ross, J.W., Baumgard, L.H., **Keating, A.F.** 2012. Effect of heat stress on phosphatidylinositol-3 kinase signaling in gilt ovaries. Journal of Animal Science. 90(S3); 573.
- Madden, J.A., **Keating, A.F.** 2012. Phosphoramidate mustard-induced oxidative stress response in the neonatal rat ovary. Society of Toxicology annual meeting.
- Nteeba, J., Stromsdorfer, K., Perfield, J., **Keating, A.F.** 2012. Effect of diet-induced obesity on xenobiotic metabolizing gene expression in the ovary. Society of Toxicology annual meeting.
- Bhattacharya, P., **Keating, A.F.** 2012. Regulation of ovarian xenobiotic metabolizing gene expression by phosphatidylinositol-3 kinase signalling. Society of Toxicology annual meeting. *Molecular Biology Specialty Section Postdoctoral Fellow Research Award Honorable Mention.*
- Nteeba, J., Bhattacharya, P., Madden, J.A., Stromsdorfer, K., Perfield II, J.W., **Keating, A.F.** 2011. Effect of high fat diet-induced obesity on ovarian phosphatidylinositol-3 kinase signaling pathway members in mice. Society for the Study of Reproduction annual meeting.

Ganesan, S., Madden, J.A., Bhattacharya, P., Koltjes, J.E., Devine, P.J., **Keating, A.F.** 2011. DNA repair gene expression up-regulation in response to phosphoramidate mustard exposure in cultured rat ovaries. Society for the Study of Reproduction annual meeting.

Bhattacharya, P., **Keating, A.F.** 2011. Involvement of glutathione *S*-transferase isoform pi in 7,12-dimethylbenz[a]anthracene metabolism in the rat ovary. Society for the Study of Reproduction annual meeting.

Madden, J.A., **Keating, A.F.** 2011. Phosphoramidate mustard-induced xenobiotic metabolism gene expression in the rat ovary. Society for the Study of Reproduction annual meeting.

**Keating, A.F.**, Hoyer, P.B., Devine P.J., Madden, J.A. 2011. 7,12-dimethylbenz[a]anthracene-induced ovotoxicity following a single exposure in rat ovaries. Society for the Study of Reproduction annual meeting.

Wright, E.C., Yang, C.X., **Keating, A.F.**, Ross, J.W. 2011. Phosphatase and Tensin Homolog (PTEN) and MiR-21 expression during oocyte recruitment and maturation in the porcine ovary. Society for the Study of Reproduction annual meeting.

Madden, J.A., Pearce, S.C., Gabler, N.K., Baumgard, L.H., **Keating, A.F.** 2011. Effects of thermal stress on liver xenobiotic metabolism gene expression in swine. *Journal of Animal Science*. 89(S1); 406.

Madden, J.A., Hoyer, P.B., Devine, P.J., **Keating, A.F.** 2011. Phosphoramidate mustard-induced ovotoxicity following a single exposure in rat ovaries. Society of Toxicology annual meeting.

**Keating, A.F.**, Sen, N., Sipes, I.G., Hoyer, P.B. 2010. GSTpi and phospho-c-Jun interactions in 4-vinylcyclohexene diepoxide-induced ovotoxicity in the rat ovary. Society of Toxicology annual meeting.

**Keating, A.F.**, Sen, N., Sipes, I.G., Hoyer, P.B. 2009. 4-vinylcyclohexene diepoxide exposure alters expression of Kit signalling pathway members to induce ovotoxicity. Society for the Study of Reproduction annual meeting.

Hoyer, P.B., Sen, N., Sipes, I.G., **Keating, A.F.** 2009. Involvement of phosphatidyl-3 kinase in ovotoxicity induced by 4-vinylcyclohexene diepoxide. Society for the Study of Reproduction annual meeting.

Mark, C.J., **Keating, A.F.**, Sipes, I.G., Hoyer, P.B. 2009. Role of Kit and PI3K pathway in 7,12-dimethylbenz[a]anthracene-induced ovotoxicity. Society for the Study of Reproduction annual meeting.

**Keating, A.F.**, Sen, N., Sipes, I.G., Hoyer, P.B. 2008. Ovotoxicity of 4-vinylcyclohexene diepoxide mediated through phosphatidylinositol 3-kinase signaling. Society of Toxicology annual meeting.

Petrillo, S.K., Desmeules, P., **Keating, A.F.**, Hoyer, P.B., Devine, P.J. 2008. Oocyte injury can be detected after in vitro exposure to bi-functional toxicants. Society of Toxicology annual meeting.

**Keating, A.F.**, Sen, N., Sipes, I.G., Hoyer, P.B. 2008. Effect of 4-vinylcyclohexene diepoxide on xenobiotic metabolizing enzyme expression in the rat ovary. Society for the Study of Reproduction annual meeting.

**Keating, A.F.**, Hoyer, P.B. 2007. Xenobiotic metabolizing enzyme expression in the murine ovary. XVIth Ovarian workshop. 63.

**Keating, A.F.**, Rajapaksa, K.S., Sipes, I.G., Hoyer, P.B. 2007. Interactions between Cytochrome P450 2E1 and microsomal epoxide hydrolase in effects of 4-Vinylcyclohexene diepoxide in the mouse ovary. Society of Toxicology annual meeting.

Kay, J.K., Moore, C.E., Bauman, D.E., Rhoads, R.P., Sanders, S.R., **Keating, A.F.**, Baumgard, L.H. 2007. Temporal effect of trans-10, cis-12 conjugated linoleic acid on mammary lipogenic gene expression. *Journal of Dairy Science*. 90. Suppl. 1. 58.

**Keating, A.F.**, Zhao, F.Q., Kennelly, J.J. 2007. Characterization and regulation of the bovine *stearoyl-CoA desaturase* (Scd) gene promoter and effects of conjugated linoleic acid (CLA) on mammary cell growth and apoptosis. CLA network annual meeting, Banff, Canada.

**Keating, A.F.**, Sipes, I.G., Hoyer, P.B. 2007. Glutathione-S-Transferase expression in the murine ovary. Society for the Study of Reproduction annual meeting.

Zhao, F.Q., Dong, B., **Keating, A.F.** 2006. Expression of Oct-2 transcription factor and its potential role in activation of  $\beta$ -casein gene expression in mouse mammary gland. ENDO 06, 1-375.

**Keating, A.F.**, Zhao, F.Q., Kennelly, J.J. 2006. Characterization and regulation of the bovine *stearoyl-CoA desaturase* (Scd) gene promoter and effects of conjugated linoleic acid (CLA) on mammary cell growth and apoptosis. *Journal of Dairy Science*. 89(S1);333.

Finucane, K.A., **Keating, A.F.**, Zhao, F.Q. 2006. Expression and regulation of glucose transporter gene expression in a bovine mammary epithelial cell line, Mac-T. *Journal of Dairy Science*. 89(S1);198.

Zhao, F.Q., **Keating, A.F.** 2006. Expression and regulation of glucose transporters in the bovine mammary gland. *Journal of Dairy Science*. 89(S1);428.

Greenwood, S.L., Glimm, D.R., **Keating, A.F.**, Beswick, N.S., Kennelly, J.J. 2006. Relative quantification of ghrelin mRNA in Holstein calves. *Journal of Dairy Science*. 89(S1);350.

Guan, L.L., Meng, Y., Wang, Z., **Keating, A.F.**, Kennelly, J.J., Moore, S.S. 2006. Subtracted full-length cDNA library, a powerful tool to identify transcripts associated with improved CLA production in bovine mammary gland. International Society for Animal Genetics annual meeting, Brazil.

Cruz-Hernandez, C., Sørensen, B., **Keating, A.F.**, Okine, E., Kennelly, J.J., Weselake R. 2006. Effect of CLA isomers on TAG accumulation and associated gene expression in bovine mammary gland epithelial cells. 97th American Oil Chemists' Society, Annual Meeting and Expo, St. Louis, USA, 54.

Cruz-Hernandez, C., Sørensen, B., **Keating, A.F.**, Okine, E., Kennelly, J.J., Weselake, R. 2006. Effect of CLA isomers on TAG accumulation and associated gene expression in bovine mammary gland epithelial cells. 4<sup>th</sup> Euro Fed Lipid Congress, Spain.

**Keating, A.F.**, Zhao, F.Q., Kennelly, J.J. 2005. The effect of conjugated linoleic acid (CLA) on transcriptional activation of the *Stearoyl-CoA desaturase* gene in bovine mammary cells. *Journal of Dairy Science*. 88:Suppl 1. 288.

**Keating, A.F.**, Zhao, F.Q., Weselake, R.J., Kennelly, J.J. 2005. The effect of conjugated linoleic acid on cell growth and glucose transport in bovine mammary cells. *Journal of Dairy Science*. 88:Suppl 1. 211.

Sørensen, B., Cruz-Hernandez, C., **Keating, A.F.**, Okine, E., Kennelly, J. J., Wegner, J., Weselake, R. 2005. Effect of conjugated linoleic acid on the activity of microsomal diacylglycerol acyltransferase from bovine mammary gland tissue. 96<sup>th</sup> AOCS Annual Meeting & Expo, Utah, USA. 49.

Sørensen, B., Cruz-Hernandez, C., **Keating, A.F.**, Okine, E., Kennelly, J.J., Wegner, J., Weselake, R. 2005. Effect of conjugated linoleic acid on the activity and expression of diacylglycerol acyltransferase in bovine mammary gland. 20th Annual Meeting of the Canadian Section of the American Oil Chemists' Society, Saskatoon, Canada.

**Keating, A.F.**, Smith, T.J., Cairns, M.T., Ross, R.P. 2003. Characterisation of the bovine *kappa* casein promoter. Teagasc-Walsh Fellowship seminar, Dublin, Ireland. 14.

**Keating, A.F.**, Smith, T.J., Cairns, M.T., Ross, R.P. 2002. Characterisation of the bovine *kappa* casein promoter. Biochemical Society, Irish Area section meeting. 5.

**Keating, A.F.**, Smith, T.J., Cairns, M.T., Ross, R.P. 2002. Characterisation of the bovine *kappa* casein promoter. International Society for Animal Genetics annual meeting, Germany.

#### **Extension Articles:**

Greenwood, S., Glimm, D., **Keating, A.F.**, Beswick, N., Kennelly, J.J. 07-16-2006. Take a bite out of stress. Dairy Day, Dairy Research Technology Centre, Edmonton, Alberta, Canada.

#### **Invited Research Presentations:**

**Keating, A.F.** November 25<sup>th</sup>, 2020. Unscrambling effects of ovotoxicant exposures. Réseau Québécois En Reproduction. University of Montreal.

**Keating, A.F.** Sept 28<sup>th</sup>, 2020. Exploring Ovo-Obeso-Toxicity. Ottawa Hospital Research Institute, Canada.

**Keating, A.F.** Sept 11<sup>th</sup>, 2020. Ovarian intracellular signaling in response to environmental chemical exposures. Environmental Health Sciences Center, University of Iowa.

**Keating, A.F.** Sept 11<sup>th</sup>, 2020. Unscrambling effects of ovotoxicant exposures. Reproductive Biology Forum, Texas A&M University.

**Keating, A.F.** December 6<sup>th</sup>, 2019. Exploring effects of obesity on ovotoxicity. Center for Occupational and Environmental Health. University of California, Irvine, CA.

**Keating, A.F.** October 18<sup>th</sup>, 2019. Exploring mechanisms of glyphosate-induced ovotoxicity. Department of Animal Science. University of Nebraska, Lincoln, NE.

**Keating, A.F.** October 16<sup>th</sup>, 2019. Exploring mechanisms of glyphosate-induced ovotoxicity. Department of Obstetrics and Gynecology, University of Nebraska Medical Center, Omaha, NE.

**Keating, A.F.** March 26<sup>th</sup>, 2019. Endocrine Disruption in Follicle Development. Kinase Signaling in Ovarian Development Symposium. The Endocrine Society. New Orleans, LA.

**Keating, A.F.** February 13<sup>th</sup>, 2019. Exploring Effects of Obesity on Ovotoxicity. Reproductive Physiology/Endocrinology Seminar Series. Cornell University.

**Keating, A.F.** November 29<sup>th</sup>, 2018. Ovarian Impacts of Chronic Exposure to the Herbicide Glyphosate. Department of Biochemistry Seminar Series. Iowa State University.



**Keating, A.F.** October 12<sup>th</sup>, 2018. Glyphosate: Fertility Friend or Foe? University of Iowa Toxicology Program Seminar Series.

**Keating A.F.** August 9<sup>th</sup>, 2018. Impact of environmental exposures on ovarian function. Laboratory Animal Resources seminar series, Iowa State University.

**Keating, A.F.** DNA repair and ovarian aging in response to environmental chemicals. “Ovarian Aging: Understanding the Mechanisms and the Role of Environmental Factors”. Ovarian Workshop. New Orleans, July 10<sup>th</sup>, 2018.

**Keating, A.F.** November 14<sup>th</sup>, 2016. Germ cell exposure and the ovarian response to ovotoxicants. Prenatal Programming and Toxicity meeting, Kitakyushu, Japan.

**Keating, A.F.** June 19<sup>th</sup>, 2015. Mechanism of phosphoramidate mustard-induced ovotoxicity. Symposium session: *Impact of the Environment on Development and Function of the Mammalian Ovary*. Society for the Study of Reproduction annual meeting, Puerto Rico.

**Keating, A.F.** April 16<sup>th</sup>, 2015. Contribution of altered ovarian signaling to seasonal infertility in swine. 2<sup>nd</sup> biannual Heat Stress Symposium, Iowa State University.

**Keating, A.F.** March 23<sup>rd</sup>, 2015. Impact of phosphoramidate mustard exposure on ovarian drug transporter expression. Workshop symposium session: *Transporters as gatekeepers for chemical exposure in reproductive tissues*. Society of Toxicology annual meeting, San Diego.

**Keating, A.F.** January 16<sup>th</sup>, 2015. How to make the perfect egg: Unscrambling the impact of central metabolism alteration on ovarian function. *Department of Animal Science seminar series*, Iowa State University.

**Keating, A.F.** November 14<sup>th</sup>, 2014. Phosphoramidate mustard-induced ovotoxicity: mechanisms and ovarian metabolism. Interdepartmental environmental toxicology seminar series, University of Illinois, Urbana-Champaign.

**Keating, A.F.** November 6<sup>th</sup>, 2014. Infertility in production animals: causes and potential mitigation strategies. Advancing Modern Animal Production. Lima, Peru.

**Keating, A.F.** July 2<sup>nd</sup>, 2014. Impact of central metabolism alteration on ovarian function. Teagasc, Moorepark, Ireland.

**Keating, A.F.** October 11<sup>th</sup>, 2013. Phosphatidylinositol-3 Kinase Signalling Involvement in Ovarian Xenobiotic Metabolism. The Gilbert S. Greenwald Symposium on Reproduction and Regenerative Medicine. Kansas city.

**Keating, A.F.** November 4<sup>th</sup>, 2011. Phosphatidylinositol-3 kinase signalling pathway involvement in ovotoxicity. Animal Biological Systems seminar series. Department of Animal Science, University of Nebraska.

**Keating A.F.** November 10<sup>th</sup>, 2011. Phosphatidylinositol-3 kinase signalling pathway involvement in ovotoxicity. Department of Nutrition and Exercise Physiology Seminar Series, University of Missouri.

**Keating, A.F.** October 31<sup>st</sup>, 2011. Phosphatidylinositol-3 kinase signalling pathway involvement in ovotoxicity”. Interdepartmental genetics graduate program seminar series. Iowa State University.

**Keating, A.F.** October 7<sup>th</sup>, 2011. Phosphatidylinositol-3 kinase signalling pathway involvement in ovotoxicity. Environmental Health Sciences Research Centre seminar series. University of Iowa, Iowa City.

**Keating, A.F.** April 21<sup>st</sup>, 2011. Ovarian metabolism of xenobiotics. Department of Pathobiology graduate seminar series. Brown University, Rhode Island.

**Keating A.F.** March 11<sup>th</sup>, 2011. The ovary - the last frontier. Department of Animal Science seminar series, Iowa State University.

**Keating, A.F.** December 10<sup>th</sup>, 2010. Xenobiotic-induced ovotoxicity. Department of Obstetrics and Gynaecology, University of Iowa, Iowa City.

**Keating, A.F.** March 23<sup>rd</sup>, 2010. Cellular mechanisms involved in 4-vinylcyclohexene diepoxide-induced ovotoxicity. Frontiers in Medical Research seminar series. University of Arizona, Tucson.

**Keating, A.F.,** Sen, N., Sipes, I.G., Hoyer, P.B. July, 2008. Ovotoxicity of 4-vinylcyclohexene diepoxide mediated through phosphatidylinositol 3-kinase signaling. American Physiological Society, Arizona chapter inaugural meeting.

**Keating, A.F.,** Zhao, F.Q., Kennelly, J.J. December 19<sup>th</sup>, 2005. The effect of conjugated linoleic acid on bovine mammary epithelial cells: growth, glucose uptake and regulation of *Stearoyl Co-A desaturase* gene expression. Department of Animal Sciences, University of Arizona, Tucson.

#### **Invited Teaching Presentations:**

**Keating, A.F.** 2019. Normal and abnormal postnatal development of the female reproductive system. The Embryology and Teratology of the Reproductive System. The Teratology Society Continuing Education Course. San Diego, CA.

**Keating, A.F.** 2017, 2019. Female Reproductive Biology and Toxicology. Practical Reproductive and Developmental Toxicology course. American College of Toxicology and The Teratology Society.

**Keating, A.F.** 2016, 2017, 2018, 2019. Reproductive Toxicology. Mid-America Toxicology course, Kansas city.

**Keating, A.F.** 2016, 2017, 2018, 2019. Endocrine Toxicology. Mid-America Toxicology course, Kansas city.

#### **Societies and Honors:**

2020 Full member, Environmental Health Sciences Center, University of Iowa, Iowa City, U.S.A.

2019 Iowa State University Mid-Career Achievement in Research Award

2019 Gamma Sigma Delta Honors Society Research Mission Award

2014 Iowa State University College of Agriculture and Life Sciences Early Career Achievement in Advising Award recipient

2014 Iowa State University College of Agriculture and Life Sciences Early Career Achievement in Research Award recipient

1999-2003 Teagasc-Walsh pre-doctoral fellowship

### Society for Study of Reproduction

2020-2023	Director (Elected position)
2019-2020	Program Committee Member
2018-2019	Nomination Committee Chairperson
2018	Chairperson, Environmental Impacts on Reproduction symposium. SSR annual meeting, New Orleans, LA
2017-2018	Program Committee Member
2017-2018	Nominations Committee Member
2016-2017	Advisor to the Trainee Affairs Committee.
2015	Co-organizer, Impact of the Environment on Development and Function of the Mammalian Ovary. SSR annual meeting, Puerto Rico.
2014	Chairperson. Interrelationship of Reproduction and the Environment symposium. SSR annual meeting, Grand Rapids, MI.
2013-2017	Membership committee
2013	Mentor for Trainee-Mentor luncheon at annual meeting
2012	Annual meeting Ad Hoc review panel
2012	Mentor for Trainee-Mentor luncheon at annual meeting
2011	Abstract Ad Hoc reviewer
2010	Larry Ewing Memorial Trainee Travel Fund co-ordinator
2008-2012	Committee on Reproduction and the Environment (CoRE)
2008-2012	Trainee Affairs committee
2007-2009	Larry Ewing Memorial Trainee Travel Award 2010
2008	Lalor Foundation Trainee Award (awarded but declined)
2007	Lalor Foundation Trainee Award

### Society of Toxicology

2020	Past-president, Reproductive and Developmental Toxicology Specialty Section
2020	Education and Career Development Committee (ECDC)
2019	Awardee, Stephen B. Harris Mid-Career Research Award, Reproductive and Developmental Toxicology Specialty Section (Inaugural winner)
2019	President, Reproductive and Developmental Toxicology Specialty Section
2018	Vice President, Reproductive and Developmental Toxicology Specialty Section
2017	Vice President elect, Reproductive and Developmental Toxicology Specialty Section
2017	Panel member, Biotechnology Specialty Section,
2017	Reproductive and Developmental Toxicology Specialty Section poster judge
2017	Ed Carney Travel Award judge – in conjunction with The Teratology society
2016	Reproductive and Developmental Toxicology Specialty Section poster judge
2014-2016	New Career Councillor, Reproductive and Developmental Toxicology Specialty Section
2015	Reproductive and Developmental Toxicology Specialty Section poster judge
2014	Committee on Diversity Initiatives (CDI) Career Discussion Leader; SOT Undergraduate Education Program
2014	Reproductive and Developmental Toxicology Specialty Section poster judge
2013-2015	Vice-president/President elect/Past-president, Central States Chapter
2012	Bhattacharya, P. Postdoctoral Honorary mention in Molecular Biology Specialty Section ( <b>Keating, A.F.</b> postdoctoral mentor) Jackson Nteeba elected as Reproductive and Developmental Toxicology Specialty Section student representative to SOT board ( <b>Keating, A.F.</b> doctoral mentor)
2011	Councillor, Central States Chapter
2008	Chairperson: Mechanisms of Reproductive Toxicity Session, Society of Toxicology Annual meeting, Seattle

### Iowa State University

2020 Reviewer, Postdoctoral Fellows Seed Grant applications  
2019-2020 College of Agriculture and Life Sciences online MS course taskforce  
2019-2020 Iowa State University Research Day planning committee (Event cancelled due to COVID19 restrictions)  
2019 Iowa State University Mid-Career Research award  
2019 Iowa State University Chapter of Gamma Sigma Delta Research Mission award  
2017 Reviewer, Presidential Interdisciplinary Research Initiative applications  
2016-present Member of the Centre for Global & Regional Environmental Research, University of Iowa  
2015-present Institutional Animal Care and Use Committee member  
2015-2018 Iowa State University Biotechnology council member  
2015 Member of the Global Food Security Consortium, Iowa State University  
2011-present Supervisory Committee, Toxicology Interdepartmental Program

### Environmental Protection Agency

2019 Reviewer, Product-Chemical Profile Paint and Varnish Strippers and Graffiti Removers containing 1-Methyl-2-pyrrolidone (NMP). California Environmental Protection Agency.  
2016-present Expert Author, Female Reproduction and Development, Integrated Risk Information System (IRIS) assessment of polychlorinated biphenyls (PCBs), Environmental Protection Agency

### Canadian Institute of Health Research

2017- College of Reviewers member

### National Institute of Child Health and Human Development

2018 Updating the NIH Fragile X Research Plan - panel member

Published as **NIH Strategic plan for research on FMR1-associated conditions**. October 2019. US Department of Health and Human Services, National Institutes of Health, Trans-NIH Fragile X Coordinating Committee.

### University College Dublin, Ireland

2019-2022 Subject External Examiner for University College Dublin in animal reproduction, genetics, breeding and physiology.

### **Reviewer Service:**

2020-present Associate Editor, *Reproduction*  
2020-present Co-Guest Editor, Special Issue on Reproductive Toxicology, *Reproduction*  
2020-present Co-Guest Editor, Special Issue on Ovarian Toxicology, *Reproductive Toxicology*  
2019-present Associate Editor, *Toxicology and Applied Pharmacology*  
2019-present Associate Editor, *Toxicological Sciences*  
2018 *Biology of Reproduction* Top Reviewing Editor of 2017 award  
2017-present Board of Reviewing Editors, *Toxicological Sciences*  
2017-present Editorial Review Board, *Environmental Health Perspectives*  
2014-present Board of Reviewing Editors, *Biology of Reproduction*  
2015-present Board of Reviewing Editors, *Toxicology and Applied Pharmacology*  
2015-2017 Section Editor, Female Reproduction, *Comprehensive Toxicology*, Volume 3

### **Ad Hoc Reviewer Service:**

Acta Pharmaceutica Sinica B  
ANIMAL: An International Journal of Animal Bioscience  
American Journal of Physiology: Endocrinology and Metabolism

Animal Reproduction  
Biology of Reproduction  
Birth defects: Reproductive and Developmental Toxicology  
Canadian Journal of Physiology and Pharmacology  
Cell Biology and Toxicology  
Endocrinology  
Environmental Health Perspectives  
Experimental Biology and Medicine  
Free Radical Biology and Medicine  
Gene  
Human Reproduction  
International Journal of Environmental Protection  
Journal of Animal Breeding and Genetics  
Journal of Animal Science  
Journal of Applied Toxicology  
Lipids  
Molecular Biology Reports  
Molecular and Cellular Biochemistry  
Molecular and Cellular Endocrinology  
Molecular Ecology Resources  
Oncotargets and Therapy  
PLOS one  
Reproduction  
Reproductive Sciences  
Reproductive Toxicology  
Scientific Reports  
Toxicology and Applied Pharmacology  
Toxicology Letters  
Toxicological Sciences

**Grant Reviewing:**

- 2020 Chairperson; National Institute of Environmental Health Science. K99/R00 Pathways to Independence grant review panel.
- 2020-24 National Institutes of Health, Integrative and Clinical Endocrinology and Reproduction study section, Standing Member.
- 2020 National Institute of Environmental Health Science. Outstanding New Environmental Scientist (ONES) review panel. Ad Hoc member.
- 2020 Canadian Institutes of Health Research, Clinical Investigation – A: Reproduction, Maternal, Child and Youth Health committee review panel (May).
- 2020 National Institute of Environmental Health Science. K99/R00 grant review panel. Ad Hoc member.
- 2020 National Institutes of Health, Cellular, Molecular and Integrative Reproduction (CMIR) review panel. Ad Hoc member.
- 2020 National Science Centre, Poland

- 2019 Canadian Institutes of Health Research, Clinical Investigation – A: Reproduction, Maternal, Child and Youth Health committee review panel (Dec).
- 2019 National Institute of Environmental Health Science. Outstanding New Environmental Scientist (ONES) review panel. Ad Hoc member.
- 2019 National Institutes of Health, Systemic Injury by Environmental Exposure (SIEE) review panel, Ad Hoc member.
- 2019 Canadian Institutes of Health Research, Clinical Investigation – A: Reproduction, Maternal, Child and Youth Health committee review panel (May).
- 2019 Health Canada, Genomics Research and Development Initiative Peer Reviewer.
- 2019 National Institutes of Health, Integrative and Clinical Endocrinology and Reproduction study section, Ad Hoc member.
- 2018 National Institutes of Health, Systemic Injury by Environmental Exposure (SIEE) review panel, Ad Hoc member.
- 2018 Chairperson. National Institute of Child Health and Human Development Special Emphasis Review Panel - Biomedical Assay Laboratory for the Division of Intramural Population Health Research.
- 2018 National Institute of Environmental Health Sciences. Special Emphasis Review Panel - The Role of the Microbiome in the Developmental Origins of Health and Disease.
- 2018 National Institute of Child Health and Human Development/National Institute of Food and Agriculture. Dual Purpose with Dual Benefit grant review panel.
- 2018 University of Nebraska Collaboration Initiative grant program.
- 2017 Iowa State University, Nutritional Sciences Council W.S. Martin research fund.
- 2017 National Institute of Environmental Health Sciences - R13 Conference Grant Special Emphasis Panel.
- 2017 Canadian Institutes of Health Research, Clinical Investigation Reproduction, Maternal, Child and Youth Health review panel.
- 2017 Canadian Institutes of Health Research grant review panel.
- 2016 National Science Centre, Poland.
- 2015 United States Department of Agriculture, National Institute of Food and Agriculture (NIFA), Agriculture and Food Research Initiative (AFRI) Animal Nutrition, Growth and Lactation program area grant review panel.
- 2015 Iowa State University, Nutritional Sciences Council W.S. Martin research fund.
- 2015 National Institutes of Health, Cellular Molecular and Integrative Reproduction study section; early career reviewer.

- 2014 Food Science and Human Nutrition Departmental Internal Grant Mechanism.
- 2013 National Institutes of Health, Cellular Molecular and Integrative Reproduction study section; early career reviewer.
- 2012 Maryland Industrial Partnerships (MIPS) Program, University of Maryland.
- 2012 Chief Scientist Office Experimental and Translational Medicine Research Committee of Scotland.
- 2012 Ph.D. External Examiner, University of Newcastle, NSW, Australia.