

Daniel J. Mathew

Curriculum Vitae

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Address: 1194 Agricultural Sciences Building
Division of Animal and Nutritional Sciences
Davis College of Agriculture, Natural Resources and Design
West Virginia University
Morgantown, WV
26505

Office: 2211

Phone: (304) 293-4885 Email: Daniel.mathew@mail.wvu.edu

EDUCATION

2010-2014 **Ph.D. Animal Science – Reproductive Physiology**
University of Missouri-Columbia, Missouri, USA
Advisors: Dr. Matthew Lucy and Dr. Rodney Geisert

2007-2009 **M.S. Animal Science – Reproductive Physiology**
University of Missouri-Columbia, Missouri, USA
Advisors: Dr. Matthew Lucy and Dr. Rodney Geisert

2002-2006 **B.S. Animal Science – Science and Technology**
Minor – Biological Sciences
University of Tennessee-Knoxville, Tennessee, USA
Advisors: Dr. Neal Schrick and Dr. Lannett Edwards

EXPERIENCE

2017-Present **Assistant Professor**
Division of Animal and Nutritional Sciences
West Virginia University, Morgantown, WV, USA

2015-2017 **Post-Doctoral Research Fellow**
School of Agriculture and Food Science
Principal Investigator: Dr. Patrick Lonergan
University College Dublin, Co. Dublin, Republic of Ireland

2007-2014 **Graduate Research Assistant**
Division of Animal Sciences
Advisors: Dr. Matthew Lucy and Dr. Rodney Geisert
University of Missouri, Columbia, MO, USA

- 2005-2006 **Undergraduate Research Assistant**
Department of Animal Science
Principal Investigator: Dr. Lannett Edwards
University of Tennessee, Knoxville, TN, USA
- 2004-2006 **Farm and Research Unit Technician**
Division of Animal Sciences
Supervisor: Charlie Young
University of Tennessee, Knoxville, TN, USA

PROFESSIONAL ASSOCIATIONS

- Study for the Society of Reproduction (SSR)
- American Society of Animal Science (ASAS)
- American Dairy Science Association (ADSA)

SERVICE TO THE DISCIPLINE

Manuscript reviewer:

- *Biology of Reproduction*
- *Reproduction*
- *Cell and Tissue Research*
- *Reproduction, Fertility and Development*
- *Domestic Animal Endocrinology*

PUBLICATIONS

Peer reviewed manuscripts and manuscripts in preparation (* indicates primary author):

1. **Mathew D. J.***, J. M. Sánchez, J. A. Browne, A. K. Kelly and P. Lonergan. 2018. The role of Galectin-1 at the conceptus-maternal interface in cattle. In preparation.
2. **Mathew D. J.***, J. M. Sánchez, C. Passaro, G. Charpigny, S. Behura, T. E. Spencer and P. Lonergan. 2018. Interferon tau-dependent and independent effects of the bovine conceptus on the endometrial transcriptome: effect of conceptus origin and sex. *Biol Reprod.* (in press)
3. Sánchez J. M., C. Passaro, N. Forde, J. A. Browne, S. Behura, B. Fernandez, **D. J. Mathew**, A. Kelly, S. Butler, T. E. Spencer and P. Lonergan. 2018. Do differences in the endometrial transcriptome influence conceptus development to Day 14 in cattle? *Biol Reprod*
4. Sánchez J. M., **D. J. Mathew**, C. Passaro, T. Fair and P. Lonergan. 2018. Embryonic maternal interaction in cattle and its relationship with fertility. *Reprod Domest Anim* (in review)
5. Passaro C., D. Tutt, **D. J. Mathew**, J. M. Sánchez, J. A. Browne, G. B. Boe-Hansen, T. Fair and P. Lonergan. 2018. Blastocyst-induced changes in the bovine endometrial transcriptome. *Reprod*

6. Sánchez J. M., F. Randi, C. Passaro, **D. J. Mathew**, S. Butler and P. Lonergan. 2018. Effect of human chorionic gonadotropin administration 2 days after insemination on progesterone concentration and conception rate in lactating dairy cows. *J Dairy Sci*
7. Geisert R. D., J. J. Whyte, A. E. Meyer, **D. J. Mathew**, M. R. Juarez, M. C. Lucy, R. S. Prather and T. E. Spencer. 2017. *Review: Rapid conceptus elongation in the pig: An interleukin 1 beta 2 and estrogen regulated phenomena.* *Mol Reprod Dev* 84(9):760-774. doi: 10.1002/mrd.22813.
8. **Mathew D. J.***, M. C. Lucy and R. D. Geisert. 2016. *Review: Interleukins, interferons and establishment of pregnancy in pigs.* *Reprod* doi: 10.1530/REP-16-0047.
9. **Mathew D. J.***, E. M. Newsom, J. M. Guyton, C. K. Tuggle, R. D. Geisert and M. C. Lucy. 2015. Activation of the transcription factor nuclear factor-kappa B (NFkB) in uterine luminal epithelial cells by interleukin-1 beta 2 (IL1B2): a novel interleukin-1 expressed by the elongating pig conceptus. *Biol Reprod* 92(4): 107 1-13
10. Geisert R. D., M. C. Lucy, J. J. Whyte, J. W. Ross and **D. J. Mathew**. 2014. *Review: Cytokines from the pig conceptus: roles in conceptus development in pigs.* *J Anim Sci Biotechnol MS*: 1738936300134350.
11. Lucy M. C., R. C. Escalante, D. H. Keisler, W. R. Lamberson and **D. J. Mathew**. 2013. Short communication: Glucose infusion into early postpartum cows defines an upper physiological set point for blood glucose and causes rapid and reversible changes in blood hormones and metabolites. *J Dairy Sci* 96(9): 5762-5768.
12. Escalante R. C., S. E. Poock, **D. J. Mathew**, W. R. Martin, E. M. Newsom, S. A. Hamilton, K. G. Pohler, and M. C. Lucy. 2013. Reproduction in grazing dairy cows treated with 14 day controlled internal drug release for presynchronization before timed artificial insemination compared with artificial insemination after observed estrus. *J Dairy Sci* 96(1): 300-306.
13. Escalante R. C., S. E. Poock, **D. J. Mathew**, W. R. Martin, E. M. Newsom, S. A. Hamilton, K. G. Pohler, and M. C. Lucy. 2012. Short communication: Conception rates in grazing dairy cows treated with progesterone for 14 days as a method for presynchronization before a timed AI program. *J Dairy Sci* 95(9): 5102-5108.
14. Geisert R. D., A. T. Fazleabas, M. C. Lucy, and **D. J. Mathew**. 2012. *Review: Interaction of the conceptus and endometrium to establish pregnancy in mammals: Role of Interleukin 1 Beta.* *Cell Tissue Res* 349(3): 825-838.
15. **Mathew D. J.***, E. M. Sellner, J. C. Green, C. S. Okamura, L. L. Anderson, M. C. Lucy, and R. D. Geisert. 2011. Uterine progesterone receptor expression, conceptus development and ovarian function in pigs treated with RU 486 during early pregnancy. *Biol Reprod* 84(1): 130-139.
16. Green J. C., C. S. Okamura, **D. J. Mathew**, E. M. Newsom, and M. C. Lucy. 2010. Hot topic: Successful fixed-time insemination within 21 d after first insemination by combining chemical pregnancy diagnosis on d 18 with a rapid resynchronization program. *J Dairy Sci* 93(12): 5668-5672.
17. Ross J. W., M. D. Ashworth, **D. J. Mathew**, P. Reagan, J. W. Ritchey, K. Hayashi, T. E. Spencer, M. C. Lucy, and R. D. Geisert. 2010. Activation of the transcription factor, nuclear factor kappa-B, during the estrous cycle and early pregnancy in the pig. *Reprod Biol Endocrinol* 8(39).

Book Abstract Publications:

1. **Mathew D. J.***, E. M. Sellner, C. S. Okamura, R. D. Geisert, L. L. Anderson, and M. C. Lucy. 2009. Effect of progesterone antagonist RU 486 on uterine progesterone receptor mRNA expression, embryonic development and ovarian function during early pregnancy in pigs. In: Rodriguez-Martinez H, Vallet J, Ziecik A (eds), Control of Pig Reproduction VIII, Soc Reprod Fertil. Nottingham: University Press. 333-334.

Invited Professional Presentations:

1. **Mathew D. J.**, R. D. Geisert and M. C. Lucy. 2013 Activation of the transcription factor Nuclear Factor Kappa B (NFkB) by recombinant porcine cytokines in the uterine epithelium. National ADSA-ASAS Joint Animal Meetings. Indianapolis, IN, USA.
2. **Mathew D. J.**, R. D. Geisert, and M. C. Lucy. 2012. Activation of the transcription factor Nuclear Factor kappa B (NFkB) by novel porcine recombinant cytokines in alveolar macrophages and uterine epithelium. Greenwald Symposium. University of Kansas Medical Center. Kansas City, KS, USA.
3. **Mathew D. J.**, E. M. Sellner, C. S. Okamura, R. D. Geisert, L. L. Anderson, and M. C. Lucy. 2009. Effect of progesterone antagonist RU 486 on uterine progesterone receptor mRNA expression, embryonic development and ovarian function during early pregnancy in pigs. Eighth International Conference on Pig Reproduction (ICPR). Banff, Alberta, Canada.
4. **Mathew D. J.**, E. M. Sellner, C. S. Okamura, R. D. Geisert, L. L. Anderson, and M. C. Lucy. 2009. Effect of progesterone (P) antagonist RU 486 on uterine progesterone receptor (PGR) mRNA expression, embryonic development and ovarian function during early pregnancy in pigs. ASAS-ADSA Midwest Annual Meeting. Des Moines, IA, USA.

Regional, National and International Professional Presentations (selected):

1. **Mathew D. J.**, J. A. Browne, L. F. Grose, H. L. Baldwin and P. Lonergan. 2018. The effect of galectin-1 on forkhead box P3 protein in bovine caruncular endometrium. Society for the Study of Reproduction (SSR), New Orleans, LA, USA. Poster Presentation.
2. **Mathew D. J.**, J. M. Sánchez, C. Passaro, G. Charpigny, S. Behura, T. E. Spencer and P. Lonergan. 2017. Interferon tau (IFNT)-dependent and -independent effects of the bovine conceptus on the endometrium during early pregnancy. Society for the Study of Reproduction (SSR), Washington D.C., USA. Poster Presentation.
3. **Mathew D. J.**, J. M. Sánchez, J. A. Brown, A. K. Kelly and P. Lonergan. 2016. Galectin-1 modulation of foxhead box P3 (FOXP3) expression in bovine caruncular endometrium: evidence for T-regulatory cell expansion at the conceptus-maternal interface in cattle? Society for the Study of Reproduction (SSR), San Diego, CA, USA. Poster Presentation.
4. **Mathew D. J.**, M. C. Lucy and R. D. Geisert. 2014. Recruitment of endometrial leukocytes to the uterine surface by embryo interleukin-1 beta (IL1BE), a novel IL1 expressed by the pig conceptus during implantation. Society for the Study of Reproduction (SSR), Grand Rapids, MI, USA. Poster Presentation.
5. **Mathew D. J.**, R. D. Geisert and M. C. Lucy. 2013 Activation of the transcription factor Nuclear Factor Kappa B (NFkB) by recombinant porcine cytokines in alveolar macrophages and uterine epithelium. Ninth International Conference on Pig Reproduction (ICPR). Olsztyn, Poland. Poster Presentation.

6. **Mathew D. J.**, E. M. Newsom, R. D. Geisert, and M. C. Lucy. 2011. Development of a lentiviral RNA interference (RNAi) system for interleukin-1 beta (IL1B) expressed in elongating porcine embryos. ADSA-ASAS Joint Annual Meeting. New Orleans, LA, USA. Vol. 89 E-suppl.1. Poster Presentation.
7. **Mathew D. J.**, E. M. Newsom, R. D. Geisert, J. A. Green, C. K. Tuggle, and M. C. Lucy. 2011. Characterization of nucleotide and predicted amino acid sequence of a porcine Interleukin-1 beta (IL1B) variant expressed in elongated porcine embryos. ASAS-ADSA Midwest Annual Meeting. Des Moines, IA, USA. Vol. 89 E-suppl.2. Poster Presentation.
8. **Mathew D. J.**, C. S. Okamura, E. M. Newsom, J. C. Green, and M. C. Lucy. 2010. Transmission Electron Microscopy (TEM) of bovine uterine glands during pregnancy. Division of Animal Sciences, University of Missouri. Graduate Student Forum. Columbia, MO, USA. Poster Presentation.
9. **Mathew D. J.**, E. M. Sellner, C. S. Okamura, R. D. Geisert, L. L. Anderson, and M. C. Lucy. 2009. Effect of progesterone antagonist RU 486 on uterine progesterone receptor mRNA expression, embryonic development and ovarian function during early pregnancy in pigs. Eighth International Conference on Pig Reproduction. Banff, Alberta, Canada. Poster Presentation.
10. **Mathew D. J.**, J. W. Ross, C. S. Okamura, R. D. Geisert, and M. C. Lucy. 2007. Localization of NF- κ B in uterine luminal and glandular epithelium in cyclic and pregnant pigs. Division of Animal Sciences, University of Missouri. Graduate Student Forum. Columbia, MO, USA. Poster Presentation.

Abstracts (contributing author):

1. Sánchez J. M., C. Passaro, N. Forde, S. Behura, J. A. Browne, **D. J. Mathew**, S. T. Butler, T. E. Spencer and P. Lonergan. 2018. Temporal changes in endometrial gene expression between ipsi- and contralateral uterine horns in cattle. International Embryo Transfer Society (IETS). Bangkok, Thailand.
2. Sánchez J. M., F. Randi, C. Passaro, **D. J. Mathew**, S. Butler and P. Lonergan. 2017. Effect of human chorionic gonadotropin administration 2 days after insemination on progesterone concentration and conception rate in lactating dairy cows. Brazilian Embryo Technology Society (SBTE). Cabo de Santo Agostinho, PE, Brazil.
3. Sánchez J. M., **D. J. Mathew**, C. Passaro, G. Charpigny, S. Behura, S. T. Butler, T. E. Spencer and P. Lonergan. 2017. Effect of conceptus size on embryo-maternal communication during early pregnancy in cattle. Association of Embryo Technology in Europe (AETE). Bath, UK.
4. P. Lonergan, **D. J. Mathew**, C. Passaro, J. M. Sánchez, N. Forde. 2016. Conceptus-maternal crosstalk and pregnancy establishment in cattle. Brazilian Embryo Technology Society (SBTE). Foz do Iguacu, PR, Brazil.
5. Sánchez J. M., C. Passaro, N. Forde, J. A. Browne, B. Fernández, **D. J. Mathew**, A. K. Kelly, S. T. Butler, S. Behura, T. E. Spencer and P. Lonergan. 2016. Comparison of endometrial transcriptome changes between ipsi- and contralateral horns during diestrus and its relationship with the ability to support conceptus elongation in cattle. International Embryo Transfer Society (IETS). Austin, TX, USA.
6. Passaro C., J. M. Sánchez Gómez, J. A. Browne, **D. J. Mathew** and P. Lonergan. 2016. Evidence for a local embryo-endometrial interaction at the blastocyst stage in cattle. International Congress on Animal Reproduction (ICAR). Tours, France

7. Escalante R. C., S. E. Poock, **D. J. Mathew**, W. R. Martin, E. M. Newsom, S. A. Hamilton, K. G. Pohler, and M. C. Lucy. 2012. Reproduction in grazing dairy cows treated with 14-day CIDR for presynchronization before a timed AI (TAI) compared with AI after observed estrus. ADSA-AMPA-ASAS-CSAS-WSASAS Joint Annual Meeting. Phoenix, AZ, USA. Vol. 95 E-suppl.2.
8. Escalante R. C., S. E. Poock, **D. J. Mathew**, W. R. Martin, E. M. Newsom, S. A. Hamilton, K. G. Pohler, and M. C. Lucy. 2012. Conception rates (CR) in grazing dairy cows treated with 14-d CIDR or 14-d CIDR+PGF2 α for a presynchronization before a timed AI (TAI). ADSA-ASAS Midwest Annual Meeting. Des Moines, IA, USA
9. Escalante R. C., S. E. Poock, **D. J. Mathew**, W. R. Martin, E. M. Newsom, J. L. Denbigh, E. C. Adkins, and M. C. Lucy. 2011. Ovarian follicular development, luteal function, and fertility in lactating Holstein cows treated with 14dCIDR_PGF or 2xPGF_Ovsynch56 for first insemination timed AI (TAI). ADSA-ASAS Joint Annual Meeting. New Orleans, LA, USA. Vol. 94 E-suppl.1.
10. Martin, W. R., **D. J. Mathew**, T. J. Safranski, D. E. Spiers, and M. C. Lucy. 2011. Thermal response of lactating sows within forced-air (FA) ventilated and evaporatively-cooled (EC) farrowing rooms. ADSA-ASAS Midwest Annual Meeting. Des Moines, IA, USA. Vol. 89 E-suppl.2.

ACADEMIC APPOINTMENT

- Research, 50%
- Instruction, 40%
- Service, 10%

GRANT PROPOSALS

- 2018 USDA NIFA. Food and Agricultural Science Enhancement Grant. *Characterization of the elongating conceptus microenvironment: identification of proteins and metabolites essential for survival of the early conceptus* (in review)
- 2018 West Virginia University, Davis College of Agriculture, Natural Resources and Design, Faculty Enhancement Grant. *2018-2019 Reproductive Physiology Seminar Series: A Celebration of Outstanding Contributions to the Field of Reproductive Physiology* (awarded; \$9,100.00)
- 2013 USDA NIFA Postdoctoral Fellowship Grant. *Interleukin 1 Beta E: A pro-survival cytokine expressed by the early pig embryo* (not awarded)

TEACHING EXPERIENCE

Course	Description	Role
ANPH424	Reproductive Physiology, West Virginia University, Morgantown, WV, USA. 2018-Present	Co-Instructor
ANPH796	Reproductive Physiology Seminar, West Virginia University, Morgantown, WV, USA. 2018-Present	Instructor
ANS493	Endocrinology, West Virginia University, Morgantown, WV, USA. 2017-Present	Instructor
AVS696	Graduate Seminar, West Virginia University, Morgantown, WV, USA. 2017	Instructor
ANSC40010	Applied Animal Reproduction, University College Dublin, Co. Dublin, Republic of Ireland. 2015	Lecturer/Lab Coordinator
4314	Physiology of Reproduction, University of Missouri, Columbia, MO, USA. 2011-2014	Lecturer/Lab Coordinator
4001	Graduate Experience Program, University of Missouri, Columbia, MO, USA. 2009- 2014	Co-Instructor/Mentor
3213	Genetics of Agricultural Plants and Animals, University of Missouri, Columbia, MO, USA. 2010	Graduate TA
9001	Advanced Reproduction, University of Missouri, Columbia, MO, USA. 2008	Graduate TA
8420	Endocrinology, University of Missouri, Columbia, MO, USA. 2008	Graduate TA
1011	Animal Science, University of Missouri, Columbia, MO, USA. 2007	Graduate TA
523	Advanced Reproduction, University of Tennessee, Knoxville, TN, USA. 2006	Undergraduate TA

GRADUATE ADVISING

- Heather Baldwin MS -2017
- Lindsay Grose MS -2017

GRADUATE COMMITTEES

- Megan Nugent MS (non-thesis) -2018
- Denzel Middleton MS -2017

DIVISION SERVICE

- Faculty Advisor, Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS), Davis College of Agriculture, Natural Resources and Design, West Virginia University, USA. 2018-Present
- Promotion and Tenure Committee, Division of Animal and Nutritional Sciences, Davis College of Agriculture, Natural Resources and Design, West Virginia University, USA. 2017