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Amy L. Petry

PROFESSIONAL STATEMENT:

A highly motivated professional with training in nutrition, physiology, swine production, biochemistry, microbiology and statistics, who has a passion for educating others, serving her community, and conducting innovative research with direct application to the swine industry. Dr. Petry is an Assistant Professor at Texas Tech University with a 70% research and 30% teaching appointment in the Dept. of Animal and Food Sciences.

CLIFTON STRENGTHS: Learner, Achiever, Futuristic, Focus, and Input

SKILLS:

Developing lab procedures	Biomarker lab techniques	Bioinformatics
Advance microscopy techniques	Diet formulation	Research management
Data analysis and modeling	Scientific writing	Experimental design
Carbohydrate chemistry	Course development	Lab management

EDUCATION:

Iowa State University, Ames, Iowa **Dec. 2020**

Doctorate of Philosophy, GPA 3.95/4.0, with honors

Major: Animal Science (Applied Swine Nutrition Program)

Major Professor: Dr. John Patience

Dissertation: An investigation into the mechanism of action of xylanase in pigs fed insoluble corn-based fiber

Texas Tech University, Lubbock, Texas **May 2017**

Master of Science in Animal Science, GPA 3.9/4.0

Major: Animal Science, Monogastric Nutrition

Major Professor: Dr. Anoosh Rakhshandeh

Thesis: Applications of alternative technologies, iDXA and infrared imaging, in swine science

Texas Tech University, Lubbock, Texas **Dec. 2015**

Bachelor of Science, GPA 3.8/4.0

Major: Animal Science,

Minors: Chemistry

Magna Cum Laude

North Central Texas College, **Dec. 2013**
Gainesville, Texas

Associate of Science with an emphasis in Agriculture, GPA 4.0/4.0

Honors Graduate

PROFESSIONAL EXPEREINCE:

Assistant Professor	**Texas Tech University**
Dec 2020- Present	*Lubbock, Texas*
Applied Swine Nutrition (ASN) Lab Manager	**Iowa State University**
May 2018- Dec 2020	*Ames, Iowa*
Graduate Research Assistant	**Iowa State University**
May 2017- Dec 2020	*Ames, Iowa*
Graduate Research Assistant	**Texas Tech University**
Jan. 2016- May 2017	*Lubbock, Texas*
Graduate Teaching Assistant	**Texas Tech University**
Jan. 2016- May 2017	*Lubbock, Texas*

PUBLICATIONS:

Refereed Manuscripts:

Published or Accepted (n=15; 8 as senior author)

N.V. L. Serão, **A.L. Petry**, L.P. Sanglard, M.C. Rossoni-Serão, J.M.M. Bundy (2021). Assessing the statistical training in animal science graduate programs in the US: I. Survey on statistical learning. Journal of Animal Science. (In Press.) ~ *Assisted in project initiation, design, and scope; assisted with manuscript preparation.*

A.L. Petry, L. Koester, S. Schmitz-Esser, M.R. Bedford, N.F. Huntley, J.F. Patience (2021). Xylanase modulates the microbiota of ileal mucosa and digesta of pigs fed corn-based arabinoxylans likely through both a stimbiotic and prebiotic mechanism. PloS One. doi: 10.1371/journal.pone.0246144. *Responsible for design, data collection, bioinformatics, and manuscript preparation*

A.L. Petry, L. Koester, S. Schmitz-Esser, M.R. Bedford, N.F. Huntley, J.F. Patience (2021). Xylanase modulates the microbiota of the large intestine of pigs fed corn-based fiber by means of a stimbiotic mechanism of action. Frontiers in Microbiology. doi:10.3389/fmicb.2021.619970. - *Responsible for design, data collection, bioinformatics, and manuscript preparation*

A.L. Petry, M.R. Bedford, N.F. Huntley, J.F. Patience (2020). Xylanase increased the energetic contribution of fiber and improved the oxidative status, gut barrier integrity, and growth performance of growing pigs fed insoluble corn-based fiber. J. Anim. Sci. 98(7):1-11. doi:10.1093/jas/skaa233.- *Responsible for design, data collection and analysis, and manuscript preparation.*

A.L. Petry and J.F. Patience (2020). Xylanase supplementation in corn-based swine diets: a review with emphasis on potential mechanisms of action. Journal of Animal Science skaa318. doi:10.1093/jas/skaa318. *Responsible for manuscript scope, concepts, and preparation.*

A.L. Petry, S.A. Matchan, and J.F. Patience. (2020). A procedure for dual simple-T cannulation in the small intestine of pigs using a single right flank laparotomy. In press. Journal of Applied Animal Nutrition - *Responsible for design, data collection*

and analysis, and manuscript preparation

A. L. Petry, H.V. Masey O'Neill, and J. F. Patience. (2019). Xylanase, and the role of digestibility and hindgut fermentation in pigs on energetic differences among high and low energy corn samples. J. Anim. Sci. doi.org/10.1093/jas/skz261- *Responsible for manuscript preparation.*

A.L. Petry, W. S. McGilvray, A. R. Pendleton, and A. Rakhshandeh (2017). Technical Note: Assessment of an Alternative Technique for Measuring Body Temperature in Pigs. *J. Anim. Sci*. 2017.95- doi:10.2527/jas2017.1566– *Responsible for design, data collection and analysis, and manuscript preparation*

L.A. Ruckman, **A.L. Petry**, S.A. Matchan, and J.F. Patience (2020). The impact of porcine spray-dried plasma protein and dried egg protein harvested from hyper-immunized hens, provided in the presence or absence of subtherapeutic levels of antibiotics in the feed, on growth and indicators of intestinal function and physiology of nursery pigs. Transl. Anim Sci. 4(3):txaa095. doi:10.1093/tas/txaa095 – *Responsible for analyzing markers of gastrointestinal barrier integrity; assisted with manuscript preparation.*

L.A. Ruckman, **A.L. Petry**, S.A. Matchan, B.J. Kerr, and J.F. Patience (2020). The effects of enzymatically-treated soybean meal on growth performance and intestinal structure, barrier integrity, inflammation, oxidative status, and volatile fatty acid production of nursery pigs. Trans. Anim. Sci. txaa170. doi:10.1093/tas/txaa170. – *Assisted in experiment design and scope of lab work. Responsible for analyzing markers of gastrointestinal barrier integrity; assisted with manuscript preparation.*

J.A. Acosta, **A.L. Petry**, S.A. Gould, C.K. Jones, C.R. Stark, A. Fahrenholz and J.F. Patience (2020). Can the digestibility of corn distillers dried grains with solubles fed to pigs at two stages of growth be enhanced through management of particle size using a hammermill or a roller mill? Trans. Anim. Sci. txaa171. doi:10.1093/tas/txaa171– *Conducted scanning electron microscopy analysis; assisted with manuscript preparation.*

S.L. Becker, S.A. Gould, **A.L. Petry**, L.M. Kellesvig, and J.F. Patience (2020). Adverse effects on growth performance and bone development in nursery pigs fed diets marginally deficient in phosphorus with increasing calcium to available phosphorus ratios. J. Anim. Sci. skaa325. doi:10.1093/jas/skaa325. ~ *Assisted in statistical analysis and leave-one cross validation of regression models; assisted with manuscript preparation.*

J.A. Acosta, **A. L. Petry**, S. Gould, C. K. Jones, C. R. Stark, and J. F. Patience. (2020). Effects of grinding method and particle size of wheat grain on energy and nutrient digestibility in growing and finishing pigs. Trans. Anim. Sci. 4(2), txaa062. doi.org/10.1093/tas/txaa062 - *Responsible for preparation and editing of manuscript and scanning electron microscopy analysis.*

J.A. Acosta, **A. L. Petry**, S. A. Gould, C. K. Jones, C. R. Stark, A. Fahrenholz, and J. F. Patience. (2019) Enhancing digestibility of corn at two stages of growth in pigs through management of particle size using a hammermill or a roller mill. Translational Animal Science. doi.org/10.1093/tas/txz146 – C*onducted scanning electron*

microscopy analysis; assisted with manuscript preparation.

W.D. McGilvray, H.Wooten, A.R. Rakhshandeh, **A.L. Petry**, A. Rakhshandeh.(2018). Immune system stimulation increases dietary threonine requirements for protein deposition in growing pigs. J. Anim. Sci. doi: 10.1093/jas/sky468– *Assisted in data collection; assisted with manuscript preparation.*

<u>*Submitted (n=1)*</u>

A.L. Petry, M.R. Bedford, N.F. Huntley, J.F. Patience (2021). The influence of xylanase on the fermentability, digestibility, and physiochemical properties of insoluble corn-based fiber along the gastrointestinal tract of growing pigs. Submitted to Journal of Animal Science - *Responsible for design, data collection and analysis, and manuscript preparation*

<u>*In Preparation (n=5; 3 as senior author)*</u>

A.L. Petry, M.R. Bedford, H.H. Stein, S.D. Burkhow. E. Smith, R.T Zijlstra, N.F. Huntley, and J.F. Patience. An *in vivo* investigation into the released-trapped nutrients mechanism of action of xylanase in pigs fed corn-based fiber. To be submitted to Animal. - *Responsible for design, analysis, and manuscript preparation*

A.L. Petry, S.A. Gould, H.H. Stein, M.R. Bedford, N.F. Huntley, J.F. Patience. The impact of adaptation time on xylanase efficacy in the small and large intestine of growing pigs fed insoluble fiber- *Responsible for design, data collection, analysis, and manuscript preparation*

A.L. Petry, S.A. Gould, M.R. Bedford, N.F. Huntley, J.F. Patience. The impact of insoluble fiber and xylanase on the foregut and hindgut digesta rate of passage over time in growing pigs - *Responsible for design, data collection, analysis, and manuscript preparation.*

N.V. L. Serão, L.P. Sanglard, **A.L. Petry**, M.C. Rossoni-Serão, J.M.M. Bundy. Assessing the statistical training in animal science graduate programs in the US: II. Objective measurement of statistical competencies. ~ to be submitted to the Journal of Animal Science. ~ *Assisted in project design, scope, and analysis; assisted with manuscript preparation.*

N.V. L. Serão, **A.L. Petry,** L. P. Sanglard. On the (mis)use of R-squared as a measure of prediction. ~ to be submitted to the Journal of Animal Science. ~ *Assisted in project design, scope, and analysis; assisted with manuscript preparation.*

Refereed Abstracts:

A.L. Petry and J.F. Patience (2021). Invited Talk: Investigations into the Mechanism of Action of Xylanase in Pigs Fed Corn-based Fiber. Oral presentation at the 2021 ASAS Midwest Meetings.

N.V. L. Serão, L.P. Sanglard, and **A L. Petry** (2020). Self-reported statistical training of graduate students associated with confidence in performing statistical analyses? - Accepted for poster presentation at the 2020 ASAS Annual Meeting

A.L. Petry, S.A. Gould, M.R. Bedford, N.F. Huntley, J.F. Patience (2020). A longer adaptation time increased xylanases efficacy in improving dry matter and fiber digestibility in the small intestine of growing pigs fed insoluble fiber- Accepted for oral presentation at the 2020 ASAS Midwest Meetings

A.L. Petry, M.R. Bedford, R.T. Zijlstra, N.F. Huntley, J.F. Patience (2020). Supplementing xylanase increased the digestibility of non-starch polysaccharides, particularly arabinoxylan, in diets high in insoluble corn fiber fed to swine with a 36-d dietary adaptation period - Accepted for oral presentation at the 2020 ASAS Midwest

A.L. Petry, L. Koester, S. Schmitz-Esser, M.R. Bedford, R.T. Zijlstra, N.F. Huntley, J.F. Patience (2020). Can the fermentation of poorly fermentable and insoluble corn fiber be improved in the pig? – an investigation into the *in vivo* mode of action of xylanase- Accepted for poster presentation at the 2020 ASAS Midwest Meetings

N.V. L. Serão and **A. L. Petry** (2020). Does a prediction equation with high R-squared have high predictive ability? - Accepted for oral presentation at the 2020 ASAS Midwest

A.L. Petry, M.R. Bedford, N.F. Huntley, J.F. Patience (2019). Xylanase improved the nutrient and energy digestibility of diets high in insoluble corn fiber fed to swine following a 36-d dietary adaptation period- Journal of Animal Science. 97: 2. 89–90. doi.org/10.1093/jas/skz122.162

A.L. Petry, M.R. Bedford, N.F. Huntley, J.F. Patience (2019). Can growth performance, digesta characteristics, and oxidative status of swine fed diets high in insoluble fiber be improved? An investigation into the mode of action of xylanase. Journal of Animal Science. 97: 2. 216-217. /doi.org/10.1093/jas/skz122.381

A.L. Petry, W. S. McGilvray, A. R. Pendleton, and A. Rakhshandeh (2017). Technical Note: Assessment of an Alternative Technique for Measuring Body Temperature in Pigs. *J. Anim. Sci*. Vol. 95. Sup. 1. Abstract # 91- doi: 10.2527/asasmw.2017.091

Book chapters:

J.F. Patience, Q. Li, and **A.L. Petry**. (2021) Chapter 2, Xylanases and Cellulase- Relevance in Monogastric Nutrition. In: Enzymes in Farm Animal Nutrition 3rd edition. – *in editorial review*

J.F. Patience and **A.L. Petry**. (2019) Chapter 5, Susceptibility of fibre to exogenous carbohydrases and impact on performance in swine. In: González-Ortiz G., Bedford M.R., Bach Knudsen K.E., Courtin C.M. and H.L. Classen (ed.) The value of Fibre: Engaging the Second Brain for Animal Nutrition. Wageningen Academic Publishers, Wageningen, The Netherlands, pp. 689-695. doi.org/10.3920/978-90-8686-893-3_15

Trade magazines:

J.F. Patience and **A. L. Petry**. Energy is not energy, at least not to a pig. National Hog Farmer Online- June 20, 2019.

Extension:

A.L. Petry and J.F. Patience. Dietary energy contribution calculator for DE, ME, and NE. - *Excel sheet calculator available to producers through the Iowa Pork Industry Center.*

AWARDS, SCHOLARSHIPS, & RECOGNITION:

Industry

- 2020 International Feed Ingredients Corporation Pinnacle Award
- 2020 National Hog Farmer's Rising Stars of the Swine Industry
- 2020 Farm Journal's PORK Up and Coming Leader Feature

American Society of Animal Science

- 2021 Stahly/Peo Outstanding Graduate Student in Swine Nutrition Award
- 2021 ASAS Midwest Young Scholar in Animal Science
- 2017 Midwest ASAS, 1st place M.S. Oral Presentation

Iowa State University

Graduate College

- 2020 ISU Fall Commencement Graduate Student Marshal
- 2020 ISU Graduate College Teaching Excellence Award
- 2019 ISU Preparing Future Faculty Teaching Scholar

Department of Animal Science

- 2020 Graduate Student Excellence Award
- 2019 Graduate Award for Outstanding Teaching
- 2019 Esther and Richard Wilham Graduate Scholarship
- 2019 Vaughn and Meg Speer Graduate Award
- 2017 USDA National Institute of Food and Agriculture National Needs Fellowship

Texas Tech University

Transition and Engagement

- 2017 Raiders Who Rock- *Community Involvement*

Department of Animal and Food Science

- 2017 Outstanding TTU Animal Science Masters Student
- 2017 TTU Bob Albin Research Master of Science Poster Competition- 2nd place
- 2016 Outstanding TTU Animal Science Senior
- 2016 TTU Animal Science Excellence in Leadership Award

College of Agriculture and Natural Resources

- 2015 Texas Tech University Agriculture Student of the month for January

North Central Texas College

- 2013 NCTC Highest Honors Graduate
- 2013 National Society of Leadership and Success Committed to Student Excellence
- 2013 NCTC Student Leader of the Year
- 2012 National Society of Leadership and Success National Excellence Award

RESEARCH FUNDING:

Title	Year	Amount	Source	Role
Mode of action of xylanase enzymes	2017	$219,614	AB Vista	All aspects of the project and grant
Effect of HP300 on gut health and growth performance of nursery pigs	2019	$70,500	Hamlet Protein	Assisted in protocol and proposal development

TEACHING EXPEREINCE:

Teaching Assistant:

Advanced Statistical and Computational Methods for Animal Science Research (ANS 590K) — **Iowa State University**, *Spring 2019*
Instructor: Dr. Nick Seraõ

Feeds and Feeding (ANS 320) — **Iowa State University**, *Fall 2017*
Instructor: Dr. Marianna Seraõ

Selection and Evaluation of Equine (ANSC 2304) — **Texas Tech University**, *Spring 2016 and 2017*
Instructor: Dr. Kelly Riccitelli

Horse Production (ANSC 4304) — **Texas Tech University**, *Spring 2016 and 2017*
Instructor: Dr. Kelly Riccitelli

Swine Production (ANSC 4404) — **Texas Tech University**, *Fall 2016*
Instructor: Dr. Anoosh Rakhshandeh

Guest Lecturer:

Feeds and Feeding (ANS 320) — **Iowa State University**, *Fall 2018; Spring 2018, 2019*
~ 2 lectures per semester

Career Preparation in Animal Science (ANS 210) — **Iowa State University**, *Fall 2018, 2019*
~ 1 lecture per semester

SERVICE & ENGAGEMENT:

Scientific Societies:

American Society of Animal Science

- Graduate Student Director (2018—2020)

Iowa State University:

Animal Science Department

- Graduate Education and Affairs Committee, (2019—2020)
- President of Association of Graduate Animal Scientists, (2019—2020)
- Community Service Chair of Association of Graduate Animal Scientists, (2018)

College of Agriculture and Life Sciences

- Graduate Student Orientation Panelist, (2019, 2020)

University Level

- Senator to the Graduate and Professional Student Senate (2018— 2019)
- Preparing Future Faculty Program (2018-2019)

Texas Tech University:

Animal and Food Science Department

- Assistant Horse Judging Team Coach, (2015—2017)
- Animal and Food Science Undergraduate Research Scholars, (2015—2017)
- Animal and Food Science Academic Quadrathlon Club, (2015-2016)
- Alpha Zeta Honors Fraternity, (2015-2016)

Community:

- Young Professionals of Ames, (Ames, IA; 2018—2020)
- Lubbock County Horse Judging and Quiz Bowl Coach, (Lubbock, TX; 2015—2017)
- Lubbock Community Garden, (Lubbock, TX; 2014-2016)

PROFESSIONAL MEMBERSHIPS:

American Society of Animal Science	American Quarter Horse Association
American Paint Horse Association	National Society of Leadership and Success
Alpha Zeta Honor Fraternity	American Chemical Society

CONFERENCE ATTENDANCE:

- March 8-10, 2021 | ASAS Midwest- Virtual
- March 2-4, 2020 | ASAS Midwest- Omaha, Nebraska
- January 7-9, 2020 | Banff Pork Seminar- Banff, Alberta Canada
- June 27, 2019 | Iowa Swine Day- Ames, Iowa
- March 11-13, 2019 | ASAS Midwest- Omaha, Nebraska
- January 23, 2019 | Iowa Pork Congress
- November 1, 2018 | ISU James D. McKean Swine Disease Conference- Ames, Iowa
- August 21-24, 2018 | Digestive Physiology of Pigs (DPP) - Brisbane, Australia
- June 28, 2018 | Iowa Swine Day- Ames, Iowa
- June 6-7, 2018 | World Pork Expo - Des Moines, Iowa
- March 12-14, 2018 | ASAS Midwest- Omaha, Nebraska
- January 24, 2018 | Iowa Pork Congress
- June 29, 2017 | Iowa Swine Day- Ames, Iowa