KWANGWOOK KIM, Ph.D.

E-mail | LinkedIn | Lab Website



Department of Animal Science University of California, Davis One Shields Avenue Davis, California 95616 (530) 564-2790

EDUCATION

Ph.D., Animal Biology, University of California, Davis, CASeptember 2021Dissertation: Impacts of trace amounts of antibiotic and oligosaccharide-based
polymer on weaned pigsGPA 3.93/4.0Advisor: Yanhong Liu, Ph. D.The control of the contro

M.S., Animal Biology, University of California, Davis, CA

Thesis: Algae-derived β-glucan on gut health and immune responses in weaned pigs

Advisor: Yanhong Liu, Ph. D.

B.S., Animal Science & Biotechnology, Chungnam National University, South Korea Aug 2014 Thesis: Mitigation strategies for greenhouse gas emission in pig production GPA 4.039/4.5

RESEARCH INTEREST

Evaluating the potential effects of a wide range of dietary ingredients and other factors on pig health. The long-term goal is to help the animal industry deploy feed-based health technologies to improve animal health.

RESEARCH EXPERIENCE

Postdoctoral Scholar. Oct 2021–Present

Comparative Animal Nutrition & Physiology Laboratory

Department of Animal Science, University of California, Davis

• Participating in a multi-state project for developing protocol on measuring intestinal integrity/permeability in pigs

Graduate Student Research Assistant,

Sep 2016-Sep 2021

Comparative Animal Nutrition & Physiology Laboratory

Department of Animal Science, University of California, Davis

- Conducted research projects to investigate the efficacy of antibiotic alternatives to promote growth performance and gut health of weaned pigs infected with a pathogenic *E. coli*
- Trained 6 new graduate researchers & 10+ undergraduate research interns

Short-term Visiting Scholar,

Mar 2016-Aug 2016

Comparative Animal Nutrition & Physiology Laboratory

Department of Animal Science, University of California, Davis

- Collaborated in setting up a new lab, animal research unit, and protocol development
- Collaborated research project to evaluate the effect of early-life iron excess on systemic and CNS iron homeostasis, and social cognition using a neonatal pig model

Full Time Research Assistant,

Mar 2014-Jan 2016

Nutritional Immunology & Microbiology, and Nutrigenomics Laboratory

Department of Animal Science & Biotechnology, Chungnam National University,

Daejeon, Republic of Korea

- Conducted a research project on effects of dietary spray-dried plasma on productive performance and immune responses of lactating sows and their litters
- Collaborated a research project on dietary β-mannanase on growth performance and health of weaned pigs

PUBLICATIONS

- 1. **Kim, K.,** C. Jinno, P. Ji, and Y. Liu. 2022. Trace amounts of antibiotic altered metabolomic and microbial profiles of weaned pigs infected with a pathogenic *E. coli*. J. Anim. Sci. Biotechnol. *Submitted*.
- 2. **Kim, K.,** Y, He, C. Jinno, L. Kovanda, X. Li, D. Bravo, E. Cox, and Y. Liu. 2022. Supplementation of oligosaccharide-based polymer enhanced growth and disease resistance of weaned pigs by modulating intestinal integrity and systemic immunity. J. Anim. Sci. Biotechnol.13:10.
- 3. **Kim, K.,** B. Kim, H. Kyoung, Y. Liu, J. M. Campbell, M. Song, and P. Ji. 2021. Dietary spray-dried plasma supplementation in late-gestation and lactation enhanced productive performance and immune responses of lactating sows and their litters. J. Anim. Sci. Technol. 63:1076-1085.
- 4. **Kim, K.**, Y. He, C. Jinno, L. Kovanda, X. Li, M. Song, and Y. Liu. 2021. Trace amounts of antibiotic exacerbated diarrhea and systemic inflammation of weaned pigs infected with a pathogenic *E. coli*. J. Anim. Sci. 99:skab073.
- 5. **Kim, K.**, P. Ji, M. Song, T. M. Che, D. Bravo, J. E. Pettigrew, and Y. Liu. 2020. Dietary plant extracts modulate gene expression profiles in alveolar macrophages of pigs experimentally infected with porcine reproductive and respiratory syndrome virus. J. Anim. Sci. Biotechnol. 11:74.
- 6. He, Y., **K. Kim**, L. Kovanda, M. Song, J. Chase, X. Li, B. Tan, and Y. Liu. 2020. *Bacillus subtilis*: a potential growth promoter in weaned pigs in comparison to carbadox. J. Anim. Sci. 98:skaa290..
- 7. He, Y., C. Jinno, **K. Kim**, Z. Wu, B. Tan, X. Li, R. Whelan, and Y. Liu. 2020. Dietary *Bacillus spp.* enhanced growth and disease resistance of weaned pigs by modulating intestinal microbiota and systemic immunity. J. Anim. Sci. Biotech. 11:101.
- 8. Doan, N., Y, Liu, X, Xiong, **K. Kim**, Z, Wu, D. M. Bravo, A, Blanchard, and P. Ji. 2020. Organic selenium supplement partially alleviated diquat-induced oxidative insults 3 and hepatic metabolic stress in nursery pigs. Br. J. Nutr. 124:23-33.
- 9. **Kim, K.**, Y. He, X. Xiong, A. Ehrlich, X. Li, H. Raybould, E. R. Atwill, E. A. Maga, J. Jørgensen, and Y. Liu. 2019. Dietary supplementation of *Bacillus subtilis* influenced intestinal health of weaned pigs experimentally infected a pathogenic *E. coli*. J. Anim. Sci. Biotechnol. 10:52.
- 10. Xiong, X., B. Tan, M. Song, P. Ji, **K. Kim**, and Y. Liu. 2019. Nutritional intervention for the intestinal development and health of weaned pigs. Front. Vet. Sci. 6:46.
- 11. **Kim, K.**, A. Ehrlich, V. Perng, J. A. Chase, H. Raybould, X. Li, E. R. Atwill, R. Whelan, A. Sokale, and Y. Liu. 2019. Algae-derived β-glucan enhanced gut health and immune responses of weaned pigs experimentally infected with a pathogenic *E. coli*. Anim. Feed Sci. Technol. 248:114-125.
- 12. Ji, P., B. Lönnerdal, K. Kim, and C. N. Jinno. 2019. Iron oversupplementation causes hippocampal iron overloading and impairs social novelty recognition in nursing piglets. J. Nutr. nxy227.
- 13. Seo J., W. Kim, J. Kim, J. K. Kim, S. C. Kim, Y. Jang, K. Jang, K. Kim, B. Kim, S. Park, I. Park, M. K. Kim, K. S. Seo, H. B Kim, I. H. Kim, S. Seo, and M. Song. 2014. Effects of palm kernel expellers on growth performance, nutrient digestibility, and blood profiles of weaned pigs. Asian-Australas. J. Anim. Sci. 28(7):987-92.
- 14. Kim J., J. Seo W. Kim, H. M. Yun, S. C. Kim, Y. Jang, K. Jang, K. Kim, B. Kim, S. Park, I. Park, M. K. Kim, K. S. Seo, H. B Kim, I. H. Kim, S. Seo, and M. Song. 2014. Effects of palm kernel expellers on productive performance, nutrient digestibility, and white blood cells of lactating sows. Asian-Australas. J. Anim. Sci. 28(8): 1150-4.
- 15. Baidoo S. K., D. Y. Kil, J. N. Kim, Y. Liu, J. Kim, K. Kim, Y. Kim, M. Song. 2014. Productive performance of sows fed increasing levels of distillers dried grains with soluble (DDGS) across parities. Rev. Colomb. Cienc. Pecu. 27:171-177.

PUBLICATIONS (IN PREPARATION)

- 1. Effects of trace amounts of antibiotic on gene expression profiles in ileal mucosa of weaned pigs infected with a pathogenic *E. coli*.
- 2. Effects of *Bacillus subtilis* on colon digesta metabolomic and fecal microbiota profiles of weanling pigs experimentally infected with a pathogenic *E. coli*.

ABSTRACTS

- 1. **Kim. K.,** C. Jinno, and Y. Liu. 2021. Trace amounts of antibiotic in feed modified fecal microbiota of weaned pigs experimentally infected with a pathogenic *Escherichia coli*. International Association for Food Protection 2021 Annual Meeting.
- 2. **Kim, K.**, Y. He, C. Jinno, S. Yang, X. Li, D. Bravo, E. Cox, and Y. Liu. 2021. Effects of Oligosaccharide-based polymer on blood profiles in weanling pigs experimentally infected with a pathogenic *E. coli.* J. Anim. Sci. 99(Suppl 1):167-168.

- 3. **Kim, K.**, Y. He, C. Jinno, S. Yang, X. Li, D. Bravo, E. Cox, and Y. Liu. 2021. Effects of oligosaccharide-based polymer on growth performance, diarrhea, and fecal β-hemolytic coliforms in weanling pigs experimentally infected with a pathogenic *E. coli*. J. Anim. Sci. 99(Suppl 1):90.
- 4. Wong, B., Y. He, **K. Kim**, S. Xu, C. Lingga, X. Li, E. Wall, and Y. Liu. 2021. Dietary supplementation of botanicals enhanced growth performance and disease resistance of weaned pigs experimentally infected with a pathogenic *E. coli*. J. Anim. Sci. 99(Suppl_1):29.
- 5. **Kim, K.,** S. Jang, and Y. Liu. 2020. Effects of very low-dose antibiotics on gene expression profiles in ileal mucosa of weaned pigs infected with a pathogenic *E. coli*. J. Anim. Sci. 98(Suppl_4):286.
- Kim, K., Y. He, X. Xiong, A. Ehrlich, X. Li, H. Raybould, E. R. Atwill, E. A. Maga, J. Jørgensen, and Y. Liu. 2020. *Young Scholar Presentation*: Dietary supplementation of *Bacillus subtilis* influenced intestinal health and metabolomic profiles of weaned pigs experimentally infected a pathogenic *E. coli*. J. Anim. Sci. 98(Suppl_3):76-77.
- 7. **Kim, K.,** and Y. Liu. 2020. Effects of *Bacillus subtilis* on colon digesta metabolomic profiles in weanling pigs experimentally infected with a pathogenic *E. coli*. J. Anim. Sci. 98(Suppl_3):203
- 8. **Kim, K.**, Y. He, C. Jinno, S. Yang, M. Song, P. Ji, and Y. Liu. 2019. Effects of antibiotics on serum metabolomic profiles in weanling pigs experimentally infected with a pathogenic *E. coli*. J. Anim. Sci. 97(Suppl 3):232.
- 9. **Kim, K.**, Y. He, C. Jinno, S. Yang, M. Song, P. Ji, and Y. Liu. 2019. Effects of antibiotics on growth performance, diarrhea, bacterial translocation, and blood profiles in weanling pigs experimentally infected a pathogenic *E. coli*. California Animal Nutrition Conference Proceedings. p.102.
- Kim, S., B. Kim, J. Kim, K. Kim, J. J. Lee, J. Kang, D. Mun, J. Baek, S. Kim, Y. Liu, J. Choe, and M. Song. 2019. Dietary spray dried plasma on systemic immune responses of lactating sows and their litters. California Animal Nutrition Conference Proceedings. p.104.
- 11. He, Y., **K. Kim**, L. Kovanda, C. Jinno, M. Song, X. Li, and Y. Liu. 2019. Effects of *Bacillus subtilis*. probiotics on growth performance, diarrhea, and intestinal health of weaned pigs experimentally infected with an enterotoxigenic *Escherichia coli*. California Animal Nutrition Conference Proceedings. p.98.
- 12. **Kim, K.**, Y. He, C. Jinno, S. Yang, M. Song, P. Ji, and Y. Liu. 2019. Effects of antibiotics on growth performance, diarrhea, and bacterial translocation in weanling pigs experimentally infected a pathogenic *E. coli.* J. Anim. Sci. 97(Supp 2):53.
- 13. **Kim, K.**, Y. He, C. Jinno, S. Yang, M. Song, P. Ji, and Y. Liu. 2019. Effects of antibiotics on blood profiles in weanling pigs experimentally infected a pathogenic *E. coli*. J. Anim. Sci. 97(Suppl_2):78.
- 14. Jinno, C., **K. Kim**, M. Song, P. Ji, E. Maga, and Y. Liu. 2019. Supplementation of *Bacillus subtilis* modified fecal microbiota of weaning pigs experimentally infected with a pathogenic *E. coli*. J. Anim. Sci. 97(Suppl 2):81.
- 15. He, Y., **K. Kim**, C. Jinno, Z. Wu, R. Whelan, K. Doranalli, and Y. Liu. 2019. Effects of *Bacillus spp*. probiotics on systemic immunity and intestinal health of weaned pigs experimentally infected with an enterotoxigenic *Escherichia coli*. J. Anim. Sci. 97(Suppl_2):74-75.
- 16. He, Y., **K. Kim**, C. Jinno, L. Kovanda, S. Yang, M. Song, X. Li, and Y. Liu. 2019. Effects of *Bacillus subtilis* on growth performance, diarrhea, and fecal β-hemolytic coliforms of weaned pigs experimentally infected with an enterotoxigenic *Escherichia coli*. J. Anim. Sci. 97(Suppl 2):79-80.
- 17. Kim, S., B. Kim, J. Kim, K. Kim, J. J. Lee, J. Kang, D. Mun, J. Baek, S. Kim, Y. Liu, J. Choe, and M. Song. 2019. Growth performance and immune responses of weaned pigs from lactating sows fed dietary spray dried plasma. J. Anim. Sci. 97(Suppl_2):213-214.
- 18. Kim, B., J. Kim, K. Kim, S. Kim, J. J. Lee, J. Kang, D. Mun, J. Baek, S. Kim, P. Ji, J. Choe, and M. Song. 2019. Dietary spray dried plasma on immune responses of lactating sows and their litters. J. Anim. Sci. 97(Suppl 2):187.
- 19. **Kim, K.**, R. Whelan, A. Sokale, and Y. Liu. 2018. Effects of dietary β-glucan on intestinal gene expression of weanling pigs experimentally infected with a pathogenic *E. coli*. J. Anim. Sci. 96(Suppl 3):321-322.
- 20. He, Y., **K. Kim**, C. Jinno, Z. Wu, R. Whelan, K. Doranalli, and Y. Liu. 2018. Effects of *Bacillus* spp. probiotics on growth performance, diarrhea, and systemic immunity of weaned pigs experimentally infected with an enterotoxigenic *Escherichia coli*. J. Anim. Sci. 96(Suppl_3):297.
- 21. **Kim, K.**, Y. He, X. Xiong, C. Jinno, A. Ehrlich, X. Li, J. Jørgensen, L. Raff, and Y. Liu. 2018. Supplementation of *Bacillus subtilis* enhanced growth rate and gut barrier function of weanling pigs experimentally infected with F18 *Escherichia coli*. California Animal Nutrition Conference Proceedings. p.144.
- 22. He, Y., **K. Kim**, C. Jinno, Z. Wu, R. Whelan, K. Doranalli, and Y. Liu. 2018. Effects of *Bacillus spp*. probiotics on growth performance, diarrhea, and systemic immunity of weaned pigs experimentally infected with an enterotoxigenic *Escherichia coli*. California Animal Nutrition Conference Proceedings. p.158.

- 23. **Kim, K.**, C. Jinno, A. Ehrich, X. Li, J. N. Joergensen, L. Raff, and Y. Liu. 2018. Effects of *Bacillus subtilis* on growth performance, diarrhea, and gut health of weanling pigs experimentally infected with F18 *Escherichia coli*. J. Anim. Sci. 96(Suppl 2):68-69.
- 24. Doan, N., P. Ji, **K. Kim**, D. Bravo, and Y. Liu. 2018. Supplementation of organic and inorganic selenium on oxidative stress of weaned pigs¹. Growth performance and immune responses. J. Anim. Sci. 96(Suppl_2):146-147.
- 25. Doan, N., P. Ji, **K. Kim**, D. Bravo, and Y. Liu. 2018. Supplementation of organic and inorganic selenium on oxidative stress of weaned pigs². Antioxidant capacity. J. Anim. Sci. 96(Suppl 2):89.
- 26. **Kim, K.**, A. Ehrlich, V. Perng, J. Chase, H. Raybould, X. Li, E. R. Atwill, R. Whelan, A. Sokale, and Y. Liu. 2017. Effects of dietary β-glucan on growth performance, diarrhea, and gut permeability of weanling pigs experimentally infected with a pathogenic *Escherichia coli*. J. Anim. Sci. 95(Suppl_4):34-35.
- 27. Ji, P., S. McClorry, B. Lönnerdal, C. Slupsky, **K. Kim**, and C. Jinno. Early-life iron supplementation alters whole body iron homeostasis, serum metabolites, and social novelty discrimination in pre-weanling pigs. The FASEB Journal 31(Supple 1):436.7.
- 28. Jang, K., **K. Kim**, S. Kim, J. Kim, B. Kim, S. Park, J. J. Lee, J. H. Lee, S. W. Kim, and M. Song. 2017. Effects of dietary supplementation of β-mannanase on immune responses in nursery pigs. J. Anim. Sci. 95(Suppl_4):32.
- 29. Kim, B., I. H. Park, J. Kim, S. Kim, J. J. Lee, **K. Kim**, K. Jang, S. Oh, S. Oh, Y. Kim, J. Y. Cho, S. H. Cho, and M. Song. 2017. Effects of dietary protease on gut microbiota of weaned pigs. J. Anim. Sci. 95(Suppl 4):38.
- 30. Lee, J. J., J. Kim, B. Kim, S. Kim, K. Kim, J. Choe, Y. Kim, J. Park, I. H. Park, J. Y. Cho, and M. Song. 2017. Effects of carbohydrase on productive performance and white blood cells of lactating sows. J. Anim. Sci. 95(Suppl 4):51-52.
- 31. **Kim, K.**, V. Perng, J. Chase, X. Li, E.R. Atwill, R. Whelan, A. Sokale, and Y. Liu. 2017. Effects of dietary β-glucan on systemic immunity of weanling pigs experimentally infected with a pathogenic *E. coli*. California Animal Nutrition Conference Proceedings. p.282.
- 32. Kim, J., Y. Jang, S. Kim, W. Kim, K. Jang, **K. Kim**, B. Kim, S. Park, I. Park, Y. H. Kim, J. Seo, Y. Kim, S. Seo, and M. Song. 2015. Effects of palm kernel expellers on productive performance, nutrient digestibility, and white blood cells of lactating sows. J. Anim. Sci. 93(Suppl 1):415.
- 33. Jang, Y., J. Kim, S. Kim, W. Kim, K. Jang, **K. Kim**, B. Kim, S. Park, I. Park, Y. H. Kim, J. Seo, Y. Kim, S. Seo, and M. Song. 2015. Effects of palm kernel expellers on growth performance, nutrient digestibility, and blood profiles of weaned pigs. J. Anim. Sci. 93(Suppl_1):416.
- 34. Kim, S., Y. Jang, J. Kim, K. Jang, **K. Kim**, B. Kim, S. Park, I. Park, W. Kim, Y. H. Kim, J. C. Park, Y. Kim, S. Seo, and M. Song. 2015. Effects of palm kernel expellers on growth performance nutrient digestibility, carcass characteristics, and loin muscle quality of growing-finishing pigs. Proceedings of 2015 Annual Congress of KSAST. Page 59.
- 35. Bae. K., J. Goo, J. Kim, Y. Jang, S. Park, K. Jang, B. Kim, **K. Kim,** and M. Song. 2014. Effects of pathogenic *Escherichia coli* on diarrhea, growth performance, and blood profile of weaned pigs. Proceedings of 2014 Annual Congress of KSAST. Page 246.

AWARDS&HONORS

Awards

- 1. **Stahly/Peo Outstanding Graduate Student in Swine Nutrition Award,** 2022 ASAS Annual Midwest Meeting, March 14-16, 2019, Omaha, Nebraska
- 2. Research Paper Award, <u>3rd place</u> (Graduate Student Poster Competition: Ph.D. Division), 2020 ASAS-CSAS-WSASAS Virtual Annual Meeting and Trade Show, July19-23, 2020
- Animal Science Young Scholar Award (Invited speaker),
 2020 ADSA-ASAS Annual Midwest Meeting, Mar 2-4, 2020, Omaha, Nebraska
- 4. Research Paper Award, 1st place (Graduate Student Oral Competition: Ph.D. Divisions), 2019 ADSA-ASAS Annual Midwest Meeting, March 11-13, 2019, Omaha, Nebraska
- Research Paper Award, 1st place (Poster Competition), 2018 California Animal Nutrition Conference, May 2-3, 2018, Fresno, California
- 6. Research Paper Award, <u>3rd place</u> (Graduate Student Poster Competition: M.S. Division), 2017 ASAS-CSAS Annual Meeting & Trade Show, July 8-12, 2017, Baltimore, Maryland
- Research Paper Award, 2nd place (Poster Competition),
 2017 California Animal Nutrition Conference, May 10-11, 2017, Fresno, California

8. Research Paper Award of Excellence (Poster Competition),

2014 Annual Congress of Korean Society of Animal Sciences and Technology, Hongcheon, Republic of Korea

Fellowships/Scholarships

1. California Animal Nutrition Conference Scholarship Winner (Invited speaker),

2021 California Animal Nutrition Conference, Sep 30-Oct 1, 2021, Sacramento, California

2. Korean Life Scientists in the Bay Area (KOLIS) Fellowship (Invited speaker),

KOLIS Virtual Annual Conference, June 25-26, 2021

3. Humphries Fellowship,

Department of Animal Science, University of California, Davis, 2021

4. Graduate Student Travel Award,

Animal Biology Graduate Group, University of California, Davis

2021 American Society of Animal Science Midwest Virtual Meeting, March 8-11, 2021

5. Ursula K Abbott Animal Science Graduate Student Travel Award,

Department of Animal Science, University of California, Davis

- 2020 ASAS-CSAS-WSASAS Annual Meeting & Trade Show, July 19-23, 2020, Virtual Meeting
- 2019 ASAS-CSAS Annual Meeting & Trade Show, July 8-11, Austin, Texas
- 2019 ADSA/ASAS Midwestern meeting, March 11-13, 2019, Omaha, Nebraska
- 2018 ASAS-CSAS Annual Meeting & Trade Show, July 8-12, 2018, Vancouver, Canada
- 2017 ASAS-CSAS Annual Meeting & Trade Show, July 8-12, 2017, Baltimore, Maryland

6. Henry A. Jastro Graduate Research Award,

Animal Biology Graduate Group, University of California, Davis, Fall 2019, 2020

7. McOmie Fellowship Award,

Department of Animal Science, University of California, Davis, Fall 2019

8. Animal Biology Graduate Program Fellowship Award,

Animal Biology Graduate Group, University of California, Davis,

2017, 2018, 2019, and 2020 Academic Year

9. Rosenberg GSR Award,

Department of Animal Science, University of California, Davis, 2017

10. The Honor Student (Full Remission of Tuition Fees),

Department of Animal Science & Biotechnology, Chungnam National University,

Daejeon, Republic of Korea, 2009, 2012, 2013, and 2014 Academic Year

TEACHING EXPERIENCE

Guest Lecture.

•	Animal Biochemistry & Metabolism (483 undergrads),	Feb 2020
	Department of Animal Science, University of California, Davis, CA	
	-Review of endocrine disorders associated with environmental toxicants	
	and possible involved mechanisms	
•	Gyeongnam National University of Science and Technology (25 grads)	Aug 2018
•	Chungnam National University, Republic of Korea (15 grads)	Aug 2018
	-Algae-derived β-glucan on gut health and immune responses in weaned pigs	

Teaching Assistant,

Department of Animal Science, University of California, Davis, CA

•	Animal Nutrition Laboratory (ANS 134)	Mar Jun 2021
•	Animal Nutrition Laboratory (ANS 134)	Jan—Mar 2021
•	Intro to Animal Science 002 (ANS 002)	Mar—Jun 2020
•	Animal Biochemistry & Metabolism (ABI 103)	Jan—Mar 2020
•	Animal Nutrition Laboratory (ANS 134)	Jan—Mar 2020
•	Domestic Animal Prod Laboratory (ANS 41L)	Jan—Mar 2019
•	Animal Nutrition Laboratory (ANS 134)	Jan—Mar 2019
•	Intro to Animal Science 002 (ANS 002)	Mar Jun 2018
•	Animal Nutrition Laboratory (ANS 134)	Jan—Mar 2018
•	Intro to Animal Science 002 (ANS 002)	Mar Jun 2017

LEADERSHIP & SERVICE EXPERIENCE

•	Ad Hoc Reviewer,	2021–Present
	- Journal of Animal Science (ISSN: 1525-3163)	
•	Graduate Mentor, Animal Research Projects	2017-2021
	Department of Animal Science, University of California, Davis	
	- Mentored 6 new graduate researchers & 10+ undergraduate research interns	
	- Hands on training and demonstration of animal care, safe handling, and specimen	
	collection; Supervising experimental designs, specimen processing, and data analysis	
•	Student Volunteer, Picnic Day (Annual open house for UCDavis)	2017, 2018
	Supervised assistant at Swine Facility, University of C3alifornia, Davis	
•	Departmental Student Representative,	2013
	Department of Animal Science & Biotechnology, Chungnam National University,	
	Daejeon, Republic of Korea	
	- Managed memorial services for laboratory animals	
	- Hosted field day and sports day	
•	Volunteer, Community Service	2011-2012
	Voluntary activities for teaching English at Dongduchon Elementary School,	
	Dongduchon, Republic of Korea	
•	Military Service, Enlisted	
	Charlie Company, The Crusader Battalion, 72nd Armor Regiment, The 1st brigade Combat Team,	2010–2012
	2nd Infantry Division, the United States Army at Camp Casey,	
	Republic of Korea	
	- Certificate of Commendation	
	Representative at Republic of Korea-United States Joint Military Exercise	

Representative at Republic of Korea-United States Joint Military Exercise

- The Army Commendation Medal

M1A1/A2 Abrams Tank Gunner and Senior Squad Leader

- The Army Achievement Medal

Meritorious Achievement during Community Service

- "Manchu Mile" Certificate Medal

PROFESSIONAL AFFILIATIONS

- American Society of Animal Science
- American Society of Animal Science-Midwest Section
- California Grain & Feed Association (California Animal Nutrition)

REFERENCES

Yanhong Liu, Associate Professor, Department of Animal Science University of California, Davis, United States of America (530) 752-4275, yahliu@ucdavis.edu

Elizabeth A. Maga, Associate Professor, Department of Animal Science University of California, Davis, United States of America (530) 752-5930, eamaga@ucdavis.edu

Peng Ji, Assistant Professor, Department of Nutrition University of California, Davis, United States of America (530) 752-6469, penji@ucdavis.edu

Last Updated: 02/01/2022