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### 2. 受教育经历

- 2008/9-2011/12, 中国农业大学动物科技学院动物营养与饲料科学专业，博士，导师：譙仕彦教授
- 2006/9-2008/6, 中国农业大学动物科技学院动物营养与饲料科学专业，硕士，导师：王凤来教授
- 2002/9-2006/7, 中国农业大学动物科技学院动物科学专业，本科，导师：富俊才副教授

### 3. 研究工作经历

- 2016/1-至今, 中国农业大学动物科技学院, 副教授
- 2013/06-2015/12, 中国农业大学动物科技学院, 讲师
- 2012/2-2013/5, 美国俄克拉荷马州立大学动物科学系分子营养实验室, 博士后

### 4. 主要论著

1. Junyan Zhou, Yuming Wang, Xiangzhou Zeng, Tao Zhang, Peili Li, Bingqian Yao, Lu Wang, Shiyan Qiao, and **Xiangfang Zeng\***. Effect of antibiotic-free, low-protein diets with specific amino acid compositions on growth and intestinal flora in weaned pigs. Food Funct. 2020. 11:493(通讯作者).
2. Hongbin Liu, Chengli Hou, Ning Li, Xiaoya Zhang, Guolong Zhang, Feiyun Yang, **Xiangfang Zeng\***, Zuohua Liu, and Shiyan Qiao. Microbial and metabolic alterations in gut microbiota of sows during pregnancy and lactation. FASEB J. 2019.33:4490-4501(通讯作者).
3. Qianhong Ye, Shuang Cai, Shuai Wang, Xiangzhou Zeng, Changchuan Ye, Meixia Chen, **Xiangfang Zeng\***, Shiyan Qiao. Maternal short and medium chain fatty acids supply during early pregnancy improves embryo survival through enhancing progesterone synthesis in rats. J Nutr Biochem. 2019. 69:98-107(通讯作者).
4. Meixia Chen, Bo Zhang, Shuang Cai, **Xiangfang Zeng\***, Qianhong Ye, Xiangbing Mao, Shihai Zhang, Xiangzhou Zeng, Changchuan Ye, Shiyan Qiao. Metabolic disorder of amino acids, fatty acids and purines reflects the decreases in oocyte quality and potential in sows. J Proteomics. 2019.doi.org/10.1016/j.jprot.2019.03.015(通讯作者).
5. Man Ren, Shuang Cai, Tong Zhou, Shihai Zhang, Shenghe Li, Erhui Jin, Chuanyan Che, **Xiangfang Zeng\***, Tao Zhang and Shiyan Qiao. Isoleucine attenuates infection induced by E. coli challenge through the modulation of intestinal endogenous antimicrobial peptide

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6. Shuang Cai, Jinlong Zhu, Xiangzhou Zeng, Qianhong Ye, Changchuan Ye, Xiangbing Mao, Shihai Zhang, Shiyan Qiao, and **Xiangfang Zeng\***. Maternal N-carbamylglutamate supply during early pregnancy enhanced pregnancy outcomes in sows through modulations of targeted genes and metabolism pathways. *J Agr Food Chem.* 2018.66:5845-5852(通讯作者).
  7. Xiaoya Zhang, Xutong Liu, Hongmin Jia, Pingli He, Xiangbing Mao, Shiyan Qiao, and **Xiangfang Zeng\***. Valine supplementation in a reduced protein diet regulates growth performance partially through modulation of plasma amino acids profile, metabolic responses, endocrine, and neural factors in piglets. *J Agr Food Chem.* 2018.66:3161-3168(通讯作者).
  8. Changchuan Ye, Xiangzhou Zeng, Jinlong Zhu, Ying Liu, Qianhong Ye, Shiyan Qiao, and **Xiangfang Zeng\***. Dietary N-carbamylglutamate supplementation in a reduced protein diet affects carcass traits and the profile of muscle amino acids and fatty acids in finishing pigs. *J Agr Food Chem.* 2017.65:5751-5758 (通讯作者).
  9. Bo Zhang, Licui Chu, Hong Liu, Chunyuan Xie, Shiyan Qiao, **Xiangfang Zeng\***. Leucine supplementation in a chronically protein-restricted diet enhances muscle weight and postprandial protein synthesis of skeletal muscle by promoting the mTOR pathway in adult rats. *Engineering.* 2017.3:1-6 (通讯作者).
  10. Shihai Zhang, **Xiangfang Zeng\***, Man Ren, Xiangbing Mao, and Shiyan Qiao. Novel metabolic and physiological functions of branched chain amino acids: a review. *J Anim Sci Biotechnol.* 2017.8:10 (通讯作者).
  11. Man Ren, Shihai Zhang, Xutong Liu, Shenghe Li, Xiangbing Mao, **Xiangfang Zeng\***, and Shiyan Qiao. Different lipopolysaccharide branched-chain amino acids modulate porcine intestinal endogenous  $\beta$ -defensin expression through the Sirt1/ERK/90RSK pathway. *J Agr Food Chem.* 2016.64:3371-3379 (通讯作者).
  12. Shihai Zhang, Licui Chu, Shiyan Qiao, Xiangbing Mao, **Xiangfang Zeng\***. Effects of dietary leucine supplementation in low crude protein diets on performance, nitrogen balance, whole body protein turnover, carcass characteristics and meat quality of finishing pigs. *Anim Sci J.* 2016.87:911-920(通讯作者).
  13. Shihai Zhang, Qing Yang, Man Ren, Shiyan Qiao, Pingli He, Defa Li, and **Xiangfang Zeng\***. Effects of isoleucine on glucose uptake through the enhancement of muscular membrane concentrations of GLUT1 and GLUT4 and intestinal membrane concentrations of Na<sup>+</sup>/glucose co-transporter 1 (SGLT-1) and GLUT2. *Brit J Nutr.* 2016.116: 593-602 (通讯作者).
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  15. Jinlong Zhu, **Xiangfang Zeng\***, Qian Peng, Shenming Zeng, Haiyi Zhao, Hexiao Shen, Shiyan Qiao. 2015. Maternal N-carbamylglutamate supplementation during early pregnancy enhances embryonic survival and development through modulation of the endometrial proteome in gilts. *J Nutr.* 2015.145:2212-2220 (通讯作者).
  16. Man Ren, Xutong Liu, Xu Wang, Guijie Zhang, Shiyan Qiao, **Xiangfang Zeng\***. Increased levels of standardized ileal digestible threonine attenuate intestinal damage and immune responses in Escherichia coli K88<sup>+</sup> challenged weaned piglets. *Anim Feed Sci Technol.* 2014.195: 67-75(通讯作者).
  17. Man Ren, Chuang Liu, **Xiangfang Zeng\***, Longyao Yue, Xiangbing Mao, Shiyan Qiao, Junjun Wang. Amino acids modulates the intestinal proteome associated with immune and stress response in weaning pig. *Mol Biol Rep.* 2014.41(6) (通讯作者).
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  19. **Xiangfang Zeng**, Lakshmi T. Sunkara, Weiyu Jiang, Megan Bible, Scott Carter, Xi Ma, Shiyan Qiao, Guolong Zhang. Induction of porcine host defense peptide gene expression by short-chain fatty acids and their analogs. *PLoS ONE.* 2013.8(8): e72922. doi:10.1371/journal.pone.0072922.
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  21. **Xiangfang Zeng**, Zhimin Huang, Xiangbing Mao, Junjun Wang, Guoyao Wu, Shiyan Qiao. N-carbamylglutamate enhances pregnancy outcome in rats through activation of the PI3K/PKB/mTOR signaling pathway. *PLoS ONE.* 2012. 7(7): e41192.

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22. **Xiangfang Zeng**, Fenglai Wang, Xia Fan, Wenjun Yang, Bo Zhou, Pengfei Li, Yulong Yin, Guoyao Wu, and Junjun Wang. Dietary arginine supplementation during early pregnancy enhances embryonic survival in rats. *J Nutr.* 2008.138: 1421-1425.
23. Weiwei Wang, **Xiangfang Zeng**, Xiangbing Mao, Guoyao Wu and Shiyao Qiao. Optimal dietary true ileal digestible threonine for supporting the mucosal barrier in small intestine of weanling pigs. *J Nutr.* 2010.140:981-986(并列第一作者).
24. Xiangbing Mao, **Xiangfang Zeng**, Zhimin Huang, Junjun Wang, Shiyao Qiao. Leptin and leucine synergistically regulate protein metabolism in c2c12 myotubes and mouse skeletal muscles. *Brit J Nutr.* 2013.110:256-264(并列第一作者).
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26. 周相超, 杨凤娟, 霍应峰, 曾祥芳\*. 低氮日粮条件下生长猪标准回肠可消化异亮氨酸需要量研究. *中国畜牧杂志.* 2018. (05): 67-73.
27. 张博, 蔡爽, 叶倩红, 曾祥芳\*, 谯仕彦. 营养物质调节母猪卵母细胞质量与繁殖性能的研究进展. *动物营养学报.* 2017. (10): 3436-3443.

#### 5、主持课题

项目来源	项目名称	经费	本人作用
十三五重点研发计划课题	益生物质调控畜禽肠道微生物功能和肠道健康的分子机制	329万元	主持
自然科学基金面上项目	中短链脂肪酸调节猪早期胚胎发育和胚胎附植的分子机制	72万	主持
北京食品营养与健康高精尖创新中心	氮素营养调节肠道微生物结构及肠黏膜先天性免疫的分子机制	60万元	主持
国家自然科学基金	氮氨甲酰谷氨酸促进母猪妊娠早期胚胎着床的营养调控机制	24万元	主持
大北农青年学者研究计划	丁酸增强仔猪肠黏膜内源性免疫防御肽表达的研究	15万元	主持
青年英才计划	青年英才计划B类项目	20万元	主持
公益性行业(农业)科研专项	饲料中抗生素替代品关键研究与示范	100万元	子课题主持
十三五重点研发计划课题	母猪精准营养技术集成	26万元	子课题主持
科技基础性工作专项	我国福建省主要畜禽饲料资源分布调查	16万元	子课题主持
“杨胜先生门生社群”研究项目	氮氨甲酰谷氨酸调节围着床期母猪子宫内膜与胚胎发育的分子机制	50万元	主持

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