Linglin Xie (謝玲琳), MD, Ph.D.

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Department of Nutrition and Food Sciences,
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Dr. Xie has been studied on identifying if and how maternal diet interventions could be beneficial or adverse to normal growth and development and change offspring phenotype that might lead to disease in future life, focusing on obesity and its related metabolic syndromes and congenital heart defects. Currently, Dr. Xie is an Assistant Professor in the Department of Nutrition and Food Science at Texas A&M University. She has published 20 papers including 11 first author and 6 corresponding author papers in journals of high impact including International Journal of Obesity, Human Molecular Genetics, Developmental Cell, Journal of Biological Chemistry, Journal of Molecular and Cellular Cardiology. She is a winner of the NACSN-ASN travel award of 2016. She is the recipient of a National AHA scientific developmental grant and a NIH R15 grant on heart development. She is a full member of NACSN since 2011, and has actively participated in many activities of the NACSN. As a committee members, she is helping organize the first NACSN Symposium.

CURRICULUM VITAE
Linglin Xie, MD, Ph.D.

Professional Affiliation:
Assistant Professor
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Education:

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	MM/YY	FIELD OF STUDY
Tongji Medical University, Wuhan, China	M.D.	07/00	Medicine
Kansas State University, Manhattan, KS	M.S.	12/04	Human Nutrition
Kansas State University, Manhattan, KS	Ph.D.	05/08	Molecular, Cellular and Developmental Biology
University of Chicago, Chicago,IL	Postdoctoral	05/11	Pediatrics

Professional Experience:

2001-2002 Graduate Fellow, Family Planning Institute. Tongji Medical University, Wuhan, China

2003-2004 Graduate Research Assistant, Laboratory of Dr. Weiqun Wang, Department of Human Nutrition, Kansas State University, Manhattan, KS

2004-2006 Graduate Teaching Assistant, Division of Biology, Kansas State University, Manhattan, KS

2006-2008 Graduate Research Assistant, Laboratories of Dr. Silvia Mora and Laboratories of Dr. Stephen K. Chapes, Division of Biology, Kansas State University, Manhattan, KS

2008-2011 Postdoctoral Scholar, Laboratory of Dr. Ivan Moskowitz, Department of Pediatrics, University of Chicago, Chicago, IL

2011- 2015 Assistant professor, Department of Basic Sciences, School of Medicine and Health Sciences, University of North Dakota, Grand Forks, ND

2015-present Assistant professor, Department of Nutrition and Food Science, Texas A&M University, College Station, TX

Academic Honors:

2004 Kansas State University Graduate Research Travel Award, Kansas State University

2004 Terry C. Johnson Cancer Center Graduate Research Travel Award, Kansas State University

2006 Kansas State University Graduate Research Travel Award, Kansas State University

2006 Terry C. Johnson Cancer Center Graduate Research Travel Award, Kansas State University

2007 L. Evans Roth Award for Outstanding Graduate Student Research in Cellular, Molecular or Developmental Biology, Kansas State University

2013 Undergraduate Research Host Awards for APS STRIDE students, American Physiological Society

2016 American Society for Nutrition (ASN) & North American Chinese Society for Nutrition (NACSN) Travel Award

Membership in professional organizations

2011- Current Member, American Heart Association
2012- Current Member, American Physiology Society
2015- Current Member, American Nutrition Society
2012- Current Member, North American Chinese Society for Nutrition

Current Teaching Activities:

Undergraduate Education:
BMB494: Undergraduate Research Experience
NUTR481: Undergraduate Seminar

Graduate Education:
BMB521 Seminar: Current Status of Cell Signaling

Medical Student Education:
Medical lecture: Heart development
MED602 Biology of Organ Systems I & Into to Patient Cr I
MED603 Biol Org Sys II & Introduction to Patient Care III
MED604 Biol Nerv Sys & Intro Patient Care IV
MED701: Intro Pathobiol & Intro Patient Care V

Trainees:

1. **Undergraduate Students:**

Name/Major	**MM/YY to MM/YY (Xie lab experience)**	**Department/Institute**
Jessica Voeller/Biology	08/12-12/12	Basic Sciences/UND
Adria Johnson/Biology	06/12-08/12	Basic Sciences/UND
Dane Rasmussen/Biology	01/12-05/14)	Basic Sciences/UND
Jacy O'Keefe/Dietetics	01/12-05/14	Basic Sciences/UND
Joseph Nchifor/ Mathematics; minor in Biology	06/12-05/14	Basic Sciences/UND
Ben Keith/Biology	01/13- 05/14	Basic Sciences/UND
Mark Williamson/Biology	09/14-08/15	Basic Sciences/UND
Patrick Olson/Biology	08/12-05/15	Basic Sciences/UND
Nathan Curry/Biology	01/14-05/15	Basic Sciences/UND
Justin Volker/Biology	09/15-11/15	Basic Sciences/UND
Brooke Fettig/Biology	09/15-11/15	Basic Sciences/UND
Frank Rugh/Biology	09/15-11/15	Basic Sciences/UND
Chelsea Jendrusch/Nutrition	01/16-current	Nutrition/TAMU

2. **Graduate Students:**
   Fall 2014 – present Jielin Liu (Ph.D in Biochemistry program)
   Fall 2014 – present Menglan Xiang (Ph.D in Biochemistry program)

3. **Postdoctoral Scholars/Visiting Scholars:**
   06/12-02/14 Lun Zhou
   07/13-02/15 Qiang Fu
   07/14-present Yi Zhou
   12/14-present Huiting Xu

Committee and Service responsibilities:
UND Basic Science Department Graduate Admission Committee 2015
UND Biochemistry Graduate Program Final Exam Committee 2013
INBRE flow cytometry and cell sorter core: consulting services of cell sorter 2012-2015
Treasurer of Tongji Medical College Overseas Alumni Association 2015-present

Review and referee work
Service on Editorial Boards for *American Journal of Digestive Disease* 2014-present
Peer reviewed articles for *Plos One (3), Experimental Biology (1), Journal of Molecular Endocriology (1), Lipids (1), Tumor Biology (3), Journal of nutrition and functional food (22)*

Peer reviewed Abstracts for the 2nd ACRE/APS Symposium

Publications:
Graduate students and undergraduate students trained in Xie lab are underlined:

1. K. K. Zhang; M. Xiang; L. Zhou; J. Liu; N. Curry; D. H. Suner; P. Garcia-Pavia; X. Zhang; Q. Wang; **L. Xie**. Gene-network and familial analyses uncover a gene network involving Tbx5/Osr1/Pcsk6 interaction in the second heart field for atrial septation. *Human Molecular Genetics* 2016;doi: 10.1093/hmg/ddv636Q. (5-Yr impact factor: 6.850)
2. Q. Fu, P. Olson, D. Rasmussen, M. Williamson, B. Keith, K. K .Zhang, **L. Xie.** A Short-Term Transition from a High-Fat Diet to a Normal-Fat Diet Before Pregnancy Exacerbates Female Mouse Offspring Obesity. *Int J Obes (Lond).* 2015 Nov 26. doi: 10.1038/ijo.2015.236. (5-Yr impact factor: 5.28)
3. L. Zhou, J. Liu, P. Olson, K. Zhang, J. Wynne, **L. Xie**. Tbx5 and Osr1 interact to regulate posterior second heart field cell cycle progression for cardiac septation. *J Mol Cell Cardiol.* 2015 May 16;85:1-12. (5-Yr impact factor: 5.04)
4. Y. Zhou and **L. Xie.** High Fat Diet Mouse Model in the Study of Nonalcoholic Fatty Liver Disease and Hepatocellular Carcinoma. *Am J Digest Dis*, 2(1): 60-65, 2015
5. Q. Fu, K.K. Zhang, **L. Xie.** A meta-analysis of case-control studies of high-fat diet and colorectal cancer. *Am J Digest Dis;*1(2):127-135, 2014
6. **L. Xie*,** Q. Fu, T.M. Ortega, L.Zhou, D. Rasmussen, J. O'Keefe, K.K. Zhang, S.K. Chapes. Overexpression of IL-10 in C2D macrophages promotes a macrophage phenotypic switch in an adipose tissue environment. PLoS One.; 9(1):e86541, 2014. doi: 10.1371/journal.pone.0086541. *corresponding author. (5-Yr impact factor: 3.70)
7. B. King, Y. Jiang, X. Su, J. Xu, **L. Xie**, J. Standard, W. Wang. Weight Control, Endocrine Hormones and Cancer Prevention. (Review). *Exp Biol Med*, 238(5): 502-8, 2013. PMID: 23856901. (5-Yr impact factor: 2.593)
8. **L. Xie*,** W. Wang*. Weight control and cancer preventive mechanisms: role of IGF-1-mediated signaling pathways. (Review). *Exp Biol Med*, 238(2): 127-32, 2013. PMID: 23576795* co-corresponding author. (5-Yr impact factor: 2.593)
9. K. Clarke, Y. Yang, R. Marsh, **L. Xie**, K. Zhang. Comparative analysis of de nova transcriptome assembly. Sci China Life Sc. 56(2):156-62, 2013. PMID: 23393031. (5-Yr impact factor: 1.54)
10. **L. Xie**, A.D. Hoffmann, O. Burnicka-Turek, J.M. Friedlan-Little, K.Zhang, I.P. Moskowitz. A Tbx5-Hedgehog pathway is required in second heart field cardiac progenitors for atrial septation. *Dev Cell.*, 23: 280-91, 2012 (5-Yr impact factor: 12.44)

11. **L. Xie,** B. Weichel, J.E. Ohm, K. Zhang. An integrative analysis of DNA methylation and RNA-Seq data for human heart, kidney and liver. *BMC Systems Biology*, 5(Suppl 3):S4, 2011. (5-Yr impact factor: 2.92)
12. K. Zhang, Y. Yang, V. Devanarayan, **L. Xie**, Y. Deng, D. Sens. A hidden Markov model-based algorithm for identifying tumor subtype using array CGH data. *BMC Genomics*, 12(Suppl 5):S10, 2011. (5-Yr impact factor: 2.90)
13. M.T. Ortega*, **L. Xie***, S. Mora, S.K. Chapes. Evaluation of macrophage plasticity in brown and white adipose tissue. *Cell Immunol.*, 217(1):124-33, 2011 (* co-first author)
14. P. Ouyang, Y. Jiang, H.M. Doan, **L. Xie**, D. Vasquez, R. Welti, X. Su, N. Lu, B. Herndon, S.S. Yang, R. Jeannotte, W. Wang. Weight Loss via exercise with controlled dietary intake may affect phospholipid profile for cancer prevention in murine skin tissues. *Cancer Prev Res (Phila).* 3(4):466-77, 2010.
15. **L. Xie**, M.T. Ortega, S. Mora, S.K. Chapes. Interactive changes between macrophages and adipocytes. *Clin Vaccine Immunol*.;17(4):651-9, 2010
16. **L. Xie**, C. O'Reilly, S.K. Chapes, S. Mora. Distinct regionalization of leptin and adiponectin in 3T3L1 adipocytes. *Biochim Biophys Acta*; 1782(2):99-108, 2008.
17. **L. Xie**, Y. Jiang, P. Ouyang, J. Chen, H. Doan, B. Herndon, J.E. Sylvester, K. Zhang, A. Molteni, M. Reichle, R. Zhang, M.D. Haub, R.C. Baybutt, W. Wang. Effects of dietary calorie restriction or exercise on the PI3K and RAS signaling pathways in the skin of mice. *J Biol Chem*, 282(38):28025-35, 2007.
18. J. Lu*, **L. Xie***, J. Wang, W. Wang. Different gene expression of skin tissues in weight control mice between calorie restriction and physical exercise. *Exp Biol Med*; 232(4): 473-80, 2007. (* co-first author)
19. **L. Xie**, D. Boyle, D. Sanford, P.E. Scherer, J.E. Pessin, S. Mora. Intracellular trafficking and secretion of adiponectin is dependent on GGA-coated vesicles. *J Biol Chem*; 281(11): 7253-9, 2006.
20. **L. Xie**, Q. Gao, H. Xu. Ameliorative effect of L-methionine on Pb-exposed mice. *Bio Trace Elem Res.*; 93(1-3): 227-36, 2003.

Manuscript under Review

21. L. Zhou, J. Liu, P. Olson, K. Zhang, J. Wynne, I.P. Moskowitz, **L. Xie.** Gata4 potentiates second heart field proliferation and Hedgehog signaling for cardiac septation Submitted to *PNAS* and in revision.

Selected Talk:

1. K. Zhang, D.H. Suner, **L. Xie.** Gene-network and familial analyses uncover a gene network involving Tbx5/Osr1/Pcsk6 interaction in the second heart field for atrial septation. Weinstein Cardiovascular Development Conference, Durham, NC, May, 2016
2. Q. Fu, Y. Zhou, H. Xu, P. Olson, **L. Xie.** Different Duration of Diet Transitions from a High-Fat Diet to a Normal-Fat Diet before Pregnancy Deferentially Affect the Phenotypes of Offspring Obesity with a Sex-Dependent Manner. Experimental Biology 2016,San Diego, CA
3. Q. Fu, P. Olson, K. Zhang, **L. Xie.** A Short-Term Transition from a High-Fat Diet to a Normal-Fat Diet before Pregnancy Exacerbates Female Mouse Offspring Obesity. Experimental Biology 2016,San Diego, CA
4. **L. Xie,** Q. Fu, P. Olson, K. Zhang. A Short-Term Transition from a High-Fat Diet to a Normal-Fat Diet before Pregnancy Exacerbates Female Mouse Offspring Obesity. Young Chinese US-Scholar Symposium- The Annual Meeting of the Chinese Nutrition Association, Beijing, 2015
5. L. Zhou, J. Liu, P. Olson, K. Zhang, I.P. Moskowitz, **L. Xie** (2014). Gata4 regulates second heart field cell cycle progression for atrial septation, Weinstein Cardiovascular Development Conference, Madrid, Spain
6. **L. Xie**. Heart development: gene network study of Tbx5, Gata4 and Osr1 in atrial septation. School of Life Science and Technology, Huazhong University of Science and Technology, Wuhan, China, September 19, 2014.

7. **L. Xie**. Heart development: gene network study of Tbx5, Gata4 and Osr1 in atrial septation. Tumor subtype identification and personalized medicine by DNA copy number variations. Union Hospital, Tongji Medical College, Wuhan, China, September 18, 2014
8. **L. Xie**, A.D. Hoffmann, O. Burnicka-Turek, J.M. Friedland-Little, K. Zhang, I.P. Moskowitz (2012). A Tbx5-Hedgehog pathway is required in second heart field cardiac progenitors for atrial septation. Weinstein Cardiovascular Development Conference, Chicago, IL.
9. **L. Xie**, A.D. Hoffmann, J.M. Friedland-Little, K. Zhang, I.P. Moskowitz (2010). A novel role of Tbx5 in second heart field cardiac progenitors for atrial septation. Weinstein Cardiovascular Development Conference, Amsterdam, Netherland.

Abstract:
1. K. Zhang, D.H. Suner, **L. Xie.** Gene-network and familial analyses uncover a gene network involving Tbx5/Osr1/Pcsk6 interaction in the second heart field for atrial septation. Weinstein Cardiovascular Development Conference, Durham, NC, May, 2016
2. L. Zhou, J. Liu, P. Olson, K. Zhang, J. Wynne, I.P. Moskowitz, L. Xie. Gata4 potentiates second heart field proliferation and Hedgehog signaling for cardiac septation. Weinstein Cardiovascular Development Conference, Durham, NC, May, 2016
3. Q. Fu, Y. Zhou, H. Xu, P. Olson, **L. Xie.** Different Duration of Diet Transitions from a High-Fat Diet to a Normal-Fat Diet before Pregnancy Deferentially Affect the Phenotypes of Offspring Obesity with a Sex-Dependent Manner. Experimental Biology 2016,San Diego, CA
4. Q. Fu, P. Olson, K. Zhang, **L. Xie.** A Short-Term Transition from a High-Fat Diet to a Normal-Fat Diet before Pregnancy Exacerbates Female Mouse Offspring Obesity. Experimental Biology 2016,San Diego, CA
5. Q. Fu, H. Xu, Y. Zhou, P. Olson, K. Zhang, **L. Xie.** A long-term is required for maternal diet transition from a high-fat to a normal-fat diet before pregnancy to reverse the adverse effect of maternal high-fat diet on offspring obesity, The 2nd Texas A&M Nutrition Obesity Research Symposium, April 2016
6. Y. Zhou, Q. Fu, H. Xu, P. Olson, K. Zhang, **L. Xie.** A long-term is required for maternal diet transition from a high-fat to a normal-fat diet before pregnancy to prevent the offspring non-alcoholic fatty liver disease, The 2nd Texas A&M Nutrition Obesity Research Symposium, April 2016
7. **L. Xie,** Q. Fu, P. Olson, K. Zhang. A Short-Term Transition from a High-Fat Diet to a Normal-Fat Diet before Pregnancy Exacerbates Female Mouse Offspring Obesity. Young Chinese US-Scholar Symposium- The Annual Meeting of the Chinese Nutrition Association, Beijing, May, 2015
8. K.K. Zhang, M. Xiang, D.H. Suner, **L.Xie.** A gene network analysis and human genome-wide study identified novel genes for atrial septal defect. Weinstein Cardiovascular Development Conference, Boston, MA, May, 2015
9. Q. Fu, L. Zhou, P. Olson, J. O'Keefe, L. Xie. Interaction of Osr1 and Tbx5 is involved in the mouse limb and heart development, AHA-BCVS annual meeting, Las Vegas, July, 2014.
10. L. Zhou, J. Liu, P. Olson, K. Zhang, I.P. Moskowitz, **L. Xie.** Gata4 regulates second heart field cell cycle progression for atrial septation, Weinstein Cardiovascular Development Conference, Madrid, Spain, May, 2014
11. Y. Yang, L. Zhou, **L. Xie**, K. Zhang, Tbx5 interacts in molecular networks required for atrial septation, Weinstein Cardiovascular Development Conference, Madrid, Spain, May, 2014
12. L. Zhou, J. Liu, Y. Yang, D. Rasmussen, J. O'Keefe, P. Olson, K. Zhang, L. Xie. Tbx5 and osr1 interact in second heart field for atrial septation. Weinstein Cardiovascular Development Conference, Madrid, Spain, May, 2014
13. B. Keith, L. Zhou and **L. Xie.** *PPAR-gamma* is required in the myocardium for outflow tract development, San Diego, CA, April 2014
14. B. Keith, L. Zhou and **L. Xie.** Reversion from a high-fat diet to a prenatal normal diet could delay the incidence of insulin resistance induced by postnatal high fat diet in female offspring, San Diego, CA, April, 2014.

15. **L. Xie**, A.D. Hoffmann, O. Burnicka-Turek, J.M. Friedland-Little, K. Zhang, I.P. Moskowitz. A Tbx5-Hedgehog pathway is required in second heart field cardiac progenitors for atrial septation. Weinstein Cardiovascular Development Conference, Chicago, IL, May, 2013
16. **L. Xie**, A.D. Hoffmann, O. Burnicka-Turek, J.M. Friedland-Little, K. Zhang, I.P. Moskowitz. A Tbx5-Hedgehog pathway is required in second heart field cardiac progenitors for atrial septation. Weinstein Cardiovascular Development Conference, Chicago, IL, May, 2012

Funding:
Current Grant:
Source: American Heart Association (AHA Identification Number: 13SDG14650009)
Type: Scientific Development Grant
PI: Linglin Xie, MD, PhD
Dates: 1/1/2013-12/31/2016
Total Cost: **$**308,000

Source: NIH-NHLBI
Type: NIH Academic Research Enhancement Award (AREA) Grants - (R15)
PI: Linglin Xie, MD, PhD
Dates: 8/5/2013-7/31/2016
Total Cost: **$**394,128

Source: American Heart Association ((AHA Identification Number: 15GRNT25700195))
Type: Grant-in -Aid
PI: Ke Zhang, PhD
Role: Co-investigator (5% effort)
Dates: 7/1/2015-6/30/2017
Total Cost: **$**143,000

Completed Grant:
Source: UND
Type: Faculty Research Seed Money
PI: Linglin Xie, MD, Ph.D
Dates: 5/1/2013-4/30/2014
Total Direct Cost: $20,000