Curriculum Vitae

Liping Zhao
Eveleigh-Fenton Chair of Applied Microbiology,
Department of Biochemistry and Microbiology,
School of Environmental and Biological Sciences,
Rutgers, The State University of New Jersey,
New Brunswick, NJ 08540, USA

Education

1979-1983	B.S., Plant Protection, Shanxi Agricultural University, Taigu, China.
1983-1989	Ph.D., Molecular Plant Pathology, Nanjing Agricultural University, Nanjing, China.

Academic Appointments

1989-1993	Associate Director, Institute of Biotechnology, Shanxi Academy of Agricultural Sciences
1993-1995	Visiting Scholar, Department of Plant Pathology, Cornell University
1995-1997	Associate professor, Institute of Biotechnology, Shanxi University
1997-2001	Professor and Director, Institute of Biotechnology, Shanxi University
2000.4-.7	Visiting professor, Department of Civil Engineering, University of Southern Carolina
2001-2014	Professor of microbiology, School of Life Sciences and Biotechnology, SJTU
2003-2012	Associate Dean, School of Life Sciences and Biotechnology, SJTU
2005-2009	Executive Director, Shanghai Center for Systems Biomedicine at SJTU
2012.9-2013.4	Visiting Professor, Brigham Young University, Provo, Utah, USA
2014-2017	Distinguished Professor of Microbiology, School of Life Sciences and Biotechnology, SJTU
2017-	Eveleigh-Fenton Chair of Applied Microbiology, Department of Biochemistry and Microbiology, School of Environmental and Biological Sciences, Rutgers, The State University of New Jersey

Other Professional Appointments

1999-2001	Member, Committee for Grant Evaluation in Genetics, National Science Foundation (NSF) of China

2001-2003	Member, Committee for Grant Evaluation in Microbiology, NSF of China
2001-Pres.	*Ad-hoc* reviewer, grants evaluation of NSF of China, China Ministry of Science and Technology and Shanghai Commission of Science and Technology
2001-Pres.	Ad-hoc reviewer, grants evaluation of French ANR, Hong Kong Science Administration, U.S.-Israel Binational Science Foundation, & etc.
2006-2012	Board Member, International Society for Microbial Ecology (ISME)
2008-Pres.	Member, Steering Committee, International Human Microbiome Consortium (IHMC)
2013-2020	Senior Editor, The ISME Journal
2013-Pres.	Member, Editorial Board, FMES Microbiology Ecology
2014-2017	Member, Editorial Board, Scientific Report
2014-2017	Senior Editor, mSystems, American Society for Microbiology
2015-Pres.	Associate editor, Microbiome
2018-pres	Chair of the Big Idea Committee, International Human Microbiome Consortium (IHMC)

Honors & Awards

2009 Outstanding Scientist of Shanghai.
2011 SJTU Best Teacher of the Year, 2011.
2014-Elected Fellow, American Academy of Microbiology.
2016-Senior fellow of Canadian Institute of Advanced Research, CIFAR.
2018- Member of scientific advisory board, Center for Microbiome Research and Education, American Gastroenterological Associaiton (AGA)

Research Interests

- Developing molecular and genomic tools for systems understanding and predictive manipulation of the complex microbial communities in human and animal guts.
- Understanding interactions between diet and gut microbiota in onset and progression of chronic diseases such as obesity and diabetes.
- Formulating interventions integrating traditional Chinese medicine and medicinal foods into modern day diet to modulate the relationship between gut microbiota and humans for achieving preventive health care.

Publications in International Journals (* Corresponding author)

Fei, N., A. Bruneau, X. Zhang, R. Wang, J. Wang, S. Rabot, P. Gérard and **L. Zhao** (2020). "Endotoxin Producers Overgrowing in Human Gut Microbiota as the Causative Agents for Nonalcoholic Fatty Liver Disease." **mBio**

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Zhang, L., X. Xue, R. Zhai, X. Yang, H. Li, **L. Zhao** and C. Zhang (2019). "Timing of Calorie Restriction in Mice Impacts Host Metabolic Phenotype with Correlative Changes in Gut Microbiota." **mSystems** 4(6).

Zhang, M., J. Wang, G. Wu, H. Li and L. Zhao (2019). "Gastrointestinal Microbiology in the Normal Host."

T Liu, Y Wu, L Wang, X Pang, **L Zhao**, H Yuan, C Zhang, 2019, A More Robust Gut Microbiota in Calorie-Restricted Mice Is Associated with Attenuated Intestinal Injury Caused by the Chemotherapy Drug Cyclophosphamide, **MBio** 10 (2), e02903-18

T Chen, AB Liu, S Sun, NJ Ajami, MC Ross, H Wang, L Zhang, K Reuhl, **L Zhao*** et al. 2019, Green Tea Polyphenols Modify the Gut Microbiome in db/db Mice as Co-Abundance Groups Correlating with the Blood Glucose Lowering Effect, **Molecular nutrition & food research** 63 (8), 1801064

R Zhai, X Xue, L Zhang, X Yang, **L Zhao,** C Zhang, 2019, Strain-Specific Anti-inflammatory Properties of Two Akkermansia muciniphila Strains on Chronic Colitis in Mice, **Frontiers in Cellular and Infection Microbiology** 9, 239

L Deng, R Wang, H Li, C Zhang, **L Zhao,** M Zhang, 2019, miRNA-Gene Regulatory Network in Gnotobiotic Mice Stimulated by Dysbiotic Gut Microbiota Transplanted From a Genetically Obese Child, **Frontiers in microbiology** 10

Chen, Q., G. Wu, H. Chen, H. Li, S. Li, C. Zhang, X. Pang, L. Wang, **L. Zhao** and J. Shen (2019). "Quantification of Human Oral and Fecal Streptococcus parasanguinis by Use of Quantitative Real-Time PCR Targeting the groEL Gene." **Frontiers in Microbiology** 10: 2910.

Deng, L., R. Wang, H. Li, C. Zhang, L. Zhao and M. Zhang (2019). "MiRNA-gene regulatory network in gnotobiotic mice stimulated by dysbiotic gut microbiota transplanted from a genetically obese child." Frontiers in microbiology 10: 1517.

Liu, S., **L. Zhao,** L. Wang and H. Liu (2019). "Microstructure-modified products from stone-milled wheat bran powder improve glycemic response and sustain colonic fermentation." **International journal of biological macromolecules.**

H Xia, C Liu, CC Li, M Fu, S Takahashi, KQ Hu, K Aizawa, S Hiroyuki, **L. Zhao, e**t al. 2018, Dietary Tomato Powder Inhibits High-Fat Diet–Promoted Hepatocellular Carcinoma with Alteration of Gut Microbiota in Mice Lacking Carotenoid Cleavage Enzymes, **Cancer Prevention Research** 11 (12), 797-810

YY Lam, C Zhang, **L Zhao*,** 2018, Causality in dietary interventions—Building a case for gut microbiota, **Genome medicine** 10 (1), 62

F Pan, L Zhang, M Li, Y Hu, B Zeng, H Yuan, **L Zhao,** C Zhang, 2018, Predominant gut Lactobacillus murinus strain mediates anti-inflammaging effects in calorie-restricted mice, **Microbiome** 6 (1), 54

R Wang, H Li, X Yang, X Xue, L Deng, J Shen, M Zhang, **L Zhao,** C Zhang, 2018, Genetically obese human gut microbiota induces liver steatosis in germ-free mice fed on normal diet, **Frontiers in microbiology** 9, 1602

X Tong, J Xu, F Lian, X Yu, Y Zhao, L Xu, M Zhang, X Zhao, J Shen, S Wu, **L Zhao*,** 2018, Structural alteration of gut microbiota during the amelioration of human type 2 diabetes with hyperlipidemia by metformin and a traditional chinese herbal formula, **MBio** 9 (3), e02392-17

N Qin, X Dong, L Zhao, **2018,** Microbiome: from community metabolism to host diseases, **Science China Life Sciences** 61 (7), 741-743

M Li, Y Wu, Y Hu, L Zhao, C Zhang, 2018, Initial gut microbiota structure affects sensitivity to DSS-induced colitis in a mouse model, **Science China Life Sciences** 61 (7), 762-769

Zhao L.*, Feng Zhang1†, Xiaoying Ding2†, Guojun Wu1†, Yan Y. Lam3†, Xuejiao Wang2, Huaqing Fu1, Xinhe Xue1, Chunhua Lu4, Jilin Ma4, Lihua Yu4, Chengmei Xu4, Zhongying Ren4, Ying Xu5, Songmei Xu5, Hongli Shen5, Xiuli Zhu5, Yu Shi6, Qingyun Shen6, Weiping Dong2, Rui Liu1, Yunxia Ling2, Yue Zeng7, Xingpeng Wang7, Qianpeng Zhang1, Jing Wang1, Linghua Wang1, Yanqiu Wu1, Benhua Zeng8, Hong Wei8, Menghui Zhang1, Yongde Peng*, Chenhong Zhang* (2018) Gut bacteria selectively promoted by dietary fibers alleviate type 2 diabetes **Science** 09 Mar 2018: Vol. 359, Issue 6380, pp. 1151-1156 DOI: 10.1126/science.aao5774

Costea, Paul I, Falk Hildebrand, Arumugam Manimozhiyan, Fredrik Bäckhed, Martin J Blaser, Frederic D Bushman, Willem M De Vos, S Dusko Ehrlich, Claire M Fraser, Masahira Hattori, Curtis Huttenhower, Ian B Jeffery, Dan Knights, James D Lewis, Ruth E Ley, Howard Ochman, Paul W O'Toole, Christopher Quince, David A Relman, Fergus Shanahan, Shinichi Sunagawa, Jun Wang, George M Weinstock, Gary D Wu, Georg Zeller, **L. Zhao,** Jeroen Raes, Rob Knight, Peer Bork (2018). "Enterotypes in the landscape of gut microbial community composition." **Nature Microbiology** 3(1): 8.

Costea, Paul I, Georg Zeller, Shinichi Sunagawa, Eric Pelletier, Adriana Alberti, Florence Levenez, Melanie Tramontano, Marja Driessen, Rajna Hercog, Ferris-Elias Jung, Jens Roat Kultima, Matthew R Hayward, Luis Pedro Coelho, Emma Allen-Vercoe, Laurie Bertrand, Michael Blaut, Jillian RM Brown, Thomas Carton, Stéphanie Cools-Portier, Michelle Daigneault, Muriel Derrien, Anne Druesne, Willem M De Vos, B Brett Finlay, Harry J Flint, Francisco Guarner, Masahira Hattori, Hans Heilig, Ruth Ann Luna, Johan van Hylckama Vlieg, Jana Junick, Ingeborg Klymiuk, Philippe Langella, Emmanuelle Le Chatelier, Volker Mai, Chaysavanh Manichanh, Jennifer C Martin, Clémentine Mery, Hidetoshi Morita, Paul W O'Toole, Céline Orvain, Kiran Raosaheb Patil, John Penders, Søren Persson, Nicolas Pons, Milena Popova, Anne Salonen, Delphine Saulnier, Karen P Scott, Bhagirath Singh, Kathleen Slezak, Patrick Veiga, James Versalovic, **L. Zhao**, Erwin G Zoetendal, S Dusko Ehrlich, Joel Dore, Peer Bork (2017). "Towards standards for human fecal sample processing in metagenomic studies." **Nature Biotechnology** 35(11): 1069.

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Yan, H., N. Fei, G. Wu, C. Zhang, **L. Zhao,** and M. Zhang. 2016. 'Regulated Inflammation and Lipid Metabolism in Colon mRNA Expressions of Obese Germfree Mice Responding to Enterobacter cloacae B29 Combined with the High Fat Diet', **Front Microbiol,** 7: 1786.

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Wang J., Tang H., Zhang C., Zhao Y., Derrien M., Rocher E., van-Hylckama Vlieg J.E., Strissel K., **Zhao L.**, Obin M., and Shen* J. Modulation of gut microbiota during probiotic-mediated attenuation of metabolic syndrome in high fat diet-fed mice. ***ISME J*** 2015, **9**(1):1-15.

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Xue Z., Zhang W., Wang L., Hou R., Zhang M., Fei L., Zhang X., Huang H., Bridgewater L. C., Jiang Y., Jiang C., **Zhao L.**, Pang* X. and Zhang* Z. The bamboo-eating giant panda harbors a carnivore-like gut microbiota, with excessive seasonal variations. ***MBio*** 2015, **6**(3): e00022-15.

Zhang J., Guo Z., Xue Z., Sun Z., Zhang M., Wang L., Wang G., Wang F., Xu J., Cao H., Xu H., Lv Q., Zhong Z., Chen Y., Qimuge S., Menghe B., Zheng Y., **Zhao* L.,** Chen* W. and Zhang* H. A phylo-functional core of gut microbiota in healthy young Chinese cohorts across lifestyles, geography and ethnicities. ***ISME J*** 2015, **9**(9): 1979-90.

Zhang X., Zhao Y., Xu J., Xue Z., Zhang M., Pang X., Zhang X. and **Zhao* L.** Modulation of gut microbiota by berberine and metformin during the treatment of high-fat diet-induced obesity in rats. ***Sci Rep*** 2015, **5**:14405.

Zhang-Sun W., Augusto L. A., **Zhao* L.** and Caroff* M. Desulfovibrio desulfuricans isolates from the gut of a single individual: structural and biological lipid A characterization. ***FEBS Lett*** 2015, **589**(1): 165-71.

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Yan X., Xu Z., Feng X., Liu Y., Liu B, Zhang X., Zhu C. and **Zhao* L.** Cloning of Environmental Genomic Fragments as Physical Markers for monitoring Microbial populations in Coking Wastewater Treatment System. ***Microbial Ecology*** 2007, **53**(1): 163-72.

Shen J., Zhang B., Wei G., Pang X., Wei H., Li M., Zhang Y., Jia W. and **Zhao* L**. Molecular profiling of the Clostridium leptum subgroup in human fecal microflora by PCR-denaturing gradient gel electrophoresis and clone library analysis. ***Appl Environ Microbiol*** 2006, **72**(8): 5232-8.

Xiang H., Wei G.F., Jia S., Huang J., Miao X.X., Zhou Z., **Zhao L.** and Huang* Y.P. Microbial communities in the larval midgut of laboratory and field populations of cotton bollworm (Helicoverpa armigera). ***Can J Microbiol*** 2006, **52**(11): 1085-92.

Liu B., Zhang F., Feng X., Liu Y., Yan X., Zhang X., Wang L. and **Zhao L.** *Thauera* and *Azoarcus* as Functionally Important Genera in a Denitrifying Quinoline Removal Bioreactor as Revealed by Microbial Community Structure Comparison. ***FEMS Microbiology Ecology*** 2006, **55** (2): 274-86.

Cao Y., Wang L., Xu K., Kou C., Zhang Y., Wei G., He J., Wang Y. and **Zhao* L.** Information theory-based algorithm for in silico prediction of PCR products with whole genomic sequences as templates. ***BMC Bioinformatics*** 2005, 26 (6):190.

Pang X., Ding D., Wei G., Zhang M., Wang L. and **Zhao* L.** Molecular profiling of Bacteroides spp. in human feces by PCR-temperature gradient gel electrophoresis. ***J Microbiol Methods*** 2005, **61**(3): 413-7.

Zhang X., Yan X., Gao P., Wang L., Zhou Z. and **Zhao* L.** Optimized sequence retrieval from single bands of temperature gradient gel electrophoresis profiles of the amplified 16S rDNA fragments from an activated sludge system. ***J Microbiol Methods*** 2005, **60**(1): 1-11.

Zhao Y., Li W., Zhou Z., Wang L., Pan Y., **Zhao* L.** Dynamics of Microbial Community Structure and Cellulolytic Activity in Agricultural Soil Amended with two Biofertilizers. ***European Journal of Soil Biology*** 2005, **41**(1-2):21-9.

Zhang X., Gao P., Chao Q., Wang L., Senior E., and **Zhao* L.** Microdiversity of phenol- hydroxylase genes among phenol-degrading isolates of *Alcaligenes* sp. from an activated sludge system. ***FEMS Microbiol Lett*** 2004, **237**:369-75.

Wei G., Pan L., Du H., Chen J. and **Zhao* L.** ERIC-PCR fingerprinting-based community DNA hybridization to pinpoint genome-specific fragments as molecular markers to identify and track populations common to healthy human guts. ***J Microbiol Methods*** 2004, **59**(1): 91-108

Bogdanove A. J., Wei Z. M., **Zhao L.** and Beer* S. V. (1996) Erwinia amylovora secretes harpin via a type III pathway and contains a homolog of yopN of Yersinia spp. ***J Bacteriol*** **178**(6): 1720-30.

Publications: Book Chapters & Books

Zhao* L., Shen J. Functional Metagenomics and Systems Biology: understanding the human organismal complexity in disease and health. 2011. ***In Metagenomics: Current Innovations and Future Trends***, D. Marco, ed. (Horizon Scientific Press) (Book chapter)

Patents:

1， Molecular ecological monitoring method for parallel comparison of microbial community structure, CN1390951

2， The application and its production method of a Bacillus preparation, CN1103369C

3， Method for analyzing microbial community structure by using fluorescent labeling enzyme restricted gene fragment, CN101565750

4， Methods for detecting therapeutic effects of anti-cancer drugs by monitoring changes of gut flora (US patent 8097417 B2)

5， The method for constructing gnotobiotic animal model of obesity and its application, CN201210280927.6

6，Full nutrient composition and its application for balancing intestinal flora structure and improving metabolic syndrome, CN201210489456.X

7, Obesity animal model and methods for making and using thereof, US Patent App. 10/130,080

8, Methods and compositions for improving gut microbiota population US Patent App. 10/285,984

9, Determination of microorganism operational taxonomic unit and sequence-assisted separation US Patent App. 16/193,768

10, Bifidobacteria as probiotic foundation species of gut microbiota, US Patent App. 15/738,122

Seminars & Lectures

Keynote and Plenary Presentations

2019	Keystone Symposium Microbiome: Therapeutic Implications, Killarney, Irland, October 6-10, 2019
2018.	Keystone Symposium Manipulation of the Gut Microbiota for metabolic Health, Banff, Canada, March 4-8, 2018
2017	International Union of Microbiological Societies IUMS Congress 2017, July 17-21, 2017, Singapore. Opening Keynote Speaker
2017	Animal-Microbe Symbioses, Gordon Research Conference Host-Microbe Associations at the Foundation of the Biosphere, June 11-16, 2017. Mount Snow, West Dover, VT, USA. Closing Keynote Speaker
2015	Targeting Microbiota 2015, October 22, Paris, The gut microbiota & obesity: from correlation to causality. Keynote speaker.
2014	Symposium on Model Systems to Understand Microbiota-host Interactions, Biophysical Sciences Institute/BBSRC China-UK Partnership meeting, Durham, UK, April 23-24. Gut microbiota and human obesity: from correlation to causality. Keynote speaker.
2014	Symposium on The Gut, Its Microbes and Health: New Knowledge and Applications in Asia, Orchard Hotel, Singapore, October 8-9. Basic concepts on the gut microbiota's role in human health. Keynote speaker.
2014	11th Nestlé International Nutrition Symposium Nutrition and the Human Gut Microbiome, Nestlé Research Center, Lausanne, October 22-24. Interactions between gut microbiota, host genetics and diet. Invited speaker.
2013	IBD11 meeting, November 14-16, Prague, Hungary. The perfect microbiome. Keynote speaker.
2013	4th International Human Microbiome Conference, Hangzhou, China, March. Can we follow Koch's postulates for hunting down human obesity bugs in gut microbiota? Plenary talk.
2012	21th Yakult Symposium intestinal Flora Intestinal Microbiota and Ecology –Diet, Nutrition and Environmental Factors, Tokyo, Japan, November 2. Gut microbiota and metabolic diseases-from correlation to causation. Opening keynote speaker.

2012	4th ASM Conference on Beneficial Microbes, San Antonio, Texas, October 22-23. Microbiome-wide association studies for hunting down the obesity bugs. Opening keynote speaker.
2012	14th International Symposium for Microbial Ecology, Copenhagen, Denmark, August. Microbiome-wide association studies for hunting down the obesity bugs. Plenary Talk.
2012	5thSymposium on Self-Monitoring of Blood Glucose (SMBG) Applications and Beyond, Dublin, Ireland, May 3-5. Good bugs or bad bugs? The role of the gut microbial ecosystem in obesity and diabetes. Keynote speaker.
2011	111th annual meeting of American Society for Microbiology, New Orleans, May. Re-engineering of gut microbiota based on traditional Chinese medicinal foods for early prevention of metabolic diseases. Plenary talk.
2011	2nd International Human Microbiome Conference, Vanvouver, Canada, March. Health assessment and monitoring with gut microbiota as a primary target. Plenary talk.
2010	Diabetes Technology Meeting, Bethesda, Maryland, November. Gut microbiota-based biomarker discovery for prevention of metabolic diseases. Plenary talk.

Invited Presentations

2017	Joint ICGEB-ICTP-APCTP Workshop on Systems Biology and Molecular Economy of Microbial Communities 3 - 7 July 2017 Trieste, Italy. Invited speaker
2017	Nature Conference on Environmental and Human Microbiomes: Drivers of Future Sustainability 12-15 February 2017, Singapore, Invited presentation
2016	2016 World Life Science Conference November 1-3, 2016 in Beijing, China. Chair and Keynote speaker
2016	The 13th International Symposium on the Genetics of Industrial Microorganisms (GIM2016), 16–20, October 2016 Wuhan, P. R. China, Keynote presentation
2016	Advances in Biotechnology for Food and Medical Applications Workshop". 5-7th, October 2016, Sydney, Invited speaker
2016	The Cold Spring Harbor Asia conference on Microbiology and the Environment, September 26-30, 2016 Suzhou, China, Invited speaker
2016	2016 International Conference of Physiological Sciences 90th Anniversary of

	CAPS——The Logic of Life September 25-28, 2016, Beijing, China, Invited speaker
2016	The 6th U.S.-China Health Summit at the Shaanxi Guesthouse Sept. 2-4, 2016. in Xi'an, China, Invited speaker
2016	Distinguished lecture series speaker, National Cheng Kung University, Taiwan, July 15, 2016
2016	"The Barcelona Debates on the Human Microbiome. From Microbes to Medicines" to be held on June, 30th and July 1st, 2016, in Barcelona, Spain. Invited speaker
2016	Frontiers in Human Microbiota Symbiotic Interactions It will be held in Hong Kong, on May 23rd- 25th, 2016. Invited speaker.
2016	The 4th Annual meeting of the Asian Organization for Crohn's and Colitis, Go on to the next step, from Asia to the world, May 20th, 2016, Invited speaker,
2016	Integrative physiology: at the crossroad of nutrition, growth, metabolism and microbiota, April 25-30, Fondation des Treilles
2016	The 1st International Meeting on Intestinal Diseases in Conjunction with the Annual Congress of KASID (IMKASID 2016) to be held in Seoul, Korea from April 15-16, 2016. Invited speaker
2016	CIFAR Humans & the Microbiome Program Meeting Musée du quai Branly (37 Quai Branly, 75007 Paris) Paris, France, April 10-13, 2016, Invited speaker
2016	Better Foods for Better Health Microbiota Health: The challenge of a promising approach to be held from April 6-8th 2016 at "Les Pensières" Conference Center in Veyrier du Lac, France, Invited speaker
2016	Gut microbiota in health and disease –from concept to evidence Date; 17th March 2016, Royal Swedish Academy of Science, Stockholm, Sweden. Invited speaker
2016	2nd Microbiome R&D and Business Collaboration Congress: Asia. 29 February-1 March 2016 in Kuala Lumpur, Malaysia. Invited speaker

2015	Keystone Symposium on Gut Microbiota Modulation of Host Physiology: The Search for Mechanism (C1), Keystone, Colorado, USA, March, 1-6, 2015. Dysbiosis of Gut Microbiota as a Checkpoint for Obesity Development. Invited speaker.
2015	International Digestive Disease Forum 2015, Hong Kong, June 5-7, Microbiotia in Digestive Health. Invited speaker.
2015	EMBL Conference: The Human Microbiome, Heidelberg, Germany, June 10-12, 2015. Gut microbiota-targeted alleviation of genetic obesity. Invited speaker.
2015	Gordon Research Conferences-Environmental Microbiology, Mount Holyoke College, July 12-17, 2015. Interactions between gut microbiome and host during diabetes development. Invited Speaker.
2015	Human Nutrition, Environment and Health (T1), Beijing, October 14-16, 2015 Dietary Modulation of Gut Microbiota for Obesity Management: From Association to Causation to Translation. Invited Speaker.
2015	IBD: East Meets West, Shenzhen, September 11-12, 2015. Microbiota and metabolic health. Invited speaker.
2015	International Society for Nutraceuticals and Functional Foods (ISNFF), Wuxi, China, September 20-23, 2015. Modulation of gut microbiome to improve human metabolic health. Invited speaker.
2015	Keystone symposium Human Nutrition, Environment and Health (T1), Beijing, October 14-16, 2015. Dietary Modulation of Gut Microbiota for Obesity Management: From Association to Causation to Translation. Invited speaker.
2015	6th International Conference on Food Factors (ICoFF 2015), Seoul, Novenmber 22-25, 2015. Interactions between nutrition and gut microbiome contribute to human metabolic phenome. Invited speaker.
2014	Symposium on The Gut, Its Microbes and Health: New Knowledge and Applications in Asia, Orchard Hotel, Singapore, October 8-9, 2014. Gut microbiota in the development of metabolic diseases. Invited speaker.

2014 9th Metabolic Syndrome, Type 2 Diabetes and Atherosclerosis Congress, Kyoto, Japan, September 12-14, 2014. The role of gut microbiota in metabolic diseases-a top-down systems approach. Invited speaker.

2014 Keystone Symposium on Exploiting and Understanding Chemical Biotransformations in the Human Microbiome (D1), Big Sky Resort, Big Sky, Montana, April 1-6. 2014. Can We Follow Koch's Postulates for Hunting Down Human Obesity Bugs in Gut Microbiota? Invited speaker.

2013 21st Annual Faculty of Medicine Symposium, The Faculty of Medicine, University of Calgary, Calgary, Canada, May 10, 2013. Characterizing the causative role of gut microbiota in human metabolic diseases. Invited Speaker.

2011 The 6th International Yakult Symposium on The Gut and Its Role in Health Maintenance, Arcotel Wimberger, Vienna, Austria, May 26th-27th, 2011. Eco-systems biology of gut microbiota for understanding health maintenance. Invited speaker.

2010 Symposium on Better Foods for Human Health: Challenges & Solutions (Interfacing Science, Regulation and Industry) Organized by Fondation Mérieux, Veyrier du Lac - France, September 7-9, 2010. Dietary Modulation of Gut Microbiota for Preventive Management of the Metabolic Syndrome. Invited speaker.

Major Research Grants-PI (Current)

Grant title (Grant ID) [Funding Agency Grant Amount]

New Jersey Institute for Food, Nutrition and Health Seed Grant. (PI Lam/Policastro/Zhao)
10/1/2019-9/30/2022
Targeting the foundation guild of gut microbiota for remission of type 2 diabetes
Co-PI

Major Research Grants-PI (Previous)

Grant title (Grant ID) [Funding Agency ￥Grant Amount]

2015-2017	Dietary intervention of dysbiotic gut microbiota-induced metabolic syndrome (renewed from 12H100000023) [Perfect China Co. ￥30000k]
2014-2018	Ecological interactions between diet and gut microbiota in development of metabolic syndrome (31330005) [National Science Foundation of China ￥3010k]
2012-2015	Dietary intervention of dysbiotic gut microbiota-induced metabolic syndrome (12H100000023) [Perfect China Co. ￥30000k]

2012-2015	Translational medicine of zheng-based patient stratification in traditional Chinese medicine (2012ZX10005001) [Ministry of Science and Technology of China ￥120k]
2011-2015	International human microbiome standards (H1009952) [EU IHMS 7th Framework 60027Euro]
2009-2010	Metagenomics of chronic diseases in Xinjiang autonomous region [Xinjiang Medical University ￥530k]
2010-2012	Probiotic bacteria in inflammation-related metabolic syndrome in mice model [Danon ￥150k]
2012-2013	454 pyrosequencing-based analysis of gut microbiota samples [East China Hospital ￥ 10k]
2009-2010	Systems understanding of Zheng-based patient stratification in liver viral infection (2009ZX10004-601) [Ministry of Science and Technology of China ￥157.5k]
2009-2011	Dietary impact on gut microbiota and metabolic health in Chinese populations (09XD1402600) [Shanghai Commission of Science and Technology ￥40k]
2009-2010	Colon irrigation with Chinese herbal medicine for inflammatory bowl diseases [Nanjing Hospital of Traditional Chinese Medicine ￥30k]
2009-2010	In vitro fermentation evaluation of functional ingredients on modulating microbiota [Coco-Cola Co ￥1020k]
2008	Metagenomics of giant panda gut microbiota [Chengdu Giant Panda Reserve Base ￥ 500k]
2008-2011	Structural dynamics and functional dissection of gut microbiota-the diabetes model (30730005) [National Science Foundation of China ￥1650k]
2007－2009	Impact of variations in diet and gut microbiota on human metabolic health (75407001) [Shanghai Commission of Science and Technology ￥1800k]
2007-2009	Impact of Western diet on metabolic health of Chinese people (2007DFC30450) [Ministry of Science and Technology of China ￥2200k]
2007-2010	Internationalization of traditional Chinese medicine via systems biology (2006BAI11B08) [Ministry of Science and Technology of China ￥1100k]
2006-2008	Human flora-associated minipigs as animal model for functional food research [Nestle Company ￥700k]
2006-2007	Metabolomics and metagenomics of human oral microbiota [Liangmianzhen Toothpaste Co. ￥150k]
2006-2007	Metagenomics of oral microbiota in health and disease [P&G Co. ￥150k]
2005-2007	Metabolomics and metagenomics of major cancers in Shanghai (05DJ14009) [Shanghai Commission of Science and Technology ￥1000k]

Major Research Grants-co-I (Current)

Grant title (Grant ID) [Funding Agency Grant Amount]

National Institutes of Health (R01AT010242; PI Roopchand) 9/24/2018-8/1/2022
Proanthocyanidin metabolites produced by commensal gut microbes may promote metabolic resilience
Role: Co-Investigator

National Multiple Sclerosis Society (RG-1901-33077; PI Ito) 4/1/2019 – 3/31/2022
Gut dysbiosis-mediated central nervous system (CNS) autoimmunity
Role: Co-Investigator

Rutgers University Busch Biomedical Grant Program. (PI Lam) 9/1/2019-8/31/2021
Characterizing a foundation guild of fiber-utilizing bacteria in the human gut microbiota
Role: Co-Investigator

Major Research Grants-co-PI (Previous)

Grant title (Grant ID) [Funding Agency ￥Grant Amount]

2015-2017	Alleviation of inflammation and calorie restriction-induced modulation of gut microbiota (81401141) [National Science Foundation of China ￥250k]
2014	Mechanistic study on anti-ageing effects of calorie restriction-induced modulation of gut microbiota [Shanghai Jiao Tong University ￥100k]
2012-2014	Catch-up growth of low-birth weight infants on gut microbiota and development of metabolic syndrome (81100632) [National Science Foundation of China ￥230k]
2012	Modulation of gut microbiota by rye-based food produtcs [Shanxi Yuncheng College ￥30k]
2012-2013	The role of gut microbiota in Children's inflammatory bowel diseases (YG2011MS61) [Shanghai Jiao Tong University ￥30k]
2010-2012	Metagenomics of oral microbiota in patients with periodontitis [Shanghai Jiao Tong University ￥80k]
2013-2014	Data-mining of 454 pyrosequencing datasets of healthy Chinese populations [Inner Mongolia Agricultural Uinversity ￥100k]
2009-2011	Case-control studies of gut microbiota of diabetes pateints (30800155) [National Science Foundation of China ￥190k]
2009-2011	Multi-omics methods for data-mining in newly diagnosed diabetes (20875061) [National Science Foundation of China ￥300k]
2009-2011	Data acquisition and mining for metagenomics based on next generation sequencing (2009AA02Z310) [Ministry of Science and Technology of China ￥1610k]
2008-2009	Microarrays for gut microbiota analysis (75407064) [Shanghai Commission of Science

and Technology ￥150k]

2007-2010 Computational integration of metagenomics and metabolomics datasets in human metabolic diseases (2008AA02Z315) [Ministry of Science and Technology of China ￥2680k]

2007-2011 Structural diversity and functional genes of human gut microbiota (2007CB513002) Ministry of Science and Technology of China ￥1830k]

2007-2010 Development of monitoring technology for mixed culture fermentation (2007AA02Z203) [Ministry of Science and Technology of China ￥400k]

Mentorship (Ph.D. Students)

Ph.D. graduates: name, dissertation title, current position

2015 **Zhengsheng Xue**, Diversity profile and phylo-functional core of the mammalian gut microbiota with healthy human and giant panda as models, Product manager, Shanghai Personal Biotechnology Co., Ltd., China

2014 **Wu Li**, Construction and immunogenicity assessment of a recombinant adenovirus co-expressing immunodominant antigens of CFP10, ESAT6, Ag85A and Ag85B of Mycobacterium tuberculosis, Associated Professor, School of Life Science, Ningxia University, China

Jingjing Wang, Studies on effects of various nutrition factors on gut microbiota changes and metabolic syndrome in mouse model, Research Scientist, Shanghai general hospital, China

2013 **Na Fei**, *The role of Enterobacter cloacea in the development of human metabolic syndrome*, Postdoctoral Researcher, National Institute for Research in Agriculture (INRA), France.

Xu Zhang, *Modulating effects of berberine on gut microbiota in rats and their role in berberine mediated prevention and treatment of high fat diet induced metabolic diseases*, Postdoctoral Fellow, Ottawa Institute of Systems Biology, University of Ottawa, Canada.

Shuiming Xiao, *A gut microbiota-targeted dietary intervention for metabolic syndrome: clinical trial and physiological ecological mechanisms*, Staff Scientist, Institute of Chinese Medicines, Chinese Academy of Traditional Chinese Medicine, Beijing, China.

2012 **Tingting Wang**, *The interactions between structural shifts of gut microbiota and development of colonrectal cancer*, Assistant Professor , Qingdao Institute of Biomass Energy and Bioprocess Technology (QIBEBT), Chinese Academy of Sciences, Qing Dao, China.

2011	**Chenhong Zhang**, *Gut microbiota and development of the metabolic syndrome in mouse model*, Assistant Professor, School of Life Sciences and Biotechnology, Shanghai Jiao Tong University, Shanghai, China.
	Jing Zhu, *Studies on interactions between enterotoxigenic Escherichia coli intestinal epithelial cells and lactic acid bacteria*, Wiley Publishing Shanghai Office, Shanghai, China.
	Hongyan Ren, *Molecular microbial ecology study of oil reservoir and simulated oil degrading system*, Senior Scientist, Shanghai Major Biotechnology Co., Shanghai, China.
2009	**Yuejian Mao**, *Structural and Functional Analysis of Thauera Genus in Wastewater Treatment Plants*, Scientist & Culture Development Group Manager, DuPont Nutrition & Health, Shanghai, China.
	Min Li, *Co-variation analysis of human gut microbial structure and host global metabolism*, postdoctoral scientist, Johnson & Johnson R&D, U.S.A.
2008	**Hua Wei**, *Studies of the structural changes of gut microbiota in response to various perturbations*, Assistant Professor, Medical School of Ningbo University, Ningbo, China.
	Jian Shen, *Modulating effects of Fructo-oligosaccharides on Gut Microbiota and Host metabolism in Human Flora-Associated Piglet Model*, Associate Professor, Shanghai Center for Systems Biomedicine, Shanghai Jiao Tong University, Shanghai, China.
2007	**Meiling Zhang**, *Understanding the relationship between intestinal bacterial community and two kinds of gut diseases*, Associate Professor, School of Life Science, East China Normal University, Shanghai, China.
	Xing Yan, *System trajectory analysis for spatial community succession and its application in A^2/O fixed biofilm process for coking wastewater treatment*, Staff Scientist, Institute of Plant Physiology and Ecology, Chinese Academy of Sciences, Shanghai, China.
2006	**Binbin Liu**, *Identification of dominant functional members in efficient wastewater treatment bioreactors*, Research Scientist, Norwegian University of Life Sciences, Ås, Norway.
2005	**Xiaoyan Pang**, *Establishment and molecular ecology study of human flora-associated experimental piglet*, Associate Professor at School of Life Sciences and Biotechnology, Shanghai Jiao Tong University, Shanghai, China.
	Guifang Wei, *Molecular approach based analysis of microbial community structure in gastrointestinal tracts*, Senior Scientist, Shanghai R& D Center of Coco-Cola Co., Shanghai, China.
	Xueli Zhang, *Microbial ecology of bioreactors for coking wastewater treatment*,

Professor, Tianjin Institute of Industrial Biotechnology, Chinese Academy of Sciences, Tianjin, China.

Mentorship (M.S. Students)

M.S. graduates: name, thesis title

2015 **Huan Wu**, *Microdiversity of Lactic Acid Bacteria Enriched by Dietary Intervention in the Gut of a Child with Prader-Willi Syndrome*.

2014 **Xinxin He**, *In vitro modulating effects of bitter melon perparations on structure and metabolism of human gut microbiota*.

2013 **Huang Tang**, *Association between gut microbiota and metabolic syndrome induced by imbalanced early-life nutrition*.

2012 **Lifeng Sun**, *The establishment and application of methods for toxicity detection of human fecal water*.

2011 **Jiaqi Liu,** *Understanding the structural shifts of gut microbiota in patients with chronic viral hepatitis B by 454 pyrosequencing*.

2010 **Huihui Zhong**, *Microbial community structure and function in a lab-scale denitrifying quinoline-degrading bioreactor*.

2009 **Siqing Yue**, *Study on diversity of aromatic compound degrading bacteria and isolation*.

Jun Yuan, *Case-control study of the intestinal bacterial community structure between new onset diabetic and healthy people*.

2008 **Xuan Hong**, *Study on heterocyclic aromatic hydrocarbon degrading bacteria and method of cloning degrading genes*.

Liguo Sun, *Analysis of the Diversity of Lactic Acid Bacteria (LAB) in ICR Mouse Intestine and Preliminary Study of the Relationship Between the LAB Composition with Diabetes*.

2007 **Qinli Zhao**, *Structural shifts in gut microbiota of rats in response to bile duct ligation*.

Jing Zhang, *Study on molecular ecology of microbe related with gellulose decomposition in straw-amended soil*.

Lingjun Xu, *Intestinal Microflora Analysis for Type 1 Diabetic Murine*.

2006 **Yulei Zhang**, *Quantitative analysis of the biology sequences based on their frequency profiles*.

Wu Li, *The use of DNA fingerprinting methods and clone library analysis in the quality control of microecological preparation*.

2005 **Shunzi Xiong**, *The isolation and analysis of the phenol-degrading bacteria in the* *coking wastewater and pilot study of the phenol hydroxylase gene*.

Wei Hong, *Molecular analysis of microbial community in human dental plaque and evaluation the effect of prebiotic on intestinal Bifidobacterium by Quantitative PCR*.

Haifeng Lu, *Community DNA Fingerprinting Analysis for Intestinal Microflora of Giant Panda and Effect Evaluation of Prebiotic on Bacteroides population in Piglet gut flora by Real-time PCR*.

2004 **Yongyan Sun**, *Research on detection of beer-spoilage microorganisms using RAPD-PCR*.

Quan Shen, *Construction of biocontrol agent constitutively expressing happin via type Ⅱ secretion pathway*.

Liang Li, *Comparative analysis of microbial community structure in coking wastewater*.

2003 **Meiling Zhang**, *Molecular analysis of the intestinal microflora in rotavirus-infected children*.

Jinyan Liu, *The microbiology study of intestinal microflora of middle-distance racers*.

2002 **Linghua Wang**, *Study of molecular ecological methods for monitoring novel phenol degrading bacteria Arthrobacter nicotianae P1-7 and Klebsiella sp.P8-14*.

Guifang Wei, *Identification and secretion of harpin from Erwinia amylovora by the type III secretion machines of Erwinia carotovora*.

Lei Sun, *Study on molecular ecology of gut microbiota of piglet*.

Li Pan, *Study on molecular ecology of gut microbiota in diarrhea children*.

Binbin Liu, *Dynamic monitoring of oxidizing Bacteria community in coking wastewater using amoA gene as the molecular marker*.

Teaching

Know Your Microbiome, specialty topic course, established and taught the course in 2018, Co-taught this course in 2019 at Rutgers University.

Gave a few guest lectures in various other courses.

2009-2012: Vice dean for teaching, School of Life Sciences and Biotechnology, SJTU.

Courses taught:

Undergraduate courses:

1. Introductory Microbiology (lectures given in English, Brock Biology of Microorganisms as textbook)

2002-03, Fall semester, 2.5 credits, 121 students
2003-04, Fall semester, 2.5 credits, 110 students
2004-05, Fall semester, 2.5 credits, 96 students
2005-06, Spring semester, 2.5 credits, 78 students
2006-07, Spring semester, 2.5 credits, 68 students
2007-08, Fall semester, 2.5 credits, 62 students
2008-09, Fall semester, 2.5 credits, 61 students
2009-10, Fall semester, 2.5 credits, 59 students
2010-11, Fall semester, 2.5 credits, 59 students
2011-12, Spring semester, 2.5 credits, 86 students
2012-13, Spring semester, 2.5 credits, 58 students
2013-14, Spring semester, 2.5 credits, 73 students
2014-15, Spring semester, 2.5 credits, 39 students

2. Computational biology and human health
   2010-11, Fall semester, 1 credit, 10 students
   2011-12, Fall semester, 1 credit, 10 students

3. Nutrition, microbiota and health
   2012-13, Fall semester, 1 credit, 10 students
   2013-14, Fall semester, 1 credit, 30 students
   2014-15, Fall semester, 1 credit, 30 students
   2015-16, Fall semester, 1 credit, 30 students

4. Drugs and bacteria (lectures given in English)
   2014-15, Fall semester, 1 credit, 4 students

Graduate course:

2002-2015, Molecular Microbial Ecology and Ecogenomics, , taught in every Spring semester.

Professional Activities

Editorial Board Memberships & Service as Reviewer

2013-Pres. Senior Editor, The ISME Journal.
2013-Pres. Member, Editorial Board, FMES Microbiology Ecology.
2014-Pres. Member, Editorial Board, Scientific Report.
2014-Pres. Senior Editor, mSystems, American Society for Microbiology.

Ad Hoc Reviewer for the following journals: Nature, Science, Nature Communications, the ISME Journal, FEMS Microbiology Ecology, Applied and Environmental Microbiology, Microbial Ecology.

Advisory Boards

2015-2017, Member of the Nutritional Advisory Board of Barilla Co.

2012-2017, Scientific advisor of the Perfect Co. (Non-paid)

Society Service

Vice chair, Division of Environmental Microbiology, Chinese Society for Microbiology, 2010-Pres.

Vice Chair, Chinese Society for Lactic Acid Bacteria, 2013-Pres.

Chinese Ambassador for International Society for Microbial Ecology (ISME), 2002-2004

Member of International Board, ISME, 2006-2012

Nominated as one of the two candidates for vice president of ISME of the 2016 election

Member of Chinese Society for Microbiology

Member of American Society for Microbiology

Member of ISME