# CURRICULUM VITAE

## Li Zhang, Ph.D.

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## APPOINTMENTS

| | | |
|---|---|---|
| Assistant Research Professor | Department of Poultry Science, Mississippi State University | July 2018-Present |
| Postdoctoral Associate | Department of Food Science, Nutrition, and Health Promotion, Mississippi State University | January 2018-June 2018 |
| Research Assistant | Department of Food Science, Nutrition, and Health Promotion, Mississippi State University | August 2014-December 2017 |
| Research Fellow | Jilin Academy of Agricultural Science, Changchun, China | July 2006-August 2013 |
| Research Assistant | Harbin Institute of Technology, Harbin, China | August 2005-July 2006 |

## EDUCATION

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|---|---|---|---|
| Mississippi State University | 2014-2017 | Ph.D. | Nutrition |
| Jilin University, Changchun, China | 2010-2013 | Ph.D. | Agriculture Biological Environmental and Energy Engineering |
| Northeast Agricultural University, Harbin, China | 2002-2005 | M.S. | Agricultural Product Processing and Storage Engineering |
| Northeast Agricultural University, Harbin, China | 1998-2002 | B.S. | Food Science and Engineering |

## TEACHING EXPERIENCE

1. Instructor. Poultry product safety & sanitation, Department of Poultry Science, Mississippi State University, PO/FNH 4512/6512 Spring 2023.
2. Instructor. Undergraduate directed individual study (DIS), Mary Beth Tingle, GA4800 Spring 2023.
3. Instructor. Undergraduate directed individual study (DIS), Hailey Fugate, PO4000 Spring 2023.
4. Secondary Instructor. Graduate directed individual study (DIS), Dylan Lesak, Sawyer Smith, Lizzie Zaldivar, Guyue Tang, FNH7000 Spring 2023.

5. Instructor. Molecular techniques in poultry research, Department of Poultry Science, Mississippi State University, PO8990 Fall 2022.
6. Instructor. Undergraduate directed individual study (DIS), Mary Beth Tingle, GA4800 Fall 2022.
7. Instructor. Poultry product safety & sanitation, Department of Poultry Science, Mississippi State University, PO/FNH 4512/6512 Spring 2022.
8. Participating instructor. Scientific Writing, Department of Basic Sciences, Mississippi State University, CVM 8973 Spring 2022.
9. Instructor. Poultry product safety & sanitation, Department of Poultry Science, Mississippi State University, PO/FNH 4512/6512 Spring 2021, 4.8 on a 5.0 scale.
10. Participating instructor. Graduate seminar. Department of Poultry Science, Mississippi State University, PO 8111 Spring and Fall 2021.
11. Participating instructor. Scientific Writing, Department of Basic Sciences, Mississippi State University, CVM 8973 Spring 2021.
12. Instructor. Undergraduate directed individual study (DIS), Mackenzie Ripper, GA4800 Spring 2022.
13. Instructor. Undergraduate directed individual study (DIS), Mackenzie Ripper, GA4800 Fall 2021.
14. Instructor. Undergraduate directed individual study (DIS), Mackenzie Ripper, GA4800 Spring 2021.
15. Guest lecture. Poultry product safety & sanitation, Department of Poultry Science, Mississippi State University, PO/FNH 4512/6512 Spring 2020.
16. Guest lecture. Measuring and interpreting microbiome. Department of Food Science, Nutrition and Health Promotion, Mississippi State University, FNH 8773 Fall 2020.
17. Participating instructor. Scientific Writing, Department of Basic Sciences, Mississippi State University, CVM 8973 Spring 2020.
18. Graduate directed individual study (DIS), Claudia Castañeda, PO7000 Fall 2019.
19. Instructor. Molecular techniques in poultry research, Department of Poultry Science, Mississippi State University, PO8990 Fall 2019, 4.8 on a 5.0 scale.

## GRADUATE STUDENTS MENTORED

1. **Manhong Wang-PhD-Major Advisor (Current Student, 2026 Expected graduation date)**
2. **Hailey Fugate-MS-Major Advisor (Current Student, 2025 Expected graduation date)**
3. **Sabin Poudel-PhD-Major Advisor (Current Student, 2023 Expected graduation date)**
4. **Priyanka Devkota-MS-Major Advisor (2022 Fall graduate)**

5. **Deepa Chaudhary-MS- Major Advisor (2022 Fall graduate)**
6. **Linan Jia- PhD-Major Advisor (2021 Fall graduate)**
7. **Tianmin Li-MS-Major Advisor (2020 Fall Graduate)**
8. Oladayo Apalowo-PhD-Committee Member (2025 Expected graduation date)
9. Tockie Vanessa Hemphill-PhD-Committee Member (2025 Expected graduation date)
10. Hudson T. Thames- PhD-Committee Member (2024 Expected graduation date)
11. Diksha Pokhrel-PhD-Committee Member (2024 Expected graduation date)
12. Fozol Ovi- PhD-Committee Member (2024 Expected graduation date)
13. Ishab Poudel-PhD-Committee Member (2023 Expected graduation date)
14. Stephen Schade-MS-Committee Member (2023 Summer Graduate)
15. ElsiAnna Rodewald- MS-Committee Member (2024 Expected graduation date)
16. Dylan Lesak- MS-Committee Member (2023 Expected graduation date)
17. Jiddu Joseph-MS-Committee Member (2023 Expected graduation date)
18. Grace Umutesi-MS-Committee Member (2022 Fall graduate)
19. Ying-Chen Huang-PhD-Committee Member (2022 Spring graduate)
20. Qingzhou Wang-PhD-Committee Member (2021 Fall graduate)
21. Ayoub Mousstaaid-MS-Committee Member (2021 Spring Graduate)
22. Hudson T. Thames-MS-Committee Member (2021 Spring Graduate)
23. Courtney A. Fancher-MS-Committee Member (2021 Spring Graduate)
24. Sabin Poudel-MS-Committee Member (2020 Summer Graduate)
25. Bo Zhang-MS-Committee Member (2020 Fall Graduate)
26. Chrysta N. Beck-MS-Committee Member (2019 Graduate)

## UNDERGRADUATE STUDENTS MENTORED

1. Hailey Fugate (2023, USDA ARS undergraduate summer internship project)
2. Michael Walker (2022)
3. Mary Elizabeth Tingle (2022 CALS/MAFES Undergraduate Research Scholars Program)
4. Javad A'arabi – major advisor (2022 Honors thesis)
5. Dylan Lesak (2021 William M. White Special Project)
6. Mackenzie Ripper (2020 and 2021 CALS/MAFES Undergraduate Research Scholars Program)
7. Samantha Curran (2020)
8. Sadie White (2019 CALS/MAFES Undergraduate Research Scholars Program)
9. Brian Ko- Committee Member (2019 Honors thesis)
10. Peyton Prine (2019)
11. Caleb LeGrand (2018)
12. Austin Cook (2018)

## STUDENT AWARDS

1. Sabin Poudel. 2023. MAFES Excellent Research Award ($2,000). MS Agricultural and Forestry Experiment Station.
2. Sabin Poudel. 2023. CALS Student Research Ambassador. MSU College of Agriculture and Life Sciences.
3. Mary Beth Tingle. 2023. 1st place ($250) amongst the College of Forestry students in the Biological Sciences portion of the 2023 Spring Undergraduate Research Symposium.
4. Sabin Poudel. 2022. Student of The Year ($1,000). Poultry Science Association Hatchery.
5. Deepa Chaudhary. 2022. Certificate of Excellence in Genetics and Molecular Biology. Poultry Science Association.
6. Deepa Chaudhary. 2022. Travel Award ($1,250). BankPlus.
7. Priyanka Devkota. 2022. Certificate of Excellence in Immunology, Health and Disease. Poultry Science Association.
8. Priyanka Devkota. 2022. International Paper Scholarship 1st place ($2,000). Mississippi Poultry Association.
9. Sabin Poudel. 2022. International Paper Scholarship 2nd place ($1,500). Mississippi Poultry Association.
10. Sabin Poudel. 2021. Certificate of Excellence in Genetics and Molecular Biology. Poultry Science Association.
11. Sabin Poudel. 2021. International Paper Scholarship 1st place ($5,000). Mississippi Poultry Association.
12. Tianmin Li. 2019. International Paper Scholarship 2nd place ($2,000). Mississippi Poultry Association.
13. Tianmin Li. 2019. International Poultry Scientific Forum Southern Agricultural Travel Award ($750).

## PROJECTS FUNDED

1. NSF. FW-HTF-RM: Human-Autonomy Teaming-Based Robotics in Support of the Future Remote Workers with Heavy and Repetitive Tasks, Role: Co-PI (10/01/2023-09/30/2026, $639,999), Pending.
2. USDA ARS, Non-Assistance Cooperative Agreement 58-6064-9-016. Alternative *Mycoplasma gallisepticum* (MG) vaccination regimens for enhancement of protection against field strain MG infections, Role: PI (07/01/2023-06/30/2024, $76,309), Awarded.
3. USDA ARS undergraduate summer internship project. Project #3: Employ an AI architecture and advanced encapsulation technology to develop phage-based biocontrol against bacterial superbugs via oral delivery in poultry, Role: PI (05/16/2023-08/15/2023, $7,821), Awarded.

4. The Mississippi Center for Enhancing Utilization and Safety of Catfish and Other Aquatic Foods. Effects of environmental stress and antimicrobials on the health, microbiome, and product shelf‐life of channel and hybrid catfish, Role: Co-PI (04/01/2023-03/31/2024, $55,000), Awarded.
5. MSU MAFES Strategic Research Initiative, Molecular characterization of novel antigens for the development of a universal vaccine against *Campylobacter jejuni* colonization in poultry, Role: PI (07/01/2023-06/30/2025, $100,000), Awarded.
6. MSU MAFES Strategic Research Initiative, Source-tracking and control of spoilage bacteria in fresh pork sausage production using a culture-free and cost-effective protocol, Role: Co-PI (01/01/2023-12/31/2024, $100,000), Awarded.
7. USDA ARS, Intervention strategies to mitigate avian *Escherichia coli* infections and antimicrobial resistance in the poultry environment, Role: Co-PI (10/2022-09/2023, $317,065), Awarded.
8. USDA NIFA Hatch Multi-State CRIS project MIS-322430/ NE-1942, Mechanisms and Mitigation of Bacterial Pathogens in Poultry, Role: PI (07/01/2022-06/30/2026), Awarded.
9. USDA ARS 6064-13000-013-00D, Systems approach to understanding and mitigating avian *Escherichia coli* infections and antimicrobial resistance in the poultry environment, Role: Co-PI (10/2017-9/2022, $2,710,465), Awarded.
10. MSU CALS/MAFES Undergraduate Research Scholars Program, Efficiency of 405-nm LED Light for Sanitation of Hatching Eggs, Role: PI (05/15/2022-05/14/2023, $3000), Awarded.
11. MSU MAFES Strategic Research Initiative, Development of a field-deployable quantitative detection system for *Clostridium perfringens* in poultry flocks to combat necrotic enteritis, Role: PI (01/01/2022-12/31/2022, $49,900), Awarded.
12. MSU MAFES Strategic Research Initiative, An accurate and cost-effective culture-free sequencing technique to characterize spoilage bacteria in fresh pork breakfast sausage, Role: Co-PI (01/01/2022-12/31/2022, $49,980), Awarded.
13. USDA NIFA Hatch CRIS project MIS-322370, Antimicrobial resistance in bacterial poultry pathogens and the mechanisms of bacterial pathogenesis, Role: PI (11/28/2018-10/14/2022), Awarded.
14. General Memorandum of Agreement with Delacon USA Inc. Evaluation of Biostrong 510 inclusion in conventional diets on Ross 708 male 56 day performance, processing, and oxidative stress, Role: Collaborator (5/26/2022-7/21/2022, total $47,400, $12,400 to my lab), Awarded.
15. MSU William M. White Special Project Awards, Inactivation of *Campylobacter jejuni* on broiler meat using 405 nm light and its effect on meat quality, Role: PI (04/01/2021-03/30/2023, $2000), Awarded.
16. MSU CALS/MAFES Undergraduate Research Scholars Program, Evaluation of fatty acid metabolism-related gene expression in broilers with woody breast myopathy, Role: PI (04/01/2021-03/30/2022, $3000), Awarded.

17. MSU MAFES Strategic Research Initiative, Development of a novel loop-mediated isothermal amplification assay using portable devices for the rapid detection of toxigenic *Clostridium perfringens* in the field, Role: PI (01/01/2021-12/31/2021, $49,800), Awarded.
18. University of Tennessee One Health Initiative seed funding Collaborator. *E. albertii* research. $40,000, 2020, Awarded.
19. USPoultry and Egg Association #724, Comparative genomics and *in vitro* screening approach for the identification of vaccine candidates for food-borne pathogen *Campylobacter jejuni*, Role: Principal Investigator (10/2020-12/2021, $55,000), Awarded.
20. MSU CALS/MAFES Undergraduate Research Scholars Program, Establishment of on-site diagnostic procedures for the detection of avian bacterial pathogens, Role: PI (04/01/2020-03/31/2021, $3000), Awarded.
21. MSU MAFES Strategic Research Initiative, Identification of vaccine candidates against *Campylobacter* using reverse vaccinology and in vitro screening approach, Role: PI (01/01/2020-12/31/2020, $49,800), Awarded.
22. General Memorandum of Agreement KATACOM, LUKA405 nm light for the inactivation of avian pathogenic *E.coli* in broiler litter, Role: PI (2020, $4,505.70), Awarded.
23. MSU CALS/MAFES Undergraduate Research Scholars Program, Development of a high-throughput DNA extraction method for rapid detection of pathogens in broiler farm, Role: PI (04/01/2019-03/31/2020, $3000), Awarded.
24. MSU MAFES Strategic Research Initiative, The prevalence of *Campylobacter* in the Mississippi poultry industry and its associated antimicrobial resistance, Role: PI (01/01/2019-12/31/2019, $49,400), Awarded.
25. MSU MAFES Strategic Research Initiative, Characterizing the prevalence, virulence factors, and antibiotic resistance spectrum of avian pathogenic *Escherichia coli* (APEC) in the GI tract, respiratory tract, and litter materials of the commercial broiler chicken in Mississippi, Role: Co-PI (01/01/2019-12/31/2019, $48,500), Awarded.
26. MSU MAFES Strategic Research Initiative, Alleviate woody breast disorder in broilers by improving gut health, Role: Co-PI (01/01/2019-12/31/2019, $49,980), Awarded.

**PROJECTS NOT FUNDED**

1. USDA NIFA, Culture-free metagenomic analysis of species-level spoilage bacteria in fresh chicken breast meat, Role: Co-PD (04/01/2023-03/31/2025, $300,000), Denied.
2. USDA NIFA, Automatic morphological features classification and modeling of broiler chickens based on machine vision, Role: Co-PD (04/01/2023-03/31/2025, $299,139), Denied.

3. USDA NIFA, Identification of novel antigens to facilitate the development of a universal vaccine for preventing avian colibacillosis, Role: PI (04/01/2023-03/31/2026, $650,000), Denied.
4. USDA NIFA, Microplastics: a culprit for woody breast myopathy in broilers? Role: Co-PD (04/01/2023-03/31/2026, $650,000), Denied.
5. USPoultry and Egg Association Spring 2023 Research Competition, Development of a field-deployable detection system for *Clostridium perfringens*, Role: PI (2023), Denied.
6. USPoultry and Egg Association Fall 2022 Research Competition, BtuB-based Immune Intervention to Control *Campylobacter jejuni* Colonization in Poultry, Role: PI (2022), Denied.
7. USPoultry and Egg Association Fall 2022 Research Competition, Development of a Poultry Monitoring and Identification System (MIS) Based on Machine Vision, Role: PI (2022), Denied.
8. MSU Advancing Collaborative Research (ACR) Program, Morphological Features Classification, Analysis and Modeling of Broiler Chickens based on Machine Vision, Role: Co-PI (2022), Denied.
9. USPoultry and Egg Association Board Research Initiative 2021, BtuB-based Vaccine for Reducing Colonization of *Campylobacter* in Poultry, Role: PI (2021), Denied.
10. USDA NIFA, Development of a field-deployable quantitative detection system for *Clostridium perfringens*, Role: PI (2021, $299,776) Denied.
11. USDA NIFA, Metagenomic and proteomic approach to characterize woody breast myopathy in broilers and develop strategies to reduce woody breast incidence, Role: Co-PI (2021, $624,455), Denied.
12. Foundation for Food and Agricultural Research, Developing Novel Diagnostic Tools to Control Avian Bacterial Pathogens, Role: PI (2020, $449,138), Denied.
13. USPoultry and Egg Association 2020 Fall Competition, Constructing a recombinant probiotic bacterium as a vector for antigen delivery: A novel immunization approach against NE, Role: Co-PI (2020, $61,446), Denied.
14. USDA NIFA, Metagenomic and proteomic approach to characterize woody breast myopathy in broilers and develop strategies to reduce woody breast incidence, Role: Co-PI (2019, $499,997), Denied.
15. Co-PI. Accelerating proteomics and metabolomics research through acquisition of an Orbitrap Eclipse mass spectrometer, $1,261,123, 2020 National Science Foundation, Denied.
16. Co-PI. Intervention strategies to regulate gut microbiota, lower oxidative stress, and reduce woody breast incidence in broilers, $50,000, 2020 MAFES Strategic Research Initiative, Denied.
17. Principal Investigator. Impact of altered gut microbiota composition on woody breast development of broilers, USPoultry and Egg Association 2019 Fall Competition, Denied.

**PEER-REVIEWED PUBLICATIONS (ORCID: 0000-0002-3933-5794, *corresponding author, # equal contribution)**

1. Linan Jia, Priyanka Devkota, Mark A. Arick II, Chuan-Yu Hsu, Daniel G. Peterson, Jeffrey D. Evans, Anuraj T. Sukumaran, **Li Zhang***. (2023). Complete genome sequences of six antimicrobial resistant avian pathogenic *Escherichia coli* strains isolated from broilers exhibiting colibacillosis. *Microbiology Resource Announcements*. (Minor revision, MRA01166-22)
2. Sabin Poudel, Linan Jia, Mark A. Arick II, Chuan-Yu Hsu, Adam Thrash, Anuraj T. Sukumaran, Pratima Adhikari, Aaron S. Kiess, **Li Zhang***. (2023). *In silico* prediction and expression analysis of vaccine candidate genes of *Campylobacter jejuni*. *Poultry Science*, 102592. https://doi.org/10.1016/j.psj.2023.102592
3. Jiddu Joseph, Madalyn Jennings, Nicolle L. Barbieri, **Li Zhang**, Pratima Adhikari, Reshma Ramachandran. (2023). Characterization of avian pathogenic *Escherichia coli* isolated from broiler breeders with colibacillosis in Mississippi. *Poultry*. 2(1), 24-39. https://doi.org/10.3390/poultry2010004
4. Hudson Thames, Diksha Pokhrel, Emma Willis, Orion Rivers, Thu T. N. Dinh, **Li Zhang**, Mark W. Schilling, Reshma Ramachandran, Shecoya White, and Anuraj T. Sukumaran. (2023). *Salmonella* biofilm formation under fluidic shear stress on different surface materials. *Foods*. 12(9), 1918. https://doi.org/10.3390/foods12091918
5. Fozol Ovi, Haley Nabors, Linan Jia, **Li Zhang**, Pratima Adhikari. (2023). A compilation of virulence-associated genes with uniquely high prevalence in avian pathogenic *Escherichia coli* (APEC). *Journal of Applied Microbiology*. 134(3), 1-20. https://doi.org/10.1093/jambio/lxad014
6. Diksha Pokhrel, Hudson T. Thames, **Li Zhang**, Thu T. N. Dinh, Wes Schilling, Shecoya B. White, Reshma Ramachandran, Anuraj Theradiyil Sukumaran. (2022). Roles of aerotolerance, biofilm formation, and viable but non-culturable state in the survival of *Campylobacter jejuni* in poultry processing environments. *Microorganisms*. 10 (11): 2165. https://doi.org/10.3390/microorganisms10112165
7. Sabin Poudel, Tianmin Li, Mark A. Arick II, Chuan-Yu Hsu, Adam Thrash, Anuraj T. Sukumaran, Pratima Adhikari, Aaron S. Kiess, and **Li Zhang***. (2022). Complete genome sequences of four *Campylobacter jejuni* isolated from retail chicken and broiler feces. *Microbiology Resource Announcements*. 11 (10), e00898-22. https://doi.org/10.1128/mra.00898-22
8. Sabin Poudel, Tianmin Li, Saijuan Chen, Xue Zhang, Wen-Hsing Cheng, Anuraj T. Sukumaran, Aaron S. Kiess, **Li Zhang***. (2022). Prevalence, antimicrobial resistance, and molecular characterization of *Campylobacter* isolated from broilers and broiler meat raised without antibiotics. *Microbiology Spectrum*. 10 (3), e0025122. https://doi.org/10.1128/spectrum.00251-22
9. Linan Jia, Chuan-Yu Hsu, Xue Zhang, Xiaofei Li, M. Wes Schilling, E. David Peebles, Aaron S. Kiess, and **Li Zhang***. (2022). Effects of dietary bacitracin or *Bacillus subtilis* on the woody breast myopathy-associated gut microbiome of *Eimeria* spp. challenged and unchallenged broilers. *Poultry Science*. 101 (8), 101960. https://doi.org/10.1016/j.psj.2022.101960

10. Linan Jia, Xue Zhang, Xiaofei Li, Wes Schilling, E. David Peebles, Aaron S. Kiess, and **Li Zhang***. (2022). Internal organ and skeletal muscle development in commercial broilers with woody breast myopathy. *Poultry Science*. 101 (9), 102012. https://doi.org/10.1016/j.psj.2022.102012

11. Sabin Poudel, George T. Tabler, Jun Lin, Wei Zhai, and **Li Zhang***. (2022). Riboflavin and *Bacillus subtilis* effects on growth performance and woody-breast of Ross 708 broilers with or without *Eimeria* spp. challenge. *Journal of Animal Science and Technology*. 64 (3): 443-461. https://doi.org/10.5187/jast.2022.e24

12. Linan Jia, Xue Zhang, Xiaofei Li, Wes Schilling, E. David Peebles, Aaron S. Kiess, Wei Zhai, and **Li Zhang***. (2022). Bacitracin, *Bacillus subtilis*, and *Eimeria* spp. challenge exacerbates woody breast incidence and severity in broilers. *Poultry Science*. 101 (1), 101512. https://doi.org/10.1016/j.psj.2021.101512

13. Huiwen Wang, **Li Zhang**, Liu Cao, Ximin Zeng, Barbara Gillespie, Jun Lin. (2022). Isolation and characterization of *Escherichia albertii* originated from the broiler farms in Mississippi and Alabama. *Veterinary Microbiology*. 267, 109379. https://doi.org/10.1016/j.vetmic.2022.109379

14. Seyed Abolghasem Fatemi, Kenneth S. Macklin, **Li Zhang**, Ayoub Mousstaaid, Sabin Poudel, Ishab Poudel, Edgar David Peebles. (2022). Improvement in the immunity- and vitamin D3 activity-related gene expression of coccidiosis-challenged Ross 708 broilers in response to the *in ovo* injection of 25-hydroxyvitamin D3. *Animals*. 12(19), 2517. https://doi.org/10.3390/ani12192517

15. Hudson Troy Thames, Courtney A Fancher, Mary Gates Colvin, Mika McAnally, Emily Tucker, **Li Zhang**, Aaron Kiess, Thu Dinh, Anuraj Theradiyil Sukumaran. (2022). Prevalence of *Salmonella* and *Campylobacter* on broiler meat at different stages of commercial poultry processing. *Animal*s. 12(18), 2460. https://doi.org/10.3390/ani12182460

16. Tingjun Lei, Guoming Li, Chaomin Luo, **Li Zhang,** Lantao Liu, Richard Gates. (2022). An informative planning-based multi-layer robot navigation system as applied in a poultry barn. *Intelligence & Robotics*. 2022;2. http://dx.doi.org/10.20517/ir.2022.18

17. Xue Zhang[#], **Li Zhang**[#], Xiaofei Li, Shecoya White, Yan L. Campbell, Angelica A. Ruiz, Kezia V. To, Wei Zhai, M. Wes Schilling. (2021). Cecal microbiota contribute to the development of woody breast myopathy. *Poultry Science*. 100 (6), 101124. https://doi.org/10.1016/j.psj.2021.101124

18. Tianmin Li, Claudia D. Castañeda, Julio Miotto, Chris McDaniel, Aaron S. Kiess, and **Li Zhang***. (2021). Effects of *in ovo* probiotic administration on the incidence of avian pathogenic *Escherichia coli* in broilers and an evaluation on their virulence and antimicrobial resistance properties. *Poultry Science*. 100 (3): 100903. doi https://doi.org/10.1016/j.psj.2020.11.072

19. Tianmin Li, Claudia D. Castañeda, Mark A. Arick, Chaung-Yu Hsu, Aaron S. Kiess, and **Li Zhang***. (2020). Complete genome sequence of multidrug-resistant avian pathogenic *Escherichia coli* strain APEC-O2-MS1170. *Journal of Global Antimicrobial Resistance* 23:401-403. https://doi.org/10.1016/j.jgar.2020.11.009

20. Sabin Poudel, **Li Zhang**, George T. Tabler, Jun Lin, Wei Zhai. (2021). Effects of riboflavin and *Bacillus subtilis* on internal organ development and intestinal health of Ross 708 male broilers with or without coccidial challenge. *Poultry Science*. 100 (4), 100973. https://doi.org/10.1016/j.psj.2020.12.070

21. Tomi Obe, Rama Nannapaneni, Wes Schilling, **Li Zhang**, Aaron Kiess. 2021. Antimicrobial tolerance, biofilm formation, and molecular characterization of *Salmonella* isolates from poultry processing equipment. *Journal of Applied Poultry Research*. 30 (4), 100195. https://doi.org/10.1016/j.japr.2021.100195

22. Courtney A. Fancher, Hudson T. Thames, Mary Gates Colvin, Mercedes Smith, Alyssa Easterling, Nikhil Nuthalapati, **Li Zhang**, Aaron Kiess, Thu T. N. Dinh, Anuraj Theradiyil Sukumaran. (2021). Prevalence and Molecular Characteristics of Avian Pathogenic *Escherichia coli* in "No Antibiotics Ever" Broiler Farms. *Microbiology spectrum*. 9 (3), e00834-21. https://doi.org/10.1128/Spectrum.00834-21

23. Courtney A Fancher, Hudson T Thames, Mary Gates Colvin, **Li Zhang**, Nikhil Nuthalapati, Aaron Kiess, Thu TN Dinh, Anuraj Theradiyil Sukumaran. (2021). Prevalence and molecular characteristics of *Clostridium perfringens* in 'no antibiotics ever' broiler farms. *Poultry Science*. 100 (11), 101414. https://doi.org/10.1016/j.psj.2021.101414

24. Courtney A. Fancher, **Li Zhang**, Aaron S. Kiess, Pratima A. Adhikari, Thu T. N. Dinh, and Anuraj T. Sukumaran. 2020. Avian Pathogenic *Escherichia coli* and *Clostridium perfringens*: Challenges in No Antibiotics Ever Broiler Production and Potential Solutions. *Microorganisms*. 8 (10), 1533. https://doi.org/10.3390/microorganisms8101533

25. Tomi Obe, Rama Nannapaneni, Wes Schilling, **Li Zhang**, Chris McDaniel, Aaron Kiess. (2020). Prevalence of *Salmonella enterica* on poultry processing equipment after completion of sanitization procedures. *Poultry Science*. 99 (9), 4539-4548. https://doi.org/10.1016/j.psj.2020.05.043

26. Zi-Qiang Shao, Xiong Zhang, Hui-Hui Fan, Xiao-Shuang Wang, Hong-Mei Wu, **Li Zhang**, Wen-Hsing Cheng, Jian-Hong Zhu. (2019). Selenoprotein T promotes proliferation and G1-to-S transition in SK-N-SH cells: Implications in Parkinson's disease. *Journal of Nutrition*. https://doi.org/10.1093/jn/nxz199

27. **Li Zhang**, Jian-Hong Zhu, Xiong Zhang, Wen-Hsing Cheng. (2019). The Thioredoxin-Like Family of Selenoproteins: Implications in Aging and Age-Related Degeneration. *Biological Trace Element Research, 188*(1), 189-195. https://doi.org/10.1007/s12011-018-1521-9

28. Zijian Zhao, Chao Wang, **Li Zhang,** Yujuan Zhao, Cuicui Duan, Xue Zhang, Lei Gao, Shengyu Li. (2019). *Lactobacillus plantarum* NA136 improves the non-alcoholic fatty liver disease by modulating the AMPK/Nrf2 pathway. *Applied Microbiology and Biotechnology, 103*(14), 5843-5850. https://doi.org/10.1007/s00253-019-09703-4.

29. **Li Zhang**, Huawei Zeng, Wen-Hsing Cheng. (2018). Beneficial and paradoxical roles of selenium at nutritional levels of intake in healthspan and longevity. *Free Radical Biology and Medicine, 127*, 3-13. https://doi.org/https://doi.org/10.1016/j.freeradbiomed.2018.05.067.

30. Hsin-Yi Lu, Huawei Zeng, **Li Zhang.**, Jesus M. Porres, Wen-Hsing Cheng. (2018). Fecal fermentation products of common bean-derived fiber inhibit C/EBPα and PPARγ expression and lipid accumulation but stimulate PPARδ and UCP2 expression in the adipogenesis of 3T3-L1 cells. *The Journal of Nutritional Biochemistry, 60*, 9-15. https://doi.org/10.1016/j.jnutbio.2018.06.004.

31. Jasmine D. Hendrix, Xue Zhang, Yan L. Campbell, **Li Zhang**, Lurdes Siberio, Christine L. Cord, Juan L. Silva, Jerome Goddard, Taejo Kim, Thomas W. Phillips, M. Wes. Schilling. (2018). Effects of temperature, relative humidity, and protective netting on *Tyrophagus putrescentiae* (Schrank) (Sarcoptiformes: Acaridae) infestation, fungal growth, and product quality of dry cured hams. *Journal of Stored Products Research, 77*, 211-218. https://doi.org/10.1016/j.jspr.2018.05.005.

32. Lei Cao, **Li Zhang**, Huawei Zeng, Ryan TY Wu, Tung-Lung Wu, Wen-Hsing Cheng. (2017). Analyses of selenotranscriptomes and selenium concentrations in response to dietary selenium deficiency and age reveal common and distinct patterns by tissue and sex in telomere-dysfunctional mice. *The Journal of nutrition, 147*(10), 1858-1866. https://doi.org/10.3945/jn.117.247775.

33. Xiong Zhang, **Li Zhang**, Jian-Hong Zhu, Wen-Hsing Cheng. (2016). Nuclear selenoproteins and genome maintenance. *IUBMB life, 68*(1), 5-12. https://doi.org/10.1002/iub.1455.

34. Zhongmei He, Xiaohui Wang, Guofeng Li, Yujuan Zhao,J ian Zhang, Chunhua Niu, **Li Zhang**, Xue Zhang, Dashi Ying, Shengyu Li. (2015). Antioxidant activity of prebiotic ginseng polysaccharides combined with potential probiotic *Lactobacillus plantarum* C88. *International Journal of Food Science & Technology, 50*(7), 1673-1682. https://doi.org/10.1111/ijfs.12824.

35. Jian Zhang, Xue Zhang, **Li Zhang**, Yujuan Zhao, Chunhua Niu, Zhennai Yang and Shengyu Li. (2014). Potential probiotic characterization of *Lactobacillus plantarum* strains isolated from Inner Mongolia "Hurood" cheese. *Journal of Microbiology and Biotechnology, 24*(2), 225-235. https://doi.org/10.4014/jmb.1308.08075.

36. **Li Zhang**, Chunhong Liu, Da Li, Yujuan Zhao, Xue Zhang, Xianpeng Zeng, Zhennai Yang, Shengyu Li. (2013). Antioxidant activity of an exopolysaccharide isolated from *Lactobacillus plantarum* C88. *International Journal of Biological Macromolecules, 54*, 270-275. https://doi.org/10.1016/j.ijbiomac.2012.12.037.

37. **Li Zhang**, Xue Zhang, Chunhong Liu, Changying Li, Shengyu Li, Tiezhu Li, Da Li, Yujuan Zhao, Zhennai Yang. (2013). Manufacture of Cheddar cheese using probiotic *Lactobacillus plantarum* K25 and its cholesterol-lowering effects in a mice model. *World Journal of Microbiology and Biotechnology, 29*(1), 127-135. https://doi.org/10.1007/s11274-012-1165-4.

38. Shengyu Li, Yujuan Zhao, **Li Zhang**, Xue Zhang, Li Huang, Da Li, Chunhua Niu, Zhennai Yang, Qiang Wang. (2012). Antioxidant activity of *Lactobacillus plantarum* strains isolated from traditional Chinese fermented foods. *Food Chemistry, 135*(3), 1914-1919. https://doi.org/10.1016/j.foodchem.2012.06.048.

39. Chunhong Liu, Jinkang Chang, **Li Zhang**, Jie Zhang, Shengyu Li. (2012). Purification and antioxidant activity of a polysaccharide from bulbs of *Fritillaria ussuriensis Maxim*.

*International Journal of Biological Macromolecules, 50*(4), 1075-1080. https://doi.org/10.1016/j.ijbiomac.2012.03.006.

40. Tiezhu Li, Jinghui Wang, Yuqiu Li, **Li Zhang**, Li Zheng, Zhuolin Li, Zhennai Yang, Quan Luo. (2011). Stucture of the complex between *Mucor pusillus* pepsin and the key domain of κ-casein for site-directed mutagenesis: a combined molecular modeling and docking approach. *Journal of molecular modeling, 17*(7), 1661-1668. https://doi.org/10.1007/s00894-010-0869-3.

**PEER-REVIEWED ABSTRACTS SINCE 2018 (* indicates the corresponding author)**

1. Sabin Poudel, Mark A. Arick II, Chuan-Yu Hsu, Pratima Adhikari, Anuraj Sukumaran, Aaron S. Kiess, **Li Zhang***. (2023). Complete genome sequences of Campylobacter jejuni strains isolated from no antibiotics ever raised broiler reveal the presence of antimicrobial resistance and virulence genes. 2023 Poultry Science Association Annual Meeting. July 10-15, 2023. Philadelphia, PA.
2. Sabin Poudel, Linan Jia, Xue Zhang, Anuraj Sukumaran, Wes Schilling, **Li Zhang***. (2023). Efficacy of 405 nm light in inactivating Campylobacter jejuni and its impact on broiler meat quality. 2023 Poultry Science Association Annual Meeting. July 10-15, 2023. Philadelphia, PA.
3. Ishab Poudel, Alamanda Calvert, Aaron S. Kiess, **Li Zhang**, Pratima Adhikari. (2023). Effect of a Bacillus-based probiotic on fecal shedding and cecal Salmonella Enteritidis in laying hen. 2023 Poultry Science Association Annual Meeting. July 10-15, 2023. Philadelphia, PA.
4. Hudson Thames, Diksha Pokhrel, Thu T. Dinh, **Li Zhang**, Wes Schilling, Reshma Ramachandran, Shecoya White, Anuraj Sukumaran. (2023). The Expression of Biofilm Associated Genes in Salmonella Reading Biofilms at Various Stages of Development. 2023 Poultry Science Association Annual Meeting. July 10-15, 2023. Philadelphia, PA.
5. ElsiAnna Rodewald, Brooke Jasek, **Li Zhang**, Stacey Roberts, Pratima Adhikari. (2023). Role of a precision-biotic on Dekalb White laying hens at peak production. 2023 Poultry Science Association Annual Meeting. July 10-15, 2023. Philadelphia, PA.
6. Jorge Urrutia, Dalton Dennehy, **Li Zhang**, Megan Koppen, Kelley G. Wamsley. (2023). Evaluation of feeding male Ross x Ross 708 broilers diets varying in phytogenic feed additive inclusion strategies throughout a 56 d growout. 2023 Poultry Science Association Annual Meeting. July 10-15, 2023. Philadelphia, PA.
7. Diksha Pokhrel, Hudson Thames, **Li Zhang**, Thu T. Dinh, Wes Schilling, Shecoya White, Reshma Ramachandran, Anuraj T. Sukumaran. (2023). Freezing and refrigeration decrease aerotolerant Campylobacter jejuni counts on chicken drumsticks during storage. 2023 Poultry Science Association Annual Meeting. July 10-15, 2023. Philadelphia, PA.
8. Jiddu Joseph, Christopher Magee, Linan Jia, **Li Zhang**, Pratima Adhikari, Reshma Ramachandran. (2023). Virulence typing of avian pathogenic *Escherichia coli* isolates from broiler breeders with colibacillosis in Mississippi. 2023 Mississippi Academy of Science conference.

9. Linan Jia, Mark A. Arick II, Chuan-Yu Hsu, Daniel G. Peterson, Jeffrey D. Evans, Anuraj T Sukumaran, Reshma Ramachandran, Pratima Adhikari, **Li Zhang***. (2023). High-throughput *Escherichia coli* (APEC) multilocus sequence typing (MLST) using Oxford Nanopore Technologies. 2023 International Poultry Scientific Forum. Jan 23-24, 2023. Atlanta, GA.
10. Sabin Poudel, Linan Jia, Chuan-Yu Hsu, Wen-Hsing Cheng, Pratima Adhikari, Aaron S. Kiess, **Li Zhang***. (2023). Expression analysis of *Campylobacter jejuni*-induced cytokine responses in avian cell line infection study. 2023 International Poultry Scientific Forum. Jan 23-24, 2023. Atlanta, GA.
11. Priyanka Devkota, Linan Jia, Xue Zhang, Anuraj T Sukumaran, Aaron S Kiess, Jeffrey D Evans, Reshma Ramachandran, Pratima Adhikari, **Li Zhang***. (2023). Understanding the adhesion and invasion characteristics of avian *E. coli* isolated from clinical and non-clinical samples using avian macrophages cell line HD11. 2023 International Poultry Scientific Forum. Jan 23-24, 2023. Atlanta, GA.
12. Liu Cao, Linan Jia, **Li Zhang**, Xue Zhang, M. Wes Schilling, Jun Lin. (2023). Oral administration of microplastic polystyrene increased incidence of woody breast myopathy in broilers. Conference of Research Workers in Animal Diseases (CRWAD) 2023, Abstract 77893.
13. Linan Jia, Sabin Poudel, Priyanka Devkota, Mark A. Arick II, Chuan-Yu Hsu, Daniel G. Peterson, Jeffrey D. Evans, **Li Zhang***. (2022). *In silico* prediction of vaccine candidates against colibacillosis in poultry using reverse vaccinology. 2022 Poultry Science Association Annual Meeting.
14. Linan Jia, Priyanka Devkota, Mark A. Arick II, Chuan-Yu Hsu, Daniel G Peterson, Jeffrey D Evans, Anuraj T. Sukumaran, **Li Zhang***. (2022). Complete genome sequence of six multidrug resistance avian pathogenic *Escherichia coli* strains isolated from broilers exhibiting colibacillosis. 2022 Poultry Science Association Annual Meeting.
15. Sabin Poudel, Linan Jia, Chuan-Yu Hsu, Pratima Adhikari, Aaron S. Kiess, **Li Zhang***. (2022). Expression analysis of novel vaccine candidate genes of *Campylobacter jejuni* in a cell line infection study. 2022 Poultry Science Association Annual Meeting. (Won 2nd place for the International Paper Scholarship, $1,500)
16. Deepa Chaudhary, Linan Jia, Anuraj Theradiyil Sukumaran, Wen-Hsing Cheng, Aaron S. Kiess, Chuan-Yu Hsu, **Li Zhang***. Evaluation of different DNA extraction methods for the detection of *Clostridium perfringens* by loop-mediated isothermal amplification (LAMP) assay. Poultry Science Vol. 101 (E-suppl. 1), 178. 2022 Poultry Science Association Annual Meeting. (PSA Certificate of Excellence Recipients)
17. Priyanka Devkota, Sabin Poudel, Linan Jia, Xue Zhang, Anuraj T Sukumaran, Aaron S Kiess, Jeffrey D Evans, Pratima Adhikari, **Li Zhang***. Investigation of virulence factors in avian pathogenic *Escherichia coli* isolated from asymptomatic and diseased broilers. 2022 Poultry Science Association Annual Meeting. (PSA Certificate of Excellence Recipients, Won 1st place for the International Paper Scholarship, $2,000)
18. Hudson T. Thames, Diksha Pokhrel, Emma Willis, Orion Rivers, Thu T. N. Dinh, **Li Zhang**, Wes Schilling, Reshma Ramachandran, Shecoya White, Anuraj T. Sukumaran. The Biofilm Forming Ability of *Salmonella* under Fluidic Shear Stress on Different

Surface Materials. 2022 Poultry Science Association Annual Meeting. (PSA Certificate of Excellence Recipients)

19. Jiddu Joseph, Christopher Magee, Linan Jia, **Li Zhang**, Pratima Adhikari, Reshma Ramachandran. Phenotypic virulence characterization of avian pathogenic *Escherichia coli* isolates from broiler breeders with colibacillosis. 2022 Poultry Science Association Annual Meeting.
20. Diksha Pokhrel, Hudson T. Thames, Hailey Fugate, **Li Zhang**, Thu Dinh, Wes Schilling, Shecoya White, Anuraj T. Sukumaran. Aerotolerance of *Campylobacter jejuni* isolated from commercial broiler processing plants. 2022 Poultry Science Association Annual Meeting.
21. Fozol K Ovi, Katie E. C. Elliott, Dan Wilson, **Li Zhang**, Pratima Adhikari. (2022). Evaluating the accuracy of five virulent genes in predicting the virulence of an *Escherichia coli* isolates using embryo lethality assay. World's Poultry Congress 2022 meeting.
22. Mackenzie A. Ripper, Linan Jia, Chuan-Yu Hsu, Xue Zhang, M. Wes Schilling, and **Li Zhang*.** (2022). Pectoralis major (breast meat) fatty acid metabolism in broilers exhibiting woody breast myopathy. 2022 Reciprocal Meat Conference.
23. Linan Jia, Xue Zhang, Xiaofei Li, Chuan-Yu Hsu, M. Wes Schilling, Aaron S. Kiess, E. David Peebles, **Li Zhang***. (2022). Effects of dietary bacitracin or *Bacillus subtilis* on the woody breast myopathy-associated gut microbiota of *Eimeria* spp. challenged and unchallenged broilers. Poultry Science Vol. 101 (E-suppl. 1), 3. 2022 International Poultry Scientific Forum (Abstract and Oral Presentation).
24. Sabin Poudel, Anuraj T. Sukumaran, Pratima Adhikari, Aaron S. Kiess, **Li Zhang***. (2022). Isolation and characterization of *Campylobacter jejuni* from 'no antibiotics ever' raised broilers. Poultry Science Vol. 101 (E-suppl. 1), 7. 2022 International Poultry Scientific Forum (Abstract and Oral Presentation).
25. Priyanka Devkota, Sabin Poudel, Xue Zhang, Anuraj Theradiyil Sukumaran, Pratima Adhikari, Reshma Ramachandran, Aaron Kiess, **Li Zhang***. (2022). Genotypic-phenotypic discrepancies between antimicrobial resistance characteristics of *Escherichia coli* isolated from asymptomatic and diseased broilers. Poultry Science Vol. 101 (E-suppl. 1), 37. 2022 International Poultry Scientific Forum (Abstract and Oral Presentation).
26. Deepa Chaudhary, Linan Jia, Anuraj Theradiyil Sukumaran, Wen-Hsing Cheng, Aaron S. Kiess, **Li Zhang***. (2022). Optimization of a loop-mediated isothermal amplification (LAMP) assay for the detection of *Clostridium perfringens*. Poultry Science Vol. 101 (E-suppl. 1), 37. 2022 International Poultry Scientific Forum (Abstract and Oral Presentation).
27. Jiddu Joseph, Madalyn Jennings, **Li Zhang**, Pratima Adhikari, Reshma Ramachandran. (2022). Evaluation of antimicrobial and heavy-metal resistance patterns of avian pathogenic *Escherichia coli* associated with broiler breeder colibacillosis in Mississippi. Poultry Science Vol. 101 (E-suppl. 1), 84. 2022 International Poultry Scientific Forum (Abstract and Oral Presentation).

28. Madalyn Jennings, **Li Zhang**, Pratima Adhikari, Reshma Ramachandran. (2022). Characterization of virulence-associated genes and phylogenetic groups of Avian pathogenic *Escherichia coli* isolated from broiler breeders with colibacillosis from Mississippi. Poultry Science Vol. 101 (E-suppl. 1), 38. 2022 International Poultry Scientific Forum (Abstract and Oral Presentation).

29. Fozol Ovi, **Li Zhang**, Pratima Adhikari. (2022). Evaluating the accuracy of virulent genes model in predicting the source of extraintestinal *Escherichia coli* isolates, collected from colibacillosis infected or healthy layer chicken. Poultry Science Vol. 101 (E-suppl. 1), 74. 2022 International Poultry Scientific Forum (Abstract and Oral Presentation).

30. Sabin Poudel, Mark A. Arick II, Chuan-Yu Hsu, Wei Zhai, Anuraj T. Sukumaran, Aaron S. Kiess, **Li Zhang***. (2021). *In silico* prediction of novel vaccine candidates to reduce *Campylobacter jejuni* in chickens. Poultry Science Vol. 100 (E-suppl. 1), 129. 2021 Poultry Science Association Annual Meeting (Abstract and Oral Presentation, PSA Certificate of Excellence Recipients, International Paper Scholarship $5,000).

31. Linan Jia, Chuan-yu Hsu, Aaron S. Kiess, E. David Peebles, Wei Zhai, **Li Zhang***. (2021). Changes in gene expression in the intestinal mucus of broilers with woody breast myopathy. Poultry Science Vol. 100 (E-suppl. 1), 41. 2021 Poultry Science Association Annual Meeting (Abstract and Oral Presentation)

32. Priyanka Devkota, Sabin Poudel, Mark A. Arick II, Chuan-Yu Hsu, Pratima Adhikari, Anuraj Theradiyil Sukumaran, Aaron Kiess, **Li Zhang***. (2021). Genomic analysis of avian pathogenic *Escherichia coli* (APEC) isolated from broiler chicken. Poultry Science Vol. 100 (E-suppl. 1), 36. 2021 Poultry Science Association Annual Meeting (Abstract and Oral Presentation)

33. Deepa Chaudhary, Priyanka Devkota, Sabin Poudel, Linan Jia, Anuraj Theradiyil Sukumaran, Wen-Hsing Cheng, Aaron Kiess, **Li Zhang***. (2021). Molecular characterization of virulence and antimicrobial resistance genes in avian pathogenic *Escherichia coli* isolated from poultry having colibacillosis. Poultry Science Vol. 100 (E-suppl. 1), 37. 2021 Poultry Science Association Annual Meeting (Abstract and Oral Presentation)

34. Mackenzie A. Ripper, Sabin Poudel, Aaron S. Kiess, **Li Zhang***. (2021). Establishing on-site diagnostic procedures for the detection of *Campylobacter jejuni* in poultry. Poultry Science Vol. 100 (E-suppl. 1), 132. 2021 Poultry Science Association Annual Meeting (Abstract and Oral Presentation, Student Certificates of Participation)

35. Fozol K. Ovi, Aaron S. Kiess, **Li Zhang**, Pratima Adhikari. (2021). Prevalence of virulence and antimicrobial resistance genes in suspected APEC isolates collected from different extra-intestinal tissue of layer hen. Poultry Science Vol. 100 (E-suppl. 1), 215. 2021 Poultry Science Association Annual Meeting (Abstract and Oral Presentation, Certificate of Excellence Recipients).

36. Sabin Poudel, Tianmin Li, Mark A. Arick II, Chuan-Yu Hsu, Aaron Kiess, **Li Zhang***. (2021). Comparative whole-genome analysis of *Campylobacter jejuni* strains isolated from retail broiler in Mississippi. Poultry Science Vol. 100 (E-suppl. 1), 23. (Abstract and Oral Presentation)

37. Sabin Poudel, Sadie White, Tianmin Li, Xue Zhang, Aaron Kiess, **Li Zhang***. (2021). Comparison of DNA extraction methods in poultry litter and fecal samples to identify pathogenic bacteria using real-time PCR. Poultry Science Vol. 100 (E-suppl. 1), 8. 2021 International Poultry Scientific Forum (Abstract and Oral Presentation)

38. Tianmin Li, Anuraj Theradiyil Sukumaran, Wen-Hsing Cheng, Aaron Kiess, **Li Zhang***. (2021). Phenotypic and genotypic antimicrobial resistance characteristics of avian pathogenic *Escherichia coli* isolated from broilers. Poultry Science Vol. 100 (E-suppl. 1), 41. 2021 International Poultry Scientific Forum (Abstract and Poster Presentation)

39. Reshma Ramachandran, Chuan-Yu Hsu, Anuraj Theradiyil Sukumaran, **Li Zhang***. (2021). Validation and application of probe-based multiplex real-time PCR assays for the rapid and accurate detection of avian pathogenic *Escherichia coli*. Poultry Science Vol. 100 (E-suppl. 1), 43. 2021 International Poultry Scientific Forum (Abstract and Poster Presentation)

40. Hudson T. Thames, Courtney A. Fancher, Mary Gates Colvin, Mika McAnally, Emily Tucker, Nikhil Nuthalapati, **Li Zhang**, Aaron Kiess, Thu T. N. Dinh, and Anuraj T. Sukumaran. (2021). Prevalence of *Salmonella*, *Campylobacter*, and spoilage bacteria on broiler meat at different stages of commercial poultry processing. Poultry Science Vol. 100 (E-suppl. 1), 4. 2021 International Poultry Scientific Forum (Abstract and Oral Presentation)

41. Courtney A. Fancher, Hudson T. Thames, Mary Gates Colvin, **Li Zhang**, Nikhil Nuthalapati, Anuraj T. Sukumaran. (2021). Prevalence of *Clostridium perfringens* in no antibiotics ever broiler farms in Mississippi. Poultry Science Vol. 100 (E-suppl. 1), 8. 2021 International Poultry Scientific Forum (Abstract and Oral Presentation)

42. Mackenzie Ripper, Sabin Poudel, Aaron Kiess, and **Li Zhang***. (2021). Evaluating the loop-mediated isothermal amplification (LAMP) assay for the rapid detection of *Campylobacter jejuni* in poultry. 2021 Spring Undergraduate Research Symposium. Mississippi State, Mississippi.

43. Madalyn Jennings, **Li Zhang**, Pratima Adhikari, Reshma Ramachandran. (2021). Evaluation of antibiotic resistance pattern of Avian Pathogenic *Escherichia coli* isolated from broiler breeders with colibacillosis from Mississippi. 2021 Summer Undergraduate Research Symposium. Mississippi State, Mississippi.

44. Emily Tucker, Hudson Thames, **Li Zhang**, Aaron Kiess, and Thu T. N. Dinh, Anuraj T. Sukumaran. (2021). Efficacy of Peracetic Acid and Cetylpyridinium Chloride against *Salmonella* Reading in vitro and on Turkey Carcasses. 2021 Summer Undergraduate Research Symposium. Mississippi State, Mississippi.

45. Tianmin Li, Claudia Castañeda, Mark A. Arick II, Chuan-Yu Hsu, Aaron Kiess, **Li Zhang***. (2020). Whole-genome sequence analysis of multidrug-resistant avian pathogenic *Escherichia coli* (APEC) MS1170 isolated from broiler. Poultry Science Vol. 99 (E-suppl. 1), 122. (Abstract and Poster Presentation)

46. Reshma Ramachandran, Chuan-Yu Hsu, **Li Zhang***. (2020). Development of probe-based multiplex real-time PCR assays for the rapid and accurate detection of avian pathogenic *Escherichia coli*. Poultry Science Vol. 99 (E-suppl. 1), 125. (Abstract and Oral Presentation)

47. Ishab Poudel, Nikhil Nuthalapati, **Li Zhang**, Mary Beck, Aaron Kiess, Pratima Adhikari. (2020). Prevalence of avian pathogenic *Escherichia coli* in cage-free W-36 pullets reared under monochromatic blue and normal LED lights. Poultry Science Vol. 99 (E-suppl. 1), 53. (Abstract and Poster Presentation)
48. Saman Fatemi, Katie E. Elliott, Abdul Mohssen Alqhtani, Ayoub Mousstaaid, **Li Zhang**, E. David Peebles. (2020). Effects of the *in ovo* injection of vitamin D3 and 25-hydroxyvitamin D3 on the vitamin D3 activity-related gene expression of broilers challenged with coccidiosis. Poultry Science Vol. 99 (E-suppl. 1), 115.
49. Saman Fatemi, Katie E. Elliott, Abdul Mohssen Alqhtani, Ayoub Mousstaaid, **Li Zhang**, E. David Peebles. (2020). Effects of the *in ovo* injection of vitamin D3 and 25-hydroxyvitamin D3 on the immune-related gene expression of broilers challenged with coccidiosis. Poultry Science Vol. 99 (E-suppl. 1), 116.
50. Tianmin Li, Sadie White, Nikhil Nuthalapati, Anuraj Sukumaran, Aaron Kiess, **Li Zhang***. (2020). The prevalence and antimicrobial resistance properties of Campylobacter in Mississippi poultry. Poultry Science Vol. 99 (E-suppl. 1), 37. (Abstract and Oral Presentation)
51. Sadie White, Tianmin Li, Sabin Poudel, Aaron Kiess, **Li Zhang***. (2020). Comparison of four bacterial DNA extraction methods in poultry litter and fecal samples. Poultry Science Vol. 99 (E-suppl. 1), 37. (Abstract and Oral Presentation, Student Certificates of Participation)
52. Tomi Obe, Rama Nannapaneni, Wes Schilling, **Li Zhang**, Aaron Kiess. (2020). Mode of persistence and antibiotic resistance of *Salmonella* isolates from poultry processing equipment. Poultry Science Vol. 99 (E-suppl. 1), 6. (Abstract and Oral Presentation)
53. Courtney Fancher, Hudson Thames, Alyssa Easterling, Alexis Dillender, Nikhil Nuthalapati, **Li Zhang**, Aaron Kiess, Thu Dinh, Anuraj Sukumaran. (2020). Influence of season and age of flock on the virulence gene profiles of *Escherichia coli* isolates from 'no antibiotics ever' commercial broiler farms and their antibiotic susceptibility. Poultry Science Vol. 99 (E-suppl. 1), 46. (Abstract and Oral Presentation)
54. Milan Sharma, **Li Zhang**, Aaron Kiess, Pratima Adhikari (2020). Housing environment and laying hen strain impacts on cloacal microbiology and incidence of avian pathogenic *Escherichia coli* (APEC) in the late phase of production. Poultry Science Vol. 99 (E-suppl. 1), 80. (Abstract and Oral Presentation)
55. Castañeda, C.D., **L. Zhang**, K.G.S. Wamsley, C.D. McDaniel, M.M. Beck, A.S. Kiess, "Evaluating the impact of *in ovo* injected *Lactobacillus* on broiler well being." at 26th World Poultry Congress, Paris, France in August 2020.
56. Huiwen Wang, Ximin Zeng, **Li Zhang**, Jun Lin. "Isolation and characterization of the emerging pathogen *Escherichia albertii* in the broilers in Mississippi and Alabama." At Conference of Research Workers in Animal Diseases (CRWAD) 2020, Online in Dec 2020. (Conference Proceedings and Oral Presentation)
57. Tianmn Li, Claudia Castañeda, Julio Miotto, Chris McDaniel, Aaron Kiess and **Li Zhang***. (2019). Effects of *in ovo* administration on the incidence of avian pathogenic *Escherichia coli* (APEC) in broilers and an evaluation on the virulence and antimicrobial

resistance properties of APEC. Poultry Science. Vol. 98 (E-Suppl. 1), 42. (Abstract and Oral Presentation, International Paper Scholarship $2,000)

58. Claudia Castañeda, Julio MIotto, **Li Zhang**, Kelley Wamsley, Christopher McDaniel, and Aaron Kiess. (2019). Impact of *in ovo* injected Lactobacillus species on hatchability, growth performance and broiler immune status. Poultry Science. Vol. 98 (E-Suppl. 1), 18. (Abstract and Oral Presentation)
59. Mercedes Smith, Alyssa Easterling, Nikhil Nuthalapathi, **Li Zhang**, Aaron Kiess and Anuraj Theradiyil Sukumaran. (2019). Prevalence of plasmind carried virulence genes by *Escherichia coli* isolates from litter, feces, and cloacal and tracheal swabs collected from "no antibiotics ever" commercial farms. Poultry Science. Vol. 98 (E-Suppl. 1), 44. (Abstract and Oral Presentation)
60. Xue Zhang, **Li Zhang,** Jasmine D. Hendrix, Wei Zhai, M. W. Schilling. 2019. Characterization of caecal microbiota in broilers that differ in genetic strain, nutrition, and development of woody breast. Meat and Muscle Biology 3(2), 72. (Abstract and Oral Presentation)
61. Tianmn Li, Claudia Castañeda, Julio Miotto, Chris McDaniel, Aaron Kiess and **Li Zhang***. 2019. Effects of in ovo administration on the incidence of avian pathogenic *Escherichia coli* (APEC) in broilers and an evaluation on the virulence and antimicrobial resistance properties of APEC. Mississippi Academy of Science third annual summer student science symposium, July 11, Mississippi State, Mississippi. P3.
62. Mercedes Smith, Alyssa Easterling, Nikhil Nuthalapathi, **Li Zhang**, Aaron Kiess and Anuraj Theradiyil Sukumaran. 2019. Prevalence of plasmind carried virulence genes by *Escherichia coli* isolates from litter, feces, and cloacal and tracheal swabs collected from "no antibiotics ever" commercial farms. Mississippi Academy of Science third annual summer student science symposium, July 11, Mississippi State, Mississippi. P3.
63. **Li Zhang**, Cheng WH. 2018. Increased Genome Instability and Oxidative Stress in Selenoprotein H Knockout HeLa Cells. Nutrition 2018 American Society for Nutrition's Annual Meeting, Boston, MA in June 2018. Abstract 420225. (Abstract and Oral Presentation)
64. Cheng WH., Cao L, Lu HY, **Li Zhang**. 2018. Sexual Dimorphisms in the Effect of Dietary Selenium Deficiency and Age on Selenium Status, Selenotranscriptomes, and Gut Microbiota in Mice. Nutrition 2018 American Society for Nutrition's Annual Meeting, Boston, MA in June 2018. (Abstract and Oral Presentation)

## BOOK AND BOOK CHAPTERS

1. Tingjun Lei, Timothy Sellers, Chaomin Luo, and **Li Zhang** (2022). A Bio-Inspired Neural Network Approach to Robot Navigation and Mapping with Nature-Inspired Algorithms. In: Tan, Y., Shi, Y., Niu, B. (eds) Advances in Swarm Intelligence. ICSI 2022. Lecture Notes in Computer Science, vol 13345. Springer, Cham. https://doi.org/10.1007/978-3-031-09726-3_1
2. Yang Z., **Zhang L.**, Li S., Ma J. New Technologies for Dairy Processing. China Agriculture Press, Inc. Beijing, China, 2012.

3. Zeng S. S., **Zhang L.**, G. R. Wiggans, J. Clay, R. LaCroix, J. Z. Wang, and T. Gipson. Current status of composition and somatic cell count in milk of goats enrolled in Dairy Herd Improvement Program in the United States. In: New Research on Livestock Science and Dairy Farming. Nova Science Publishers, Inc. Hauppauge, NY, 2009.

## INVITED PRESENTATION:

1. **Li Zhang**. 2023. IPPE Research TECHTalk. Use of comparative genomics and *in vitro* screening approach for the identification of vaccine candidates for food-borne pathogen *Campylobacter jejuni*. Atlanta, GA on January 26, 2023.

## POPULAR PRESS:

1. USPOULTRY News & Views. Identifying Vaccine Candidate for Campylobacter jejuni: Enhancing Food Safety to Feed the World's Growing Population. July/August 2020. Page 10.
2. WATTPoultry.com. Enhancing food safety to feed the world's growing population. July 2nd, 2020. https://www.wattagnet.com/home/article/15531393/enhancing-food-safety-to-feed-the-worlds-growing-population-wattagnet
3. Meatingplace. PROCESSING TECHNOLOGY. USPOULTRY Exclusive: A novel approach to identifying Campylobacter jejuni vaccine candidates. https://www.meatingplace.com/Industry/TechnicalArticles/Details/104203

## PATENT

1. Yang Z., **Zhang L.**, Wang J., Jiang Y., Li Y., 2012. Recombinant expression of bovine chymosin in *Pichia pastoris*. CN 101748077 B (China)

## SERVICE – PROFESSIONAL

1. Secretary for Multistate NE1942
2. Poultry Science Annual Meeting
   - Review abstracts (2023)
   - Student competition judge (2019, 2021, 2022)
3. International Poultry Scientific Forum
   - Session moderator (2020, 2022)
   - Review abstracts (2020)
   - Student competition judge (2021)
4. Mississippi Academy of Science Symposium
   - Scientific committee, Summer Science & Engineering Symposium (2019, 2022)
   - Student competition judge, Summer Science & Engineering Symposium (2019, 2022)
5. MSU Student Science Symposium

- Student competition judge, Graduate Research Symposium (Spring 2021, Fall 2021, Spring 2022, Fall 2022)
-

6. Memberships in professional societies
   - Poultry Science Association (PSA), 2018-present
   - Mississippi Poultry Association (MPA), 2018-present
   - Southern Poultry Science Society (SPSS), 2018-present
   - American Society for Nutrition (ASN), 2018-present
   - American Society for Microbiology (ASM), 2021-present
7. Ad Hoc Reviewer: *Animal Health Research Reviews* (2 manuscripts), *Bio-protocol* (1 manuscript), *Current Microbiology* (1 manuscript), *Experimental Gerontology* (1 manuscript), *Food Science & Nutrition* (8 manuscripts), *Foods* (1 manuscript), *International Journal of Poultry Science* (1 manuscript), *Journal of Applied Poultry Research* (1 manuscript), *Journal of Global Antimicrobial Resistance* (1 manuscript), *Microbiology Spectrum* (2 manuscripts), *PlosOne* (1 manuscript), *Poultry Science* (18 manuscripts), *Probiotics and Antimicrobial Proteins* (2 manuscripts), *Zoonoses and Public Health* (1 manuscript)