

# CURRICULUM VITAE

Personal Information			
Name	Haihong Hao	Gender	female
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Address	National Reference Laboratory of Veterinary Drug Residues, Huazhong Agricultural University, Wuhan, Hubei, 430070		
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Research Interest			
Pharmacology and toxicology; antimicrobial resistance; foodborne pathogens; clinical breakpoints; prudent and rational use of antimicrobial agents; gut microbiota; microbiological safety assessment			
Education & Working Experience			
<b>Academic History</b>			
2000.9~2004.6: Huazhong Agricultural University, China, B.V.Sc			
2004.6-2010.6: Huazhong Agricultural University, China. Ph.D. Supervisor: Zonghui Yuan.			
2008.9-2009.9: Iowa State University, U.S.A, Visiting scholar. Supervisor: Qijing Zhang.			
2015.9-2017.1: National Center of Toxicological Research, U.S Food and Drug Administration. Visiting scientist. Supervisor: Carl E. Cerniglia.			
<b>Employment Record</b>			
2010.07 ~ 2013.12: Assistant professor, Huazhong Agricultural University, full time.			
2014.01 ~ 2019.11: Associated professor, Huazhong Agricultural University, full time.			
2019.09 ~2020.09: National Natural Science Foundation of China, part time work.			
2019.12 ~ now: Full professor, Huazhong Agricultural University, full time.			
<b>Other professional experience</b>			
2010 ~ now: Member (2010-2019) and executive manager (2021-now) of Chinese Society for Veterinary Pharmacology and Toxicology.			
2010 ~ now: Member of Chinese Pharmacological Society.			
2020 ~2021: Co-chair of Codex Alimentarius Commission (CAC) Task force on Antimicrobial Resistance (TFAMR) COP and GLIS electronic working group.			
2020 ~ now: General Committee member of the Chinese Committee on Antimicrobial Susceptibility Testing (ChiCAST), which is affiliated to the European Committee on Antimicrobial Susceptibility Testing (EUCAST), European Society of Clinical Microbiology and Infectious Disease (ESCMID).			

2021~ now: Science editor of animal disease.  
2021~ now: Guest editor of antibiotic-basel.

## Publications

- Hao H**, Dai M, Wang Y, Peng D, Liu Z, Yuan Z\*. 23S rRNA mutation A2074C conferring high-level macrolide resistance and fitness cost in *Campylobacter jejuni*. Microb Drug Resist. 2009 Dec;15(4):239-44.
2. **Hao H**, Dai M, Wang Y, Chen D, Yuan Z\*. Quantification of mutated alleles of 23S rRNA in macrolide-resistant *Campylobacter* by TaqMan real-time polymerase chain reaction. Foodborne Pathog Dis. 2010 Jan;7(1):43-9.
3. **Hao H**, Dai M, Wang Y, Huang L, Yuan Z\*. Key genetic elements and regulation systems in methicillin-resistant *Staphylococcus aureus*. Future Microbiol. 2012 Nov;7(11):1315-29.
4. **Hao H**, Cheng G, Dai M, Wu Q, Yuan Z\*. Inhibitors targeting on cell wall biosynthesis pathway of MRSA. Mol Biosyst. 2012 Nov;8(11):2828-38.
5. Guo W#, **Hao H# (co-first author)**, Dai M, Wang Y, Huang L, Peng D, Wang X, Wang H, Yao M, Sun Y, Liu Z, Yuan Z\*. Development of quinoxaline 1, 4-dioxides resistance in *Escherichia coli* and molecular change under resistance selection. PLoS One. 2012;7(8):e43322.
6. **Hao H#**, Guo W#, Iqbal Z, Cheng G, Wang X, Dai M, Huang L, Wang Y, Peng D, Liu Z, Yuan Z\*. Impact of cyadox on human colonic microflora in chemostat models. Regul Toxicol Pharmacol. 2013 Dec;67(3):335-43.
7. **Hao H#**, Pan H#, Ahmad I, Cheng G, Wang Y, Dai M, Tao Y, Chen D, Peng D, Liu Z, Huang L\*, Yuan Z\*. Susceptibility breakpoint for enrofloxacin against swine *Salmonella* spp. J Clin Microbiol. 2013 Sep;51(9):3070-2. IF2021= 5.9484
8. **Hao H#**, Yuan Z#, Shen Z, Han J, Sahin O, Liu P, Zhang Q\*. Mutational and transcriptomic changes involved in the development of macrolide resistance in *Campylobacter jejuni*. Antimicrob Agents Chemother. 2013 Mar; 57(3): 1369-78. IF2021=5.1912

9. **Hao H**, Cheng G, Iqbal Z, Ai X, Hussain HI, Huang L, Dai M, Wang Y, Liu Z, Yuan Z\*. Benefits and risks of antimicrobial use in food-producing animals. *Front Microbiol.* 2014 Jun 12;5:288. **IF2021=5.6398**
10. **Hao H#**, Yao Junping#, Wu Q, Wei Y, Dai M, Iqbal Z, Wang X, Wang Y, Huang L, Chen D, Tao Y, Liu Z, Yuan Z\*. Microbiological toxicity of tilmicosin on human colonic microflora in chemostats. *Regul Toxicol Pharmacol.* 2015 Oct;73(1):201-8.
11. **Hao H#**, Liu Jie#, Kuang X, Dai M, Cheng G, Wang X, Peng D, Ahmad I, Ren N, Liu Z, Wang Y\*, Yuan Z \*. Identification of **Campylobacter jejuni** and determination of point mutations associated with macrolide resistance using a multiplex TaqMan MGB real-time PCR. *Journal of Applied Microbiology* 2015, 118, 1418~1425.
12. Kuang X, **Hao H\* (corresponding author)**, Dai M, Wang Y, Ahmad I, Liu Z, Zonghui Y\*. Serotypes and antimicrobial susceptibility of **Salmonella spp.** isolated from farm animals in China. *Front Microbiol.* 2015 Jun 22;6:602. **IF2021=5.6398**
13. **Hao H#**, Ren N#, Han J, Foley SL, Iqbal Z, Cheng G, Kuang X, Liu J, Liu Z, Dai M\*, Wang Y\*, Yuan Z\*. Virulence and Genomic Feature of Multidrug Resistant **Campylobacter jejuni** Isolated from Broiler Chicken. *Front Microbiol.* 2016 Oct 14;7:1605. **IF2021=5.6398**
14. **Hao H**, Sander P, Iqbal Z, Wang Y, Cheng G, Yuan Z\*. The Risk of Some Veterinary Antimicrobial Agents on Public Health Associated with Antimicrobial Resistance and their Molecular Basis. *Front Microbiol.* 2016 Oct 18;7:1626. **IF2021=5.6398**
15. **Hao H#**, Zhou S#, Cheng G, Dai M, Wang X, Liu Z, Wang Y\*, Yuan Z\*. Effect of Tulathromycin on Colonization Resistance, Antimicrobial Resistance, and Virulence of Human Gut Microbiota in Chemostats. *Front Microbiol.* 2016 Apr 8;7:477. **IF2021=5.6398**
16. Wang J#, **Hao H# (co-first author)**, Huang L, Liu Z, Chen D\*, Yuan Z\*. Pharmacokinetic and Pharmacodynamic Integration and Modeling of Enrofloxacin in Swine for *Escherichia coli*. *Front Microbiol.* 2016 Feb 2;7:36. **IF2021=5.6398**
17. Sang K#, **Hao H#(co-first author)**, Huang L, Wang X\*, Yuan Z\*.

- Pharmacokinetic-Pharmacodynamic Modeling of Enrofloxacin Against Escherichia coli in Broilers. *Front Vet Sci.* 2016 Jan 7;2:80.
18. Shabbir MA, **Hao H\* (corresponding author)**, Shabbir MZ, Hussain HI, Iqbal Z, Ahmed S, Sattar A, Iqbal M, Li J, Yuan Z\*. Survival and Evolution of CRISPR-Cas System in Prokaryotes and Its Applications. *Front Immunol.* 2016 Sep 26;7:375. **IF2021 7.5607.**
  19. Shabbir MA, **Hao H \* (corresponding author)**, Shabbir MZ, Wu Q, Sattar A, Yuan Z\*. Bacteria vs. Bacteriophages: Parallel Evolution of Immune Arsenal. *Front Microbiol.* 2016 Aug 17;7:1292. **IF2021=5.6398**
  20. Iqbal Z, Seleem MN, Hussain HI, Huang L, **Hao H (corresponding author) \***, Yuan Z\*. Comparative virulence studies and transcriptome analysis of Staphylococcus aureus strains isolated from animals. *Sci Rep.* 2016 Oct 14;6:35442.
  21. Zhang P#, **Hao H#\* (co-first and corresponding author)**, Li J, Ahmad I, Cheng G, Chen D, Tao Y, Huang L, Wang Y, Dai M, Liu Z, Yuan Z\*. The Epidemiologic and Pharmacodynamic Cutoff Values of Tilmicosin against Haemophilusparasuis. *Front Microbiol.* 2016 Mar 22;7:385. **IF2021=5.6398 JCR Q1**
  22. J. Nan#, **H. Hao#(co-first author)**, S. Xie, Y. Pan, C. Xi, F. Mao, Z. Liu, L. Huang\*, Z. Yuan\*. Pharmacokinetic and pharmacodynamic integration and modeling of acetylkitasamycin in swine for Clostridium perfringens. *J. vet. Pharmacol. Therap.*2017;40:641–65.
  23. **Hao H #**, Fang X#, Han J, Foley SL, Wang Y, Cheng G, Wang X, Huang L, Dai M, Liu Z, Yuan Z\*. Cj0440c Affects Flagella Formation and In Vivo Colonization of Erythromycin-Susceptible and -Resistant **Campylobacter jejuni**. *Front Microbiol.* 2017 Apr 25;8:729. doi: 10.3389/fmicb.2017.00729. eCollection 2017. **IF2021=5.6398 JCR Q1**
  24. **Hao H#**, Li F#, Han J, Foley SL, Dai M, Wang X, Wang Y, Huang L, Sun Y, Liu Z, Yuan Z\*. Cj1199 Affect the Development of Erythromycin Resistance in **Campylobacter jejuni** through Regulation of Leucine Biosynthesis. *Front Microbiol.* 2017 Jan 17;8:16. **IF2021=5.6398 JCR Q1**
  25. Li J, **Hao H\*(corresponding author)**, Cheng G, Liu C, Ahmed S, Shabbir MAB, Hussain

- HI, Dai M\*, Yuan Z\*. Microbial Shifts in the Intestinal Microbiota of **Salmonella** Infected Chickens in Response to Enrofloxacin. *Front Microbiol.* 2017 Sep 8;8:1711. **JCR Q1**
26. Li J, **Hao H\* (corresponding author)**, Cheng G, Wang X, Ahmed S, Shabbir MAB, Liu Z, Dai M\*, Yuan Z\*. The effects of different enrofloxacin dosages on clinical efficacy and resistance development in chickens experimentally infected with **Salmonella Typhimurium**. *Sci Rep.* 2017 Sep 15;7(1):11676.
27. Chen T, Cheng G, Ahmed S, Wang Y, Wang X, **Hao H\*(corresponding author)** , Yuan Z\*. New methodologies in screening of antibiotic residues in animal-derived foods: Biosensors. *Talanta.* 2017 Dec 1;175:435-442. IF2021=6.0574 **JCR Q1**
28. Hussain HI, Iqbal Z, Seleem MN, Huang D, Sattar A, **Hao H\* (corresponding author)** , Yuan Z\*. Virulence and transcriptome profile of multidrug-resistant *Escherichia coli* from chicken. *Sci Rep.* 2017 Aug 21;7(1):8335.
29. Shabbir MA, Wu Q, Shabbir MZ, Sajid A, Ahmed S, Sattar A, Tang Y, Li J, Maan MK, **Hao H\*(corresponding author)**, Yuan Z\*.The CRISPR-cas system promotes antimicrobial resistance in **Campylobacter jejuni**. *Future Microbiol.* 2018 Dec;13:1757-1774. doi: 10.2217/fmb-2018-0234.
30. Muhammad A B Shabbir, Yanping Tang, Zihui Xu, Mingyue Lin, Guyue Cheng, Menghong Dai, Xu Wang, Zhengli Liu, Zonghui Yuan\*, **Haihong Hao\*(corresponding author)**. The Involvement of the Cas9 Gene in Virulence of **Campylobacter jejuni**. *Frontiers in Cellular and Infection Microbiology.* 2018 Aug 20;8:285. IF2021=5.2926. **JCR Q1/ Q2**
31. Shabbir MAB, Shabbir MZ, Wu Q, Mahmood S, Sajid A, Maan MK, Ahmed S, Naveed U, **Hao H\*(corresponding author)**, Yuan Z\*. CRISPR-cas system: biological function in microbes and its use to treat antimicrobial resistant pathogens. *Ann Clin Microbiol Antimicrob.* 2019 Jul 5;18(1):21. doi: 10.1186/s12941-019-0317-x. **JCR Q2**
32. **Hao H**, Gokulan K, Piñeiro SA, Williams KM, Yuan Z, Cerniglia CE\*, Khare S\*. Effects of Acute and Chronic Exposure to Residual Level Erythromycin on Human Intestinal Epithelium Cell Permeability and Cytotoxicity. *Microorganisms.* 2019 Sep 6;7(9).

IF2021=4.1283. JCR Q2

33. Jun Li #, **Haihong Hao#(co-first author)**, Menghong Dai, Heying Zhang, Jianan Ning, Guyue Cheng, Muhammad Abu Bakr Shabbir, Abdul Sajid, Zonghui Yuan\*. Resistance and Virulence Mechanisms of Escherichia coli Selected by Enrofloxacin in Chicken. *Antimicrobial Agents and Chemotherapy*. 2019 Apr 25;63(5):e01824-18 IF2021=5.191. JCR Q1/Q2
34. Li J, Zhang H, Ning J, Sajid A, Cheng G, Yuan Z, **Hao H\*(corresponding author)**. The nature and epidemiology of OqxAB, a multidrug efflux pump. *Antimicrob Resist Infect Control*. 2019 Feb 22;8:44. IF=4.887. **JCR Q1/Q2**.
35. Zihui Xu#, Anxiong Huang#, Xun Luo, Peng Zhang, Lingli Huang, Xu Wang, Kun Mi, Shiwei Fang, Xiao Huang, Jun Li, Zonghui Yuan and **Haihong Hao\*(corresponding author)**. Exploration of Clinical Breakpoint of Danofloxacin for *Glaesserella parasuis* in Plasma and in PELF. *Antibiotics-Basel*. 2021 Jul; 10(7): 808. Published online 2021 Jul 2. doi: 10.3390/antibiotics10070808 IF2021=4.639. **JCR Q1/Q2**
36. Anxiong Huang, Shuge Wang, Jinli Guo, Yufeng Gu, Jun Li, Lingli Huang, Xu Wang, Yanfei Tao, Zhenli Liu, Zonghui Yuan, **Haihong Hao\*(corresponding author)**. Prudent Use of Tylosin for Treatment of *Mycoplasma gallisepticum* Based on Its Clinical Breakpoint and Lung Microbiota Shift. *Frontiers in Microbiology*, 2021 Sep 9;12:712473. DOI: 10.3389/fmicb.2021.712473 IF=5.6398 . JCR Q1
37. Zahid Iqbal\*, Hafiz Iftikhar Hussain, Mohamed N Seleem, Muhammad Abu Bakr Shabbir, Adeel Sattar, Amjad Islam Aqib, Xiuhua Kuang, Awais Ihsan\*, **Haihong Hao\*(corresponding author)**. RNA-seq-based transcriptome analysis of a cefquinome-treated, highly resistant, and virulent MRSA strain. *Microb Pathog*. 2021 Nov;160:105201. doi: 10.1016/j.micpath.2021.105201. Epub 2021 Sep 20. PMID: 34547409. IF=3.7383. JCR Q2/Q3.
38. Hafiz Iftikhar Hussain\*, Zahid Iqbal, Mujahid Iqbal, Xiuhua Kuang, Yulian Wang, Lingquan Yang, Awais Ihsan, Amjad Islam Aqib, Qari Muhammad Kaleem, Yufeng Gu, **Haihong Hao\*\*(corresponding author)**. Coexistence of virulence and  $\beta$ -lactamase genes in avian

- pathogenic *Escherichia coli*. *Microb Pathog*. 2022 Jan 5;163:105389. doi: 10.1016/j.micpath.2022.105389. PMID: 34998933 IF=3.7383. JCR Q2/Q3
39. Xinyu Dai†, Yufeng Gu†, Jinli Guo, Lingli Huang, Guyue Cheng, Dapeng Peng\* and **Haihong Hao\*(corresponding author)**. Clinical Breakpoint of Apramycin to Swine Salmonella and Its Effect on Ileum Flora. *International Journal of Molecular Sciences*. 2022, 23, 1424. <https://doi.org/10.3390/ijms23031424>. IF=5.924.
40. Anxiong Huang#, Feng Mao#, Lingli Huang, Shuyu Xie, Yuanhu Pan, Wei Qu, Guyue Cheng, Zhenli Liu, Zonghui Yuan, Dapeng Peng\*, **Haihong Hao\*(corresponding author)**. PK-PD Modeling and Optimal Dosing Regimen of Acetylkitasamycin against *Streptococcus suis* in Piglets. *Antibiotics (Basel)*. 2022 Feb 21;11(2):283. doi: 10.3390/antibiotics11020283.
41. Anxiong Huang#, Xun Luo#, Zihui Xu, Lingli Huang, Xu Wang, Shuyu Xie, Yuanhu Pan, Shiwei Fang, Zhenli Liu, Zonghui Yuan, **Haihong Hao\*(corresponding author)**. Optimal Regimens and Clinical Breakpoint of Avilamycin Against *Clostridium perfringens* in Swine Based on PK-PD Study. *Front Pharmacol*. 2022 Feb 24;13:769539. doi: 10.3389/fphar.2022.769539. eCollection 2022.
42. Shuge Wang, Anxiong Huang, Yufeng Gu, Jun Li, Lingli Huang, Xu Wang, Yanfei Tao, Zhenli Liu, Congming Wu, Zonghui Yuan and **Haihong Hao\*(corresponding author)**. Rational Use of Danofloxacin for Treatment of *Mycoplasma gallisepticum* in Chickens Based on the Clinical Breakpoint and Lung Microbiota shift. *Antibiotics (Basel)*. 2022 Mar 17;11(3):403. doi: 10.3390/antibiotics11030403.

## Book chapters

1. Book: *Salmonella-A re-emerging pathogen*. Edited by Maria Teresa Mascellino. Published in London, UK. 2018 IntechOpen. Dr\_Microbe/istock. ISBN 978-1-78923-444-2. Chapter6: virulence or fitness of antimicrobial resistant Salmonella. Jun Li, **Haihong Hao\*(corresponding author)**, Abdul Sajid, Heying Zhang and Zonghui Yuan.

2. Book: Fighting Antimicrobial Resistance. Edited by Ana Budimir. Published by IAPC publishing, Zagreb, Croatia, 2018. ISBN 978-953-56942-6-7. Chapter 16 PK/PD for prediction and contain of antimicrobial resistance. Abdul Sajid, Saeed Ahmed, Muhammad Abu Bakr Shabbir, Muhammad Kashif Maan, Ijaz Ahmed, Li Jun, Zonghui Yuan, and **Haihong Hao\*(corresponding author)**.
3. Book: Antimicrobial resistance and virulence common mechanisms, edited by Etienne Giraud, Ivan Rychlik and Axel Cloeckaert. Published in Frontier in Microbiology. 2017 May. ISSN 1664-8714. ISBN 978-2-88945-181-4. DOI 10.3389/978-2-88945-181-4. Chapter10 :Virulence and Genomic Feature of Multidrug Resistant Campylobacter jejuni Isolated from Broiler Chicken. **Haihong Hao#**, Ni Ren#, Jing Han, Steven L. Foley, Zahid Iqbal, GuyueCheng, XiuhuaKuang, Jie Liu, Zhenli Liu, Menghong Dai, Yulian Wang and Zonghui Yuan\*.

## **Oral and Poster presentation in the Academic Conference**

1. **Haihong Hao**, Hafiz I. Hussain, Zahid Iqbal, Zonghui Yuan\*. Functional Genomics and Transcriptomic of Virulent and Multidrug Resistant Escherichia coli of Poultry Origin. The 4th World Congress and Exhibition on Antibiotics and Antibiotic Resistance” during June 14-15, 2018 at Barcelona, Spain. “31st Euro Global Summit and Expo on Vaccines & Vaccination" which is going to be held during June 14-16, 2018 in Barcelona, Spain. Antibiotics 2018 Organizing Committee Conference Series LLC LTD. Oral Presentation.
2. **Haihong Hao#**, Zhang Peng#, Jun Li, Guyue Cheng, Dongmei Chen, Yanfei Tao, Lingli Huang, Zonghui Yuan\*. Epidemiologic and pharmacodynamic cutoff values of tilmicosin against Haemophilusparasuis”. 14th International congress of the European Association for Veterinary Pharmacology and Toxicology. June 24-27, 2018 in Wroclaw, Poland. Oral Presentation.
3. **Haihong Hao#**, Zihui Xu#, Xun Luo, Lingli Huang, ShuyuXie, Wei Qu, Yuanhu Pan, Xu Wang, Yulian Wang, Guyue Cheng, Zonghui Yuan\*. Clinical breakpoint (CBP) of danofloxacin against Haemophilusparasuis in pigs. Ninth International Conference on



Antimicrobial Agents in Veterinary Medicine. Rome, Italy from October 16-19, 2018. Oral Presentation.