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**EDUCATION**

2005 Ph.D. in Microbiology, Cornell University, Ithaca, NY, USA  
1999 M.S. in Microbiology, Fudan University, Shanghai, China  
1996 B.S. in Microbiology, Fudan University, Shanghai, China

**EMPLOYMENT HISTORY**

2018-present Associate Professor, Northeastern University, Boston, MA  
2012-2018 Assistant Professor, Northeastern University, Boston, MA  
2006-2012 Postdoctoral Fellow, Harvard University, Cambridge, MA  
2009-2011 BASF Research Fellow, Harvard University, Cambridge, MA  
2006-2009 Jane Coffin Childs Postdoctoral Fellow, Harvard University, Cambridge, MA  
2000-2005 Graduate Research Assistant, Cornell University, Ithaca, NY

**HONORS AND AWARDS**

Northeastern University College of Science Teaching Excellence Award (2018)  
National Science Foundation CAREER Award (2017-2021)  
Badische Anilin-und Soda-Fabrik (BASF) Research Fellowship (2009–2011)  
Jane Coffin Childs Medical Foundation (JCC) Postdoctoral Fellowship (2006–2009)

**PROFESSIONAL SERVICE**

Associate Editor, *Frontiers in Microbiology* (2016 - present)  
Editorial Board, *Molecular Microbiology* (2018 - present)  
Editorial Board, *Microbial Cell* (2016 - present)  
Member, American Society of Microbiology (2000- present)  
Panelist, National Science Foundation (2018, 2019)

**TEACHING**

BIOL2321 General Microbiology  
BIOL5569 Advanced Microbiology  
BIOL6405 Prokaryotic Molecular and Cell Biology

**PUBLICATIONS**

1. Qin Y, He Y, She Q, Larese-Casanova P, Li P, and **Chai Y.** (2019). Heterogeneity in Respiratory Electron Transfer and Adaptive Iron Utilization in a Bacterial Biofilm. **Nature Communications.** 10.3702.

2. Greenwich J, Reverdy A, Gozzi K, Di Cecco G, Tashjian T, Godoy V, and **Chai Y.** (2019). Decreasing Serine Levels During Growth Transition Triggers Biofilm Formation in *Bacillus subtilis*. **Journal of Bacteriology**. 201: e00155-19.
3. Qin Y, Wang Y, He Y, Zhang Y, She Q, Shang Q, **Chai Y,** Li P, and Shang Q. (2019). Characterization of subtilin L-Q11, a novel class I bacteriocin synthesized by *Bacillus subtilis* L-Q11 isolated from orchard soil. **Frontiers In Microbiology**.10.484.
4. Chen Y, Wang J, Yang N, Wen Z, Sun X, **Chai Y,** He S, and Ma Z. 2019. Epigenetic regulation mediated by a member of the wheat head microbiome reduces virulence and growth of a major wheat fungal pathogen. **Toxicon** (Oxford). 158(1). S34.
5. Buch P, **Chai Y,** and Goluch E. (2019). Treating polymicrobial infections in chronic diabetic wounds. **Clinical Microbiology Review**. 32:e00091-18.
6. Gao T, Ding M, Fan H, **Chai Y<sup>#</sup>** and Li Y<sup>#</sup>. (2018). The Phosphotransferase System Gene *ptsH* Plays an Important Role in MnSOD Production, Biofilm Formation, Swarming motility, and Root Colonization in *Bacillus cereus* 905. **Research In Microbiology**. 10.002. (#corresponding authors).
7. Reverdy A, Chen Y, Hunter E, Gozzi K, and **Chai Y.** (2018). Protein Lysine Acetylation Plays a Regulatory Role in *Bacillus subtilis* Multicellularity. **PLOS One** 13:e0204687.
8. Chen Y, Wang J, Yang N, Wen Z, Sun X, **Chai Y,** and Ma Z. (2018). Wheat microbiome bacteria can reduce virulence of a plant pathogenic fungus by altering histone acetylation. **Nature Communications**. 9:3429.
9. Reverdy A, Chen Y, and **Chai Y.** (2018). Protein lysine acetylation is a regulatory mechanism for *Bacillus subtilis* multicellularity. **The FASEB Journal**. 32(supplement):791.6.
10. He Y, Gozzi K, Qin Y, and **Chai Y.** (2018). Investigating a novel regulation on a checkpoint protein Sda that is essential for biofilm formation and sporulation in *Bacillus subtilis*. **The FASEB Journal**. 32(supplement):648.7.
11. Yu Y, Yan F, He Y, Qin Y, Chen Y, **Chai Y<sup>#</sup>,** and Guo JH<sup>#</sup>. (2018). The ClpY-ClpQ protease regulates multicellular development in *Bacillus subtilis*. **Microbiology**. 164:848-862. (#corresponding authors).
12. Zhang X, Gao T, Peng Q, Zhang J, **Chai Y,** Sun D, and Song F. (2018). A strong promoter of a non-*cry* gene directs expression of the *cryIAc* gene in *Bacillus thuringiensis*. **Applied Microbiology and Biotechnology**. 102:3687-3699.
13. Chen X, Gao T, Peng Q, Zhang J, **Chai Y,** and Song F. (2018). The novel cell wall hydrolase CwlC from *Bacillus thuringiensis* is essential for mother cell lysis. **Applied and Environmental Microbiology**. 02640-17.
14. Qin Y, Shang Q, Zhang Y, Li P, and **Chai Y.** (2017). *Bacillus amyloliquefaciens* L-S60 reforms the rhizosphere bacterial community and improves growth conditions in cucumber plug seedling. **Frontiers In Microbiology**. 10.3389.
15. Habib C, Yu Y, Gozzi K, Ching C, Shemesh M, and **Chai Y.** (2017) Characterization of the regulation of a plant polysaccharide utilization operon and its role in biofilm formation in *Bacillus subtilis*. **PLOS One**. 12:e0179761.
16. Xu S, Yang N, Zheng S, Yan F, Jiang C, Yu Y, Guo J, **Chai Y<sup>#</sup>,** and Chen Y<sup>#</sup>. (2017) The *spo0A-sinI-sinR* regulatory circuit plays an essential role in biofilm formation, nematicidal activities, and plant protection in *Bacillus cereus* AR156. **Molecular Plant-Microbe Interactions**. 30:603-619. (#corresponding authors).

17. Di Cecco G, Greenwich J, and **Chai Y**. (2017) Differential tRNA<sup>ser</sup> expression regulates translation rate of a biofilm master regulator during *Bacillus subtilis* biofilm development. **The FASEB Journal**. 31(supplement):759.5.
18. Yan F, Yu Y, Gozzi K, Chen Y, Guo JH, and **Chai Y**. (2017) A genome-wide investigation on biofilm formation and biological control in *Bacillus cereus*. **Applied and Environmental Microbiology**. 83(13):00561-17.
19. Gao T, Li Y, Ding M, **Chai Y**<sup>#</sup> and Wang Q<sup>#</sup>. (2017) The Phosphotransferase System Gene *ptsI* in *Bacillus cereus* Regulates Expression of *sodA2* and Contributes to Colonization of Wheat Roots. **Research In Microbiology**. 168(6):524-535. (#corresponding authors).
20. Gozzi K, Ching C, Paruthiyil A, Zhao Y, Godoy-Carter C, and **Chai Y**. (2017) *Bacillus subtilis* utilizes the DNA damage response to manage multicellular development. **npj Biofilms and Microbiomes**. 3:8.
21. Ching C, Gozzi K, Heinemann B, **Chai Y**, and Godoy V. (2017) RNA-mediated cis-regulation in *Acinetobacter baumannii* modulates stress-induced phenotypic variation. **Journal of Bacteriology** 199(11): e00799-16.
22. Yu Y, Yan F, Chen Y, Jin C, Guo JH, and **Chai Y**. (2016) Poly- $\gamma$ -glutamic acids contribute to biofilm formation and plant root colonization in selected environmental isolates of *Bacillus subtilis*. **Frontiers In Microbiology**. 7:1811.
23. Barlow J, Gozzi K, Kelley CP, Geilich B, Webster T, **Chai Y**, Sridhar S, van de Ven AL. (2016) High throughput microencapsulation of *Bacillus subtilis* in semi-permeable biodegradable polymersomes for selenium remediation. **Applied Microbiology and Biotechnology**. 101:455–464.
24. Yan F, Yu Y, Wang L, Luo Y, Guo JH, and **Chai Y**. (2016) The *comER* gene plays an important role in biofilm formation and sporulation in both *Bacillus subtilis* and *Bacillus cereus*. **Frontiers In Microbiology**. 7:1025.
25. Duanis-Assaf D, Steinberg D, **Chai Y**, and M Shemesh. (2016) The LuxS based quorum sensing governs lactose induced biofilm formation by *Bacillus subtilis*. **Frontiers In Microbiology**. 6:1517.
26. DeLoughey A, Vanina D, **Chai Y**, and Losick R. (2016) Biofilm formation by *Bacillus subtilis* requires an endoribonuclease-containing multisubunit complex that controls mRNA levels for the matrix gene repressor SinR. **Molecular Microbiology**. 99:425-437.
27. Chen Y, Gozzi K, and **Chai Y**. (2015) A bacterial volatile signal for biofilm formation. **Microbial Cell**. 2:406-408.
28. Gao T, Greenwich J, Li Y, Wang Q, and **Chai Y**. (2015) The bacterial tyrosine kinase activator TkmA contributes to biofilm formation largely independent of the cognate kinase PtkA in *Bacillus subtilis*. **Journal of Bacteriology**. 197:3421-3432.
29. Chen Y, Gozzi K, Yan F, and **Chai Y**. (2015) Acetic acid acts as a bacterial volatile signal to trigger biofilm formation. **mBio**. 6:e00392.
30. Gao T, Foulston L, **Chai Y**, Wang Q, Losick R. (2015) Alternative modes of biofilm formation by plant-associated *Bacillus cereus*. **MicrobiologyOpen**. 4:452-464.
31. Subramaniam AR, DeLoughery A, Bradshaw N, Chen Y, O'Shea E, Losick R, and **Chai Y**. (2013) A serine sensor for multicellularity in a bacterium. **eLife**. 2:e01501.
32. Wu Y, Xiong J, Tian L, Pei X, and **Chai Y**. (2014) Microbial persisters and health care. **Modern Preventive Medicine** (in Chinese). 41(5): 908-910.

33. Shemesh M and **Chai Y**. (2013) A combination of glycerol and manganese promotes biofilm formation in *Bacillus subtilis* via the histidine kinase KinD signaling. **Journal of Bacteriology** 195:2747-2754.
34. Beauregard P, **Chai Y**, Vlamakis H, Losick R and Kolter R. (2013) *Bacillus subtilis* biofilm induction by plant polysaccharides. **Proceedings of the National Academy of Sciences USA**. 110(17):E1621-1630.
35. Vlamakis H, **Chai Y**, Beauregard P, Losick R and Kolter R. (2013) Sticking together: building a biofilm the *Bacillus subtilis* way. **Nature Review of Microbiology** 11:157-68.
36. Chen Y<sup>#</sup>, Yan F<sup>#</sup>, **Chai Y<sup>#</sup>**, Liu H, Kolter R, Losick R and Guo J. (2013) Biocontrol of tomato wilt disease by *Bacillus subtilis* isolates from natural environments depends on conserved genes mediating biofilm formation. **Environmental Microbiology** 15:848-864. (#co-first authors).
37. **Chai Y**, Beauregard P, Vlamakis H, Losick R and Kolter R. (2012) Galactose metabolism plays a crucial role in biofilm formation of *Bacillus subtilis*. **mBio** 3:e00184-12.
38. Chen Y<sup>#</sup>, **Chai Y<sup>#</sup>**, Guo J and Losick R. (2012) Evidence for cyclic di-GMP signaling in *Bacillus subtilis*. **Journal of Bacteriology** 194:5080-5090 (#co-first authors).
39. Chen Y<sup>#</sup>, Cao S<sup>#</sup>, **Chai Y<sup>#</sup>**, Clardy J, Kolter R, Guo J and Losick R. (2012) A *Bacillus subtilis* sensor kinase recognizes plant signaling molecules that trigger biofilm formation on the roots of tomato plants. **Molecular Microbiology** 85:418-430 (#co-first authors).
40. Esther DC, **Chai Y**, and Winans SC. (2012) The quorum-sensing protein TraR of *Agrobacterium tumefaciens* is susceptible to intrinsic and TraM-mediated proteolytic instability. **Molecular Microbiology** 84: 807-815.
41. **Chai Y**, Norman T, Kolter R, and Losick R. (2011) Evidence that metabolism and chromosome copy number control mutually exclusive cell fates in *Bacillus subtilis*. **EMBO Journal** 30:1402-1413.
42. **Chai Y**, Norman T, Kolter R, and Losick R. (2010) An epigenetic switch governing daughter cell separation in *Bacillus subtilis*. **Genes & Development** 24:754-765.
43. **Chai Y**, Kolter R, and Losick R. (2010) Reversal of an epigenetic switch governing cell chaining in *Bacillus subtilis* by protein instability. **Molecular Microbiology** 78:218-229.
44. **Chai Y**, Kolter R, and Losick R. (2009) Paralogous antirepressors acting on the master regulator for biofilm formation in *Bacillus subtilis*. **Molecular Microbiology** 74:876-887.
45. **Chai Y**, Kolter R, and Losick R. (2009) A widely conserved gene cluster required for lactate utilization in *Bacillus subtilis* and its involvement in biofilm formation. **Journal of Bacteriology** 191: 2423-2430.
46. **Chai Y** and Winans SC. (2009) The chaperone GroESL enhances the accumulation of soluble, active TraR protein, a quorum-sensing transcription factor from *Agrobacterium tumefaciens*. **Journal of Bacteriology** 191: 3706-3711.
47. Chu F, Kearns DB, Mcloon A, **Chai Y**, Kolter R, and Losick R. (2008) A novel regulatory protein governing biofilm formation in *Bacillus subtilis*. **Molecular Microbiology** 68:1117-1127.
48. **Chai Y**, Chu F, Kolter R, and Losick R. (2008) Bistability and biofilm formation in *Bacillus subtilis*. **Molecular Microbiology** 67:254-263.
49. **Chai Y**, Tsai CS, Cho H, and Winans SC. (2007) *In vitro* reconstitution of the biochemical activities of the AttK, AttL, and AttM catabolic enzymes and the AttJ repressor of *Agrobacterium tumefaciens*. **Journal of Bacteriology** 189: 3674-3679.

50. **Chai Y** and Winans SC. (2005) RepB protein of an *Agrobacterium tumefaciens* Ti plasmid binds to a pair of sites between *repA* and *repB* for plasmid partitioning and autorepression. **Molecular Microbiology** 58: 1114-1129.
51. **Chai Y** and Winans SC. (2005) A small antisense RNA attenuates expression of an essential replicase gene of an *Agrobacterium tumefaciens* Ti plasmid. **Molecular Microbiology** 56: 1574-1585.
52. **Chai Y** and Winans SC. (2005) Amino-terminal protein fusions to the TraR quorum sensing transcription factor enhance protein stability and autoinducer-independent activity. **Journal of Bacteriology** 187:1219-1226.
53. Weihgart C, White C, Liu S, **Chai Y**, Cho H, Tsai C, Wei Y, Delay NR, Eberhard A and Winans SC. (2005) Direct binding of the quorum-sensing regulator CepR of *Burkholderia cenocepacia* to two target promoters *in vitro*. **Molecular Microbiology** 57: 452-467.
54. **Chai Y** and Winans SC. (2004) Site-directed mutagenesis of a LuxR-type quorum sensing transcription factor: alteration of autoinducer specificity. **Molecular Microbiology** 51:765-776
55. Zhu J<sup>#</sup>, **Chai Y**<sup>#</sup>, Zhong Z, Li S and Winans SC. (2003) *Agrobacterium* bioassay strain for ultrasensitive detection of *N*-acylhomoserine lactone-type quorum-sensing molecules: detection of autoinducers in *Mesorhizobium huakuii*. **Applied and Environmental Microbiology** 69:6949-6953(#co-first authors).
56. Wu Y, Jiang P, Fan C, **Chai Y**, Song D, and Huang W. (2002). Cloning and Co-expression of *ppsA* and *pckA* genes in *Escherichia coli*. **Journal of Fudan University**. Natural science 41(1):31-35.
57. **Chai Y**, Zhu J and Winans SC. (2001) TrlR, a defective TraR-like protein of *Agrobacterium tumefaciens*, blocks TraR function *in vitro* by forming inactive TrlR:TraR dimers. **Molecular Microbiology** 40:414-421.
58. Fan C, Zeng X, **Chai Y**, Jiang P, and Huang W. (1999). Expression of genes *aroG* and *pheA* in phenylalanine biosynthesis. **Acta Microbiologica Sinica** 39:430-435.

## BOOK CHAPTER

Gozzi K and **Chai Y**. (2018) Acetic acid is an important modulator for intracellular function and interspecies communication in bacteria. Mariusz Szymczak and Osman Topuz, eds., Acetic Acids: Advances in Research and Applications. NOVA Science Publishers, Hauppauge, NY, USA. ISBN: 978-1-53613-551-0.

## CONFERENCE PRESENTATIONS

### A. Oral Presentations

1. Greenwich J, Kevin Gozzi, Di Cecco G, and **Chai Y**. Serine metabolism plays an essential role in Biofilm Formation in *Bacillus subtilis*. ASM General Meeting, Atlanta, VA, June 2018.
2. Greenwich J, Di Cecco G, and **Chai Y**. The Interplay Between Serine Metabolism and Biofilm Formation in *Bacillus subtilis*. 23rd Annual Boston Bacterial Meeting (BBM), Cambridge, MA, June 2017.
3. Greenwich J, Di Cecco G, and **Chai Y**. The role of serine metabolism in biofilm formation in *Bacillus subtilis*. American Society of Microbiology General Meeting, New Orleans, LA. June 2017.
4. Gozzi K, Ching C, Paruthiyil A, Zhao Y, Godoy-Carter C, and **Chai Y**. DNA damage response regulates multicellular development in *Bacillus subtilis*. 22nd Annual Boston

Bacterial Meeting, Cambridge, MA, June 2016.

## **B. Poster Presentations**

1. Reverdy A, Chen Y, and **Chai Y**. Protein lysine acetylation is a regulatory mechanism for *Bacillus subtilis* multicellularity. 8<sup>th</sup> ASM Conference on Biofilms. Washington DC. October 2018.
2. Hunter E and **Chai Y**. Cell fate determination in *Bacillus subtilis* biofilms. 8<sup>th</sup> ASM Conference on Biofilms. Washington DC. October 2018.
3. Habib C and **Chai Y**. Investigation of the mechanisms of bacterial galactosemia. 2018 Boston Bacterial Meeting, Boston, MA. June 2018.
4. Hunter E and **Chai Y**. Cell fate determination in *Bacillus subtilis* biofilms. 2018 Boston Bacterial Meeting, Boston, MA. June 2018.
5. Reverdy A, Chen Y, and **Chai Y**. Protein lysine acetylation is a regulatory mechanism for *Bacillus subtilis* multicellularity. ASBMB 2018 National Meeting, San Diego, CA. April 2018.
6. He Y, Gozzi K, Qin Y, and Chai Y. Serine codons in Sda are essential for biofilm formation and sporulation in *Bacillus subtilis*. ASBMB 2018 National Meeting. San Diego, CA. April 2018.
7. He Y, Gozzi K, Qin Y, and **Chai Y**. Investigating a novel regulation on a checkpoint protein Sda that is essential for biofilm formation and sporulation in *Bacillus subtilis*. ASBMB 2017 Regional Meeting. Boston, MA November 2017.
8. Hunter E and **Chai Y**. Investigation of cell fate determination in *Bacillus subtilis* biofilms. 23rd Annual Boston Bacterial Meeting (BBM), Cambridge, MA. June 2017.
9. Reverdy A, DeLoughery A, Losick R, and **Chai Y**. A chaperone-like protein complex plays an important role in growth transition in *Bacillus subtilis*. 23rd Annual Boston Bacterial Meeting, Cambridge, MA, June 2017.
10. Greenwich J, Di Cecco G, and **Chai Y**. The interplay between serine metabolism and biofilm formation in *Bacillus subtilis*. American Society of Microbiology General Meeting, New Orleans, LA. June 2017.
11. Di Cecco G, Greenwich J, and **Chai Y**. Differential tRNA<sup>ser</sup> expression regulates SinR translation rate during biofilm formation in *Bacillus subtilis*. 2017 Northeastern University RISE: Research, Innovation, and Scholarship EXPO. Boston, MA, April 2017.
12. Di Cecco G, Greenwich J, and **Chai Y**. Differential tRNA<sup>ser</sup> expression regulates SinR translation rate during biofilm formation in *Bacillus subtilis*. 2017 ASBMB Annual Meeting, Chicago, IL. April 2017.
13. Greenwich J, Di Cecco G, and **Chai Y**. Serine levels regulate biofilm formation in *Bacillus subtilis* by affecting translational efficiency. 2016 American Society of Microbiology General Meeting, Boston, MA. June 2016.
14. Gozzi K, Ching C, Paruthiyil S, Godoy-Carter V and **Chai Y**. The DNA damage response plays a key regulatory role in bacterial multicellularity and cell-fate determination. 2016 American Society of Microbiology General Meeting, Boston, MA. June 2016.
15. Yu Y, Yan F, **Chai Y**, and JH Guo. Synergistic activity in biofilm formation and biocontrol between *Bacillus subtilis* and *Bacillus cereus*. 2016 American Society of Microbiology General Meeting, Boston, MA. June 2016.
16. Habib C and **Chai Y**. UDP-Galactose: Signal and Toxin in *Bacillus subtilis*. 2016 American Society of Microbiology General Meeting, Boston, MA. June 2016.

17. Hunter E and **Chai Y**. A novel function for ComK in regulating *Bacillus subtilis* biofilm development. 22nd Annual Boston Bacterial Meeting, Cambridge, MA. June 2016.
18. Greenwich J, Di Cecco G, and **Chai Y**. Intracellular Serine levels Affect Biofilm Formation in *Bacillus subtilis*. 22nd Annual Boston Bacterial Meeting, Cambridge, MA. June 2016.
19. Habib C and **Chai Y**. Molecular analysis of an operon involved in utilization of plant polysaccharide in *Bacillus subtilis*. 22nd Annual Boston Bacterial Meeting, Cambridge, MA. June 2016.
20. Greenwich J, Di Cecco G, and **Chai Y**. The role of serine metabolism in biofilm formation in *Bacillus subtilis*. 7th American Society of Microbiology Conference on Biofilms, Chicago, IL. October 2015.
21. Gozzi K, Ching C, Godoy-Carter V, and **Chai Y**. Regulation of biofilm formation by DNA damage in *Bacillus subtilis*. 7th American Society of Microbiology Conference on Biofilms, Chicago, IL. October 2015.
22. Barlow J, Gozzi K, Kelley C, **Chai Y**, Van De Ven-Moloney A, and Sridhar S. Development of Stable Polymersomes Encapsulating Bacteria for Release of Metabolites. 2015 Annual Meeting of the Controlled Release Society. Edinburgh, Scotland. July 2015.
23. Gozzi K, Ching C, Godoy-Carter V, and **Chai Y**. Investigating the link between DNA damage and biofilm formation in *Bacillus subtilis*. 21st Boston Bacterial Meeting, Cambridge, MA. June 2015.
24. Greenwich J, Di Cecco G, and **Chai Y**. Investigating the role of serine metabolism in biofilm formation in *Bacillus subtilis*. 21st Boston Bacterial Meeting, Cambridge, MA. June 2015.
25. Barlow J, Gozzi K, Kelley C, Van De Ven-Moloney A, **Chai Y**, and Sridhar S. Microencapsulation of bacteria for controlled release of bioactives. Northeastern University RISE 2015. Boston MA. April 2015.
26. Yan F, Chen Y, Gozzi K, Guo J, and **Chai Y**. A comprehensive genetic study on *Bacillus cereus* multicellularity. Microbial Stress Response Meeting, Madison, WI. August 2014.
27. Yan F, Chen Y, Wang L, Guo J, and **Chai Y**. Genetic analysis of *Bacillus cereus* multicellularity. 20<sup>st</sup> Boston Bacterial Meeting, Cambridge, MA. June 2014.
28. Gozzi K, Antar H, and **Chai Y**. Acetic acid may function as a volatile signal for biofilm formation in *Bacillus subtilis*. 20<sup>th</sup> Boston Bacterial Meeting, Cambridge, MA. June 2014.
29. Godoy-Carter V, **Chai Y**, Goluch E, Zhao Y, Lin I, Tashjian T. Linking DNA damage response and biofilm disassembly. 108<sup>th</sup> American Society of Microbiology General Meeting, Boston, MA. May 2014.
30. Gao T, Elsholz A, Losick R and **Chai Y**. Studying the role of the bacterial tyrosine kinase YwqD in biofilm formation in *Bacillus subtilis*. 19<sup>th</sup> Boston Bacterial Meeting, Cambridge, MA. June 2013.
31. Beauregard P, **Chai Y**, Vlamakis H, Losick R and Kolter R. Plant polysaccharides as inducers and carbon source for *Bacillus subtilis* biofilm formation. 2013 Gordon Conference on Microbial Adhesion & Signal Transduction. Newport, RI. August 2013.

## INVITED TALKS

- “Mechanism of bacterial galactosemia”. Zhejiang University, Institute of Biotechnology. Hangzhou, China. August 2019.
- “Sugar metabolism during *Bacillus subtilis* -plant interactions”. Chinese Academy of Agricultural Sciences, Institute of Vegetables and Flowers. Beijing, China. August 2019.
- “An adaptive strategy for iron acquisition and utilization during *Bacillus subtilis* biofilm

formation”. International Workshop on Plant-Microbe Interactions in the Rhizosphere. Nanjing, China. October 2018.

- “An adaptive strategy for iron acquisition and utilization during *Bacillus subtilis* biofilm formation”. Nanjing Agricultural University. Nanjing, China. October 2018.
- “*Bacillus* species as biological control agents for plant protection”. Chinese Academy of Agricultural Sciences, Institute of Plant Protection. Beijing, China. August 2017.
- “*Bacillus* species as biological control agents for plant protection”. Invited seminar. Hebei Agricultural University, College of Plant Protection. Baoding, China. August 2017.
- “Bacterial multicellular development in *Bacillus subtilis*”. Sichuan University, College of Science. Chengdu, China. July 2017.
- “Bacterial multicellular development in *Bacillus subtilis*”. Southwest University, College of Science. Chongqing, China. July 2017.
- “A *Bacillus subtilis* operon for utilization of plant polysaccharides and biofilm formation”. Nanjing Agricultural University, Department of Plant Protection. Nanjing, China. July 2016.
- “Investigating the mechanism of biofilm formation and biological control in *Bacillus cereus*”. China Agricultural University, Department of Plant Pathology, Beijing, China. July 2015.
- “Genetic analysis of *Bacillus cereus* multicellularity and its role in biological control. Invited keynote speaker, 2014 International Congress of Plant Biocontrol, Beijing, China. October 2014
- “Global genetic investigation on *Bacillus cereus* multicellularity”. Nanjing Agricultural University, Department of Plant Protection. Nanjing, China. August 2014.
- “Global genetic investigation on *Bacillus cereus* multicellularity”. University of Pennsylvania, Department of Microbiology and Immunology. March 2014.
- “Aminoglycosides inhibit *Bacillus subtilis* biofilm formation through a novel mechanism”. Zhejiang University, Institute of Biotechnology. Hangzhou, China. July 2013
- “Biological control and environmental protection by *Bacillus* species”. Zhejiang Ocean University, College of Science. Zhoushan, China. July 2013.
- “Investigation of toxicity by UDP-galactose in bacteria”. Harvard University, BASF-Harvard Research Center. Cambridge, MA. November 2012.
- “Multicellular development by *Bacillus subtilis*”. University of Wisconsin at Madison, Department of Bacteriology. Madison, WI. March 2012.
- “Multicellular development by *Bacillus subtilis*”. University of Georgia at Athens, Department of Microbiology. Athens, GA. March 2012.
- “Multicellular development by *Bacillus subtilis*”. University of Chicago, Department of Microbiology. Chicago IL. February 2012.
- “Multicellular development by *Bacillus subtilis*”. University of Illinois at Urbana Champaign, Department of Microbiology. Urbana Champaign, IL. February 2012.
- “Investigation of multicellular communities by *Bacillus subtilis*”. Duke University, Department of Biochemistry. Durham NC. February 2011.
- “A genetic switch that controls biofilm formation in *Bacillus subtilis*”. Boston Bacterial Meeting. Cambridge, MA. June 2010.
- “Alternative life style by *Bacillus subtilis*”. International Congress of Plant Protection and Biological Control. Nanjing, China. May 2010.

- “Bistability controls biofilm formation in *Bacillus subtilis*”. Nanjing Agricultural University, Department of Microbiology. Nanjing, China. July 2007.