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(Last updated, 7/13/2017)

Education

- Ph. D. University of Wisconsin-Madison, Department of Food Science (Food Microbiology and Toxicology option) with Bacteriology minor, Madison, Wisconsin (2004)
- M. S. Chonnam National University, Dept. of Food Science and Technology, Gwangju, Korea (1998)
- B. S. Chonnam National University, Dept. of Food Science and Technology, Gwangju, Korea (1996)

Professional experience

- Associate Professor, Emerging Pathogens Institute & Dept. of Animal Sciences, U. of Florida (July 2011 –)
- Assistant professor, Emerging Pathogens Institute & Dept. of Animal Sciences, U. of Florida (March 2011 – June 2017)
- Faculty of Graduate school, University of Florida (2011 – present)
- Faculty of Animal Molecular and Cellular Biology Graduate Program, University of Florida (2011 – present)
- Faculty of One Health Center of Excellence for Research and Training, University of Florida (2011 – present)
- Adjunct Professor, Seoul National University, Korea (2017 – present)
- Adjunct Professor, Korea University, Korea (2015 – 2016)
- Postdoctoral Research Associate, Department of Bacteriology, University of Wisconsin-Madison (July 2010 – March 2011)
- Postdoctoral Research Associate, Department of Molecular Microbiology, Washington University in St. Louis, School of Medicine (June 2005 – June 2010)
- Postdoctoral Research Associate, Food Research Institute, University of Wisconsin-Madison (Jan. 2005 – May 2005)
- Graduate Research Assistant, Department of Food Microbiology and Toxicology, University of Wisconsin-Madison (Aug. 2000 – Dec. 2004)
- Teaching Assistant, Department of Food Science, University of Wisconsin-Madison (Jan. 2003 – May 2003)

Professional memberships

- Fellow, Faculty1000 (2010 – present)
- Editorial board member, Journal of bacteriology and parasitology
- Editorial board member, Journal of Agricultural Chemistry and Environment
- Member, American Society for Microbiology (1996 – present)
- Member, International Association for Food Protection (2013 – present)
- Member, Institute of Food Technologists (2014 – present)
- Board Member, R&D planning/evaluation board of Ministry of Trade, Industry and Energy (MOTIE) in Korea (2013 – present)
- Member, Korean-American Scientists and Engineers Association

Awards and honors

- Member of Sigma Xi
- First place, Poster competition, Annual meeting of Food Research Institute, University of Wisconsin, Madison, WI. 2003.

- Berg/Morse Fellowship Award, Washington University in St. Louis, School of Medicine. 2007
- The Laboratorian of the year-2012, Florida Association of Food Protection. 2013
- Career development award, Institute of Food and Agricultural Sciences, University of Florida. 2013
- Sigma Xi, Junior Faculty Research Award, University of Florida Chapter, 2014
- International Educator of the Year, CALS, University of Florida, 2014
- International Educator Awards Nominee, University of Florida, 2014
- Gama Sigma Delta Junior Faculty Award nominee, 2015
- Excellence Awards for Assistant Professors nominee, University of Florida, 2016

Activities within professional organizations

- USDA-NIFA Grantsmanship workshop mentor, Delaware State University, May 11, 2017.
- USDA-NIFA Antimicrobial Resistance Program Grant Review Panel, Nov. 15-18, 2016.
- USDA-NIFA Nanotechnology Program Grant Review Panel, Oct. 5-9, 2015.
- Convener, Antimicrobials, General Microbiology, Meat and Poultry session during 2013 International Association for Food Protection meeting, Charlotte, NC. July 2013
- Convener, Risk assessment session during 2013 International Association for Food Protection meeting, Charlotte, NC. July 2013
- Steering committee, 97th Southeastern Branch of American Society for Microbiology meeting, Gainesville, FL. Oct. 20-23, 2011

Research interests

Dr. Jeong's ultimate research goal is to reduce pathogens for the benefit of animals and humans. His research program has focused on the mitigation of zoonotic pathogens to enhance food safety, to mitigate pathogen transmissions, and to reduce antimicrobial resistance in animals. Dr. Jeong's research program uses basic and applied science approaches to understand how pathogens interface with animals and humans. The research fits under the umbrella of the One Health concept. Basic science focuses on developing understanding of the molecular mechanisms of antimicrobial resistance, colonization, host-microbe interactions, and survival of pathogens in hosts. The following areas are priorities: i) Microbiology with food safety emphasis, ii) Host-microbe interaction to understand mechanisms that cause disease in hosts, iii) High throughput analyses including whole genome sequencing and metagenomics to identify and understand genetic factors that are required for survival and persistence in hosts and environments, iv) Determination of animal factors that modulate the survival of pathogens during infection, v) Antimicrobial resistance: prevalence, mechanisms of antimicrobial resistance development, and transmission, vi) Development of mitigation strategies for antimicrobial resistance that also leads to a reduced use of antibiotics, and vii) Shiga toxin-producing *Escherichia coli*: prevalence, transmission, persistence, and factors that affect prevalence of this pathogen.

Publications

A. Peer-reviewed Journal Articles

1. Ma, Z.X., A. Garrido-Maestu, C. Lee, J. Chon, D. Jeong, Y. Yue, K. Sung, Y. Park, and **K.C. Jeong**. 2017. Comprehensive *in vitro* and *in vivo* evaluation of chitosan microparticles for risk assessments using epithelial cells and *Caenorhabditis elegans*. Hazardous Materials. *In revision*.
2. Ma, Z.X., A. Felipe, J. Romero, O. Pereira, **K.C. Jeong**, and A.T. Adesogan. 2017. The capacity of silage inoculant bacteria to bind aflatoxin B1 *in vitro* and in contaminated corn silage. *J. Dairy Sci.* *Accepted*.
3. **Jeong, K.C.**, D. Ghosal, Y. Chang, G.J. Jensen, and J.P. Vogel. 2017. Polar delivery of *Legionella* type IV secretion system substrates is essential for virulence. *PNAS*. July 10. DOI:10.1073/pnas.1621438114
4. Ghosal, D., Y. Chang, **K.C. Jeong**, J.P. Vogel, G.J. Jensen. 2017. Structure of the *Legionella* Dot/Icm type IV secretion system in situ by electro cryotomography. *EMBO Reports*. Mar 23. pii: e201643598. doi: 10.15252/embr.201643598.

5. Jeon, S.J., F. Cunha, A. Ginn, **K.C. Jeong**, and K. Galvao. 2017. Draft Genome Sequences of *Escherichia coli* Strains Isolated at Calving from the Uterus, Vagina, Vulva, and Rectoanal Junction of a Dairy Cow that Later Developed Metritis. *genomeA*. e01511-16. doi: 10.1128/genomeA.01511-16.
6. Ma Z.X., A. Garrido-Maestu, and **K.C. Jeong**. 2017. Engineering, applications, and mode of action of chitosan and its derivatives as antimicrobial agents. *Curr. Org. Chem. In press*.
7. Jeon, S.J., Z.X. Ma, M.Y. Kang, K. Galvão, and **K.C. Jeong**. 2016. Application of chitosan microparticles for treatment of metritis and *in vivo* evaluation of broad spectrum antimicrobial activity in cow uteri. *Biomaterials*. 110:71-80.
8. Jeon, S.J., F. Cunha, X. Ma, N. Martinez, A. Vieira-Neto, R. Daetz, R. Bicalho, S. Lima J.E. Santos, **K.C. Jeong**, and K.N. Galvao. 2016. Uterine microflora and immune parameters associated with fever in dairy cows with metritis. *PLoS One*, doi: 10.1371/journal.pone.0165740
9. Ogunade, I., D. Kim, Y. Jiang, A. Cervantes, A. Pech; K. Arriola, D. Vyas, Z. Weinberg, **K.C. Jeong**, A.T. Adesogan. 2016. Fate of *E. coli* O157:H7 and bacterial diversity in corn silage contaminated with the pathogen and treated with chemical or microbial additives. *J. Dairy Sci.* doi: 10.3168/jds.2016-11745
10. Daetz, R., F. Cunha, J. Bittar, C. Risco, F. Magalhaes, Y. Maeda, J.E. Santos, K.C. Jeong Jeong, R. Cooke, and K.N. Galvao. 2016. Safety of chitosan microparticles administration and efficacy in preventing metritis in lactating dairy cows. *J. Dairy Sci.* doi: 10.3168/jds.2016-11400
11. Mir R.A., T.A. Weppelmann, J. Johnson, D. Archer, J.G. Morris, and **K.C. Jeong**. 2016. Identification and characterization of cefotaxime resistant bacteria in beef cattle. *PLoS One*. doi: 10.1371/journal.pone.0163279
12. Ma Z.X., D. Kim, A.T. Adesogan, S. Ko, K.N. Galvao, and **K.C. Jeong**. 2016. Chitosan microparticles exert broad spectrum antimicrobial activity against antibiotic resistant microorganisms without increasing resistance. *ACS Appl. Mater. Interfaces*. 8:10700-9
13. Ginn A., Z.X. Ma, K.N. Galvao, and **K.C. Jeong**. 2016. Draft genome sequence of an *Escherichia coli* O8:H19 ST708 strain isolated from a Holstein dairy cow with metritis. *genomeA*. 4(2) e00261-16.
14. Teng L, A. Ginn, S.J. Jeon, and **K.C. Jeong**. 2016. Complete genome and plasmid sequence of an *E. coli* O157:H7 strain isolated from a supper-shedder steer. *genomeA*. 4(2) e00228-16.
15. Ogunade I., D. Kim, Y. Jiang; Z. Weinber, **K.C. Jeong**, A.T. Adesogan. 2016. Control of *Escherichia coli* O157:H7 in contaminated alfalfa silage: Effects of silage additives. *J. Dairy Sci.* 99:4427-36.
16. Gene P., D. Herzig, M. Aydin, S. Dunigan, P. Shah, **K.C. Jeong**, S.H. Park, S.C. Ricke and S. Ahn. 2016. Magnetic Bead-Based Immunoassay Coupled with Tyramide Signal Amplification for Detection of *Salmonella* in Foods. *J. Food Safety*. DOI:10.1111/jfs.12255
17. Mir R.A., T.A. Weppelmann, M. Elzo, S. Ahn, J.D. Driver, and **K.C. Jeong**. 2016. Colonization of Beef Cattle by Shiga Toxin-producing *Escherichia coli* during the First year of Life: a Cohort Study. *PLoS One*. 10.1371/journal.pone.0148518.
18. Jeon SJ, Vieira-Neto A, Gobikrushanth M, Daetz R, Mingoti RD, Parize AC, de Freitas SL, da Costa AN, Bicalho RC, Lima S, **Jeong KC**, Galvão KN. 2015. Uterine Microbiota Progression from Calving until Establishment of Metritis in Dairy Cows. *Appl. Environ. Microbiol.* 81:6324-32.
19. **Jeong, K.C.** and J.P. Vogel. 2015. Spatiotemporal regulation of a *Legionella pneumophila* T4SS substrate by the metaeffector SidJ. *PLoS Pathogens*. doi: 10.1371/journal.ppat.1004695.
20. Fang, L., B. Wolmarans, M. Kang, **K.C. Jeong**, and A. Wright. 2015. Application of chitosan microparticles for reduction of *Vibrio* species in seawater and live oysters (*Crassostrea virginica*). *Appl. Environ. Microbiol.* 81:640-7.
21. **Jeong, K.C.** and J.P. Vogel. 2015. Novel export control of *Legionella* Dot/Icm substrate is mediated by dual, independent signal sequences. *Mol. Microbiol.* 96:175-88
22. Mir, R.A., T.A. Weppelmann, M. Kang, T.M. Bliss, N. DiLorenzo, G.C. Lamb, and **K.C. Jeong**. 2015. Association between animal age and the prevalence of Shiga toxin-producing *Escherichia coli* in a cohort of beef cattle. *Vet. Microbiol.* 175:325-31.

23. Thompson, I.M.T., S. Tao, A.P. Monteiro, **K.C. Jeong**, G.E. Dahl. 2014. Effect of cooling during the dry period on immune response after *Streptococcus uberis* intramammary infection challenge of dairy cows. *J. Dairy Sci.* 97:7426-7436.
24. Li, Q., J.H. Brendemuhl, **K.C. Jeong**, and L. Badinga. 2014. Effects of dietary *omega*-3 polyunsaturated fatty acids on growth and immune response of weanling pigs. *J. Animal. Sci. Tech.* 56:7. doi: 10.1186/2055-0391-56-7
25. Jeon, S., M. Oh, W. Yeo, K. Galvao, and **K.C. Jeong**. 2014. Underlying mechanism of antimicrobial activity of chitosan microparticles and implications for the treatment of infectious diseases. *PLoS One.* 10.1371/journal.pone.0092723.
26. Aydin, M., G. Herzig, **K.C. Jeong**, S. Dunigan, P. Shah, and S. Ahn. 2014. Rapid and sensitive detection of *Escherichia coli* O157:H7 in milk and ground beef using magnetic bead-based immunoassay coupled with tyramide signal amplification. *J. Food Prot.* 77:100-105.
27. Jeon, S., M. Elzo, N. DiLorenzo, C. Lamb, **K.C. Jeong**. 2013. Evaluation of animal genetic and physiological factors that affect the prevalence of *Escherichia coli* O157 in cattle. *PLoS One.* 10.1371/journal.pone.0055728.
28. Park D., E. Stanton, C. Kristin, D. Parrell, M. Bozile, D. Pike, S. Foster, **K.C. Jeong**, R. Ivanek, D. Dopfer, and C.W. Kaspar. 2013. Evolution of *stx2*-prophage in persistent bovine *Escherichia coli* O157:H7 strains. *Appl. Environ. Microbiol.* 10.1128/AEM.03158-12.
29. **Jeong, K.C.**, O. Hiki, M.Y. Kang, D. Park, C.W. Kaspar. 2013. Prevalent and persistent *Escherichia coli* O157 strains on farms are selected by bovine passage. *Vet. Microbiol.* doi:10.1016/j.vetmic.2012.11.034.
30. **Jeong, K.C.** and J. Yu. 2012. Investigation of *in vivo* protein interactions in *Aspergillus* spores. *Methods Mol. Bio.* 944:251-7.
31. Park, H.S., M. Ni, **K.C. Jeong**, J. H. Yu. 2012. The role, interaction, and regulation of the Velvet regulator VelB in *Aspergillus nidulans*. *PLoS One.* 7(9):e45935.
32. Vincent, C.D., J.R. Friedman, **K.C. Jeong**, M. Sutherland, and J.P. Vogel. 2012. Identification of the DotL coupling protein subcomplex of the *Legionella* Dot/Icm type IV secretion system. *Mol. Microbiol.* 85:378-391.
33. Lim, M.S., J. Kim, J.G. Lim, B.S. Kim, **K.C. Jeong**, K.H. Lee, and S.H. Choi. 2011. Identification and characterization of a novel serine protease, VvpS, that contains two functional domains and is essential for autolysis of *Vibrio vulnificus*. *J. Bacteriol.* 193:3722-32.
34. **Jeong, K.C.**, M.Y. Kang, J.H. Kang, D.J. Baumler, and C.W. Kaspar. 2011. Reduction of *Escherichia coli* O157:H7 shedding in cattle by addition of chitosan microparticles to feed. *Appl. Environ. Microbiol.* 77:2611-2616.
35. Baumler, D.J., K.F. Hung, **K.C. Jeong**, and C.W. Kaspar. 2008. Molybdate treatment and sulfate starvation decrease ATP and DNA levels in *Ferroplasma acidarmanus*. *Archaea.* 2:205-209.
36. **Jeong, K.C.**, D.J. Baumler, K.F. Hung, J. Byrd, and C.W. Kaspar. 2008. *Escherichia coli* O157:H7 Dps protects DNA against low pH by formation of Dps-DNA complexes. *BMC Microbiol.* 8:181.
37. **Jeong, K.C.**, M.Y. Kang, C. Heimke, J.A. Shere, I. Erol and C.W. Kaspar. 2007. Isolation of *Escherichia coli* O157:H7 from the gall bladder of inoculated and naturally infected cattle. *Vet. Microbiol.* 119:339-345.
38. Vincent, C.D., J.R. Friedman, **K.C. Jeong**, E.C. Buford, J.L. Miller, and J.P. Vogel. 2006. Identification of the core transmembrane complex of the *Legionella* Dot/Icm type IV secretion system. *Mol. Microbiol.* 62:1278-129.
39. Erol, I., **K.C. Jeong**, D.J. Baumler, B. Vykhodets, S.H. Choi, and C.W. Kaspar. 2006. H-NS controls metabolism and stress tolerance in *Escherichia coli* O157:H7 that influence mouse passage. *BMC Microbiol.* 6:72.
40. Baumler, D.J., K.F. Hung, J.L. Bose, B.M. Vykhodets, C.M. Cheng, **K.C. Jeong**, and C.W. Kaspar. 2006. Enhancement of acid tolerance in *Zymomonas mobilis* by a proton-buffering peptide. *Appl. Biochem. Biotechnol.* 134:15-26.
41. **Jeong, K.C.**, D.J. Baumler, and C.W. Kaspar. 2006. An extended -10 region is required for Dps-associated acid tolerance in *Escherichia coli* O157:H7. *Biochim Biophys Acta.* 1759:51-59.

42. Jeong, H.S., **K.C. Jeong**, H.K. Choi, K.J. Park, K.H. Lee, J.H. Rhee, and S.H. Choi. 2001. Differential expression of *Vibrio vulnificus* elastase gene in a growth phase-dependent manner by two different types of promoters. *J. Biol. Chem.* 276:13875-13880.
43. **Jeong, K.C.**, H.S. Jeong, S.E. Lee, S.S. Chung, J.H. Rhee, A.M. Starks, G.M. Escudero, P.A. Gulig, and S.H. Choi. 2000. Construction and phenotypic evaluation of a *Vibrio vulnificus* *vvpE* mutant for elastolytic protease. *Infect. Immun.* 68:5096-5106.
44. Lee, S.E., Shin, S.Y. Kim, Y.R. Kim, D.H. Shin, S.S. Chung, Z.H. Lee, J.Y. Lee, **K.C. Jeong**, S.H. Choi, and J.H. Rhee. 2000. *Vibrio vulnificus* has the transmembrane transcription activator ToxRS stimulating the expression of the hemolysin gene *vhA*. *J. Bacteriol.* 182:3405-3415.
45. **Jeong, K.C.**, E.Y. Jeong, T.E. Hwang, and S.H. Choi. 1998. Identification and characterization of *Acinetobacter* sp. CNU961 able to grow with phenol at high concentrations. *Biosci. Biotechnol. Biochem.* 62:1830-1833.
46. Kim, C.M., **K.C. Jeong**, J.H. Rhee, and S.H. Choi. 1997. Thermal-death times of opaque and translucent morphotypes of *Vibrio vulnificus*. *Appl. Environ. Microbiol.* 63:3308-3310.

B. Book chapters

1. **K.C. Jeong**, C.D. Vincent, E. Buford, and J.P. Vogel. Subcellular Localization of the Dot/Icm Type IV Secretion Proteins. *Legionella: State of the art 30 years after its recognition*. Nicholas P. Cianciotto [et al.]. Washington, D.C. ASM Press, 2006.
2. C.D. Vincent, **K.C. Jeong**, J. Sexton, E. Buford, and J.P. Vogel. The *Legionella pneumophila* Dot/Icm Type IV Secretion System. *Legionella: State of the art 30 years after its recognition*. Nicholas P. Cianciotto [et al.]. Washington, D.C. ASM Press, 2006.