

## HAIQIANG CHEN

Associate Professor

044 Townsend Hall, Department of Animal and Food Sciences

University of Delaware, Newark, DE 19716, USA

Tel: (302) 831-1045, Fax: (302) 831-2822, Email: [haiqiang@udel.edu](mailto:haiqiang@udel.edu)

### Education

Ph.D. in Food Science, Pennsylvania State University, 2001

M.S. in Food Science, South China University of Technology, China, 1992

B.S. in Food Science, South China University of Technology, China, 1989

### Professional Experience

2010 – Present: Associate Professor, University of Delaware

2004 – 2010: Assistant Professor, University of Delaware

2003 – 2004: Research Program Manager, Siliker, Inc.

2001 – 2003: Postdoctoral Research Associate, University of Delaware

### Professional Activities

2008-Present: Editorial Board of Journal of Food Processing and Preservation

2008-Present: Editorial Board of International Journal of Agricultural and Biological Engineering

2008-Present Webmaster for Chinese American Food Society

### Peer-reviewed Journal Papers

1. Li Y., Yang W., Chung S-Y., Chen H., Ye M., Teixeira A., Gregory J.F., Welt B.A., Shriver S. 2013. Effect of pulsed ultraviolet light and high hydrostatic pressure on the antigenicity of almond protein extracts. *Food and Bioprocess Technol.* 6:431–440
2. Ye, M., Huang, Y., Gurtler, J.B., Niemira, B.A., Sites, J.E. and Chen, H. 2013. Effects of pre- or post-processing storage conditions on high-hydrostatic pressure inactivation of *Vibrio parahaemolyticus* and *V. vulnificus* in oysters. *Int. J. Food Microbiol.* 163: 146-152.
3. Li, X.; Ye, M., Neetoo, H.; Golovan, S., and Chen, H. 2013. Pressure inactivation of Tulane virus, a candidate surrogate for human norovirus and its potential application in food industry. *Int. J. Food Microbiol.* 162: 37-42.
4. Huang, Y., Ye, M. and Chen H. 2013. Inactivation of *Escherichia coli* O157:H7 and *Salmonella* spp. in strawberry puree by high hydrostatic pressure with/without subsequent frozen storage. *Int. J. Food Microbiol.* 160: 337-343.
5. Lou, F., Huang, P., Neetoo, H., Gurtler, J.B., Niemira, B.A., Chen, H., Jiang, X. and Li, J. 2012. High-pressure inactivation of human norovirus virus-like particles provides evidence that the capsid of human norovirus is highly pressure resistant. *Appl. Environ. Microbiol.* 78: 5320-5327.
6. Ye, M., Huang, Y., and Chen, H. 2012. Inactivation of *Vibrio parahaemolyticus* and *Vibrio vulnificus* in oysters by high-hydrostatic pressure and mild heat. *Food Micro.* 32: 179-184.
7. Neetoo, H., Lu, Y., Wu, C., Chen, H. 2012. Use of high hydrostatic pressure to inactivate *E. coli* O157:H7 and *Salmonella enterica* internalized within and adhered to pre-harvest contaminated green onions. *Appl. Environ. Microbiol.* 78:2063-2065.

8. Dancho, B. A., Chen, H., and Kingsley, D.H. 2012. Discrimination between infectious and non-infectious human norovirus using porcine gastric mucin. *Int. J. Food Microbiol.* 155: 222-226.
9. Neetoo, H. and Chen, H. 2012. High pressure inactivation of *Salmonella* on Jalapeño and Serrano peppers destined for direct consumption or as ingredients in Mexican salsa and guacamole. *Int. J. Food Microbiol.* 156: 197-203.
10. Huang, Y., Ye, M. and Chen H. 2012. Efficacy of washing with hydrogen peroxide followed by aerosolized antimicrobials as a novel sanitizing process to inactivate *Escherichia coli* O157:H7 on baby spinach. *Int. J. Food Microbiol.* 153:306-313.
11. Juck, G., Neetoo, H., Beswick, E. and Chen, H. 2012. Influence of prior growth conditions, pressure treatment parameters, and recovery conditions on the inactivation and recovery of *Listeria monocytogenes*, *Escherichia coli*, and *Salmonella* Typhimurium in turkey meat. *Int. J. Food Microbiol.* 153:203-211.
12. Lou, F., Neetoo, H., Li, J., Chen, H. and Li, J. 2011. Lack of correlation between virus barsensitivity and the presence of a viral envelope during inactivation of human rotavirus, vesicular stomatitis virus, and avian metapneumovirus by high-pressure processing. *Appl. Environ. Microbiol.* 77: 8538-8547.
13. Ye, M., Huang, Y., Neetoo, H., and Chen, H. 2011. Prior frozen storage enhances the effect of edible coatings against *Listeria monocytogenes* on cold-smoked salmon during subsequent refrigerated storage. *J. Appl. Microbiol.* 111:865-76.
14. Jiang, Z., Neetoo, H. and Chen, H. 2011. Efficacy of freezing, frozen storage and edible antimicrobial coatings used in combination for control of *Listeria monocytogenes* on roasted turkey stored at chiller temperatures. *Food Microbiol.* 28:1394-401.
15. Neetoo, H., Nekoozadeh, S., Jiang, Z., Chen, H. 2011. Application of high hydrostatic pressure to decontaminate green onions from *Salmonella* and *Escherichia coli* O157:H7. *Food Microbiol.* 28:1275-1283.
16. Ye, M., Huang, Y., Neetoo, H., Shearer, A. E.H and Chen, H. 2011. Influence of growth conditions on pressure resistance of *Vibrio parahaemolyticus* in oysters and the optimization of postpressure treatment recovery conditions. *J. Food Prot.* 74:751-758.
17. Huang, Y. and Chen H. 2011. Effect of organic acids, hydrogen peroxide and mild heat on inactivation of *Escherichia coli* O157:H7 on baby spinach. *Food Control.* 22:1178-1183.
18. Lou, F., Neetoo, H., Chen, H. and Li, J. 2011. Inactivation of a human norovirus surrogate by high-pressure processing: effectiveness, mechanism, and potential application in the fresh produce industry. *Appl. Environ. Microbiol.* 77:1862-1871.
19. Jiang, Z., Neetoo, H. and Chen, H. 2011. Control of *Listeria monocytogenes* on cold-smoked salmon using chitosan-based antimicrobial coatings and films. *J. Food Sci.* 76: M22-26.
20. Neetoo, H. and Chen, H. 2011. Individual and combined application of dry heat with high hydrostatic pressure to inactivate *Salmonella* and *Escherichia coli* O157:H7 on alfalfa seeds. *Food Microbiol.* 28:119-127.
21. Juck, G., Neetoo, H. and Chen, H. 2010. Application of an active alginate coating to control the growth of *Listeria monocytogenes* on poached and deli turkey products. *Int. J. Food Microbiol.* 142:302-308.
22. Neetoo, H. and Chen, H. 2010. Inactivation of *Salmonella* and *Escherichia coli* O157:H7 on artificially contaminated alfalfa seeds using high hydrostatic pressure. *Food Microbiol.* 27:332-338.

23. Neetoo, H. and Chen, H. 2010. Pre-soaking of seeds enhances pressure inactivation of *E. coli* O157:H7 and *Salmonella* spp. on crimson clover, red clover, radish and broccoli seeds. *Int. J. Food Microbiol.* 137:274-280.
24. Shearer, A.E.H., Neetoo, H., and Chen, H. 2009. Effect of growth and recovery temperatures on pressure resistance of *Listeria monocytogenes*. *Int. J. Food Microbiol.* 136:359-363.
25. Neetoo, H., Ye, M., and Chen, H. 2009. Bioactive alginate coatings to control *Listeria monocytogenes* on cold-smoked salmon slices and fillets. *Int. J. Food Micro.* 136:326-331.
26. Neetoo, H., Pizzolato, T., and Chen, H. 2009. Conditions for elimination of *Escherichia coli* O157:H7 on alfalfa seeds through a combination of high hydrostatic pressure and mild heat. *Appl. Environ. Microbiol.* 75:1901-1907.
27. Neetoo, H., Ye, M., and Chen, H. 2009. Factors affecting the efficacy of pressure inactivation of *Escherichia coli* O157:H7 on alfalfa seeds and seed viability. *Int. J. Food Micro.* 131:218-223.
28. Chen, H., Neetoo, H., Ye, M., and Joerger, R.D. 2009. Differences in pressure tolerance of *Listeria monocytogenes* strains are not correlated with other stress tolerances and are not based on differences in CtsR. *Food Micro.* 26:404-408.
29. Kingsley, D.H. and Chen, H. 2009. Influence of pH, salt, and temperature on pressure inactivation of hepatitis A virus. *Int. J. Food Micro.* 130:61-64.
30. Neetoo, H., Ye, M., and Chen, H. 2008. Potential application of high hydrostatic pressure to eliminate *Escherichia coli* O157:H7 on alfalfa sprouted seeds. *Int. J. Food Micro.* 128:348-353.
31. Ye, M., Neetoo, H., and Chen, H. 2008. Effectiveness of chitosan-coated plastic films incorporating antimicrobials in inhibition of *Listeria Monocytogenes* on cold-smoked salmon. *Int. J. Food Micro.* 127: 235-240.
32. Kural, A., Shearer, A.E.H., Kingsley, D.H., and Chen, H. 2008. Conditions for high pressure inactivation of *Vibrio parahaemolyticus* in oysters. *Int. J. Food Micro.* 127:1-5.
33. Neetoo, H., Ye, M., and Chen, H. 2008. Potential antimicrobials to control *Listeria monocytogenes* in vacuum-packaged cold-smoked salmon fillets and pâté. *Int. J. Food Micro.* 123:220-227.
34. Kingsley, D.H. and Chen, H. 2008. Aqueous matrix compositions and pH influence virus inactivation by high pressure processing. *J. Food Prot.* 71:1598-1603.
35. Kural, A. and Chen, H. 2008. Conditions for a 5-log reduction of *Vibrio vulnificus* in oysters through high hydrostatic pressure treatment. *Int. J. Food Micro.* 122:180-187.
36. Neetoo, H, Ye, M. Chen, H., Joerger, R.D., Hicks, D.T., Hoover. D.G. 2008. Use of nisin-coated plastic films to control *Listeria monocytogenes* on vacuum-packaged cold-smoked salmon. *Int. J. Food Micro.* 122:8-15.
37. Ye, M., Neetoo, H., and Chen, H. 2008. Control of *Listeria monocytogenes* on ham steaks by antimicrobials incorporated into chitosan-coated plastic films. *Food Micro.* 25:260-268.
38. Neetoo, H., Ye, M., and Chen, H. 2007. Effectiveness and stability of plastic films coated with nisin for inhibition of *Listeria monocytogenes*. *J. Food Prot.* 70:1267-1271.
39. Chen, H. 2007. Temperature-assisted pressure inactivation of *Listeria monocytogenes* in turkey breast meat. *Int. J. Food Micro.* 117:55-60.
40. Kingsley, D.H., Holliman, D., Calci, K., Chen, H., and Flick, G. 2007. Inactivation of a norovirus by high pressure processing. *Appl. Environ. Microbiol.* 73:581-585.
41. Chen, H. 2007. Use of linear, Weibull, and log-logistic functions to model pressure inactivation of seven foodborne pathogens in milk. *Food Micro.* 24:197-204.

42. Kingsley, D.H., Guan, D., Hoover, D.G., and Chen, H. 2006. Inactivation of hepatitis A virus by high pressure processing: the role of temperature and pressure oscillation. *J. Food Prot.* 69:2454-2459.
43. Joerger, R.D., Chen, H., and K. Kniel. 2006. Characterization of a spontaneous *ctsR* deletion mutant of *Listeria monocytogenes* ScottA. *Foodborne Pathogens & Disease.* 3:196-202.
44. Grove, S.F., Lee, A., Lewis, T., Stewart, C.M., Chen, H., and Hoover, D.G. 2006. Inactivation of foodborne viruses of significance by high pressure and other processes. *J. Food Prot.* 69:957-968.
45. Guan, D., Chen, H., and Hoover, D.G. 2006. Inactivation of *Staphylococcus aureus* and *Escherichia coli* O157:H7 under isothermal-endpoint pressure conditions. *J. Food Eng.* 77:620-627.
46. Chen, H., Guan, D., and Hoover, D.G. 2006. Sensitivities of foodborne pathogens to pressure changes. *J. Food Prot.* 69:130-136.
47. Chen, H., Hoover, D.G., and Kingsley, D.H. 2005. Temperature and treatment time influence high hydrostatic pressure inactivation of feline calicivirus, a norovirus surrogate. *J. Food Prot.* 68:2389–2394.
48. Guan, D., Chen, H., and Hoover, D.G. 2005. Inactivation of *Salmonella* Typhimurium DT 104 in UHT whole milk by high hydrostatic pressure. *Int. J. Food Microbiol.* 104:145-153.
49. Chen, H and Hoover, D.G. 2004. Use of Weibull model to describe and predict pressure inactivation of *Listeria monocytogenes* Scott A in whole milk. *Innov. Food Sci. Emerg. Technol.* 5:269-276.
50. Chen, H., Joerger, R.D., Kingsley, D.H., and Hoover, D.G. 2004. Pressure inactivation kinetics of phage  $\lambda$  CI 857. *J. Food Prot.* 67:505–511.
51. Kingsley, D.H., Chen, H., Hoover, D.G. 2004. Inactivation of selected picornaviruses by high hydrostatic pressure. *Virus Res.* 102:221-224.
52. Chen, H and Hoover, D. G. 2003. Modeling the combined effect of high hydrostatic pressure and mild heat on the inactivation kinetics of *Listeria monocytogenes* Scott A in whole milk. *Innov. Food Sci. Emerg. Technol.* 4:25-34.
53. Chen, H. and Hoover, D.G. 2003. Bacteriocins and their Food Applications. *Comprehensive Rev. Food Sci. Food Saf.* 2:81-100.
54. Chen, H. and Hoover, D.G. 2003. Pressure inactivation kinetics of *Yersinia enterocolitica* ATCC 35669. *Int. J. Food Microbiol.* 87:161-171.
55. Chen, H., Anantheswaran, R. C., and Knabel, S. J. 2002. Effect of rapid cooling of shell eggs on microcracks development, penetration of *Salmonella* Enteritidis, and eggshell strength. *J. Food Process Preserv.* 26:57-73.
56. Chen, H., Anantheswaran, R. C., and Knabel, S. J. 2002. Effect of rapid cooling on the growth and penetration of *Salmonella* Enteritidis into egg contents. *J. Food Safety* 22:255-271.
57. Chen, H., Anantheswaran, R. C., and Knabel, S. J. 2001. Optimization of iron supplementation for enhanced detection of *Salmonella* Enteritidis in Eggs. *J. Food Prot.* 64:1279-1285.

### **Book Chapters and Proceedings**

1. Chen H. and Neetoo H. 2012. Sprouts. In *Encyclopedia of Food Microbiology*, 2nd Edition (Carl Batt and Mary Lou Tortorello eds.)

2. Neetoo, H. and Chen, H., and Hoover, D.G. Emerging methods for post-packaging decontamination. (Ali Demirci, eds) Woodhead Publishing Limited. Cambridge, UK.
3. Neetoo, H., Ye, M. and Chen, H. 2010. High Hydrostatic Pressure Processing. In *Pathogenic Vibrios and Food Safety* (Yi-Cheng Su, eds.). Nova Science Publishers, Inc., Hauppauge, N.Y. Page.
4. Shearer, A. E. H., K. E. Kniel, H. Chen and D. G. Hoover. 2010. High Pressure Effects on Viruses. In *High Pressure Processing of Food – Principles, Technology and Applications* (V.M. (Bala) Balasubramaniam, Gustavo V. Barbosa-Cánovas, and Huub L.M. Lelieveld, eds.). Springer.
5. Neetoo, H. and Chen, H. 2012. Application of High Hydrostatic Pressure technology for processing and preservation of foods. In *Progress in Food Preservation* (Rajeev Bhat, Abd Karim Alias and Gopinadhan Paliyath, eds.). John Wiley & Sons Ltd, Chichester, West Sussex, UK. Pg. 247-276.
6. Hoover, D. G. and Chen, H. 2010. Processing and Preservative Aids: Nisin and Other Bacteriocins. In *Encyclopedia of Biotechnology in Agriculture and Food* (D. Heldman, A. Bridges, D.G. Hoover, and M. Wheeler, eds.). Marcel Dekker, Inc. New York. Page 549-552.
7. Neetoo, H. and Chen, H. 2010. Antimicrobial Packaging. In *Encyclopedia of Biotechnology in Agriculture and Food* (D. Heldman, A. Bridges, D.G. Hoover, and M. Wheeler, eds.). Marcel Dekker, Inc. New York. Page 43-46.
8. Neetoo, H., Ye, M., and Chen, H. 2008. Use of antimicrobial-coated plastic films to control *Listeria monocytogenes* on cold-smoked salmon. International Smoked Seafood Conference Proceedings. University of Alaska Fairbanks, Fairbanks, Alaska. Pg 81-89.
9. Hoover, D.G., Guan, D., and Chen, H. 2006. High hydrostatic pressure processing. In *Advances in Microbial Foods Safety* (V.K. Juneja, J.P. Cherry, and M.H. Tunick, eds.). ACS Symposium Series, American Chemical Society, Washington, DC. Pages 140-151.
10. Hoover, D. G. and Chen, H. 2005. Bacteriocins with potential for use in foods. In *Antimicrobials in Foods* (P.M. Davidson and A.L. Branen, eds.). Marcel Dekker, Inc. New York. Pages 389-428.