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## ADRIENNE E. H. SHEARER

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### EDUCATION

Doctor of Philosophy, Animal & Food Sciences. University of Delaware, Newark, DE. 2018  
Master of Science, Food Science. University of Delaware, Newark, DE. 1996  
Bachelor of Science, Food Science. Chemistry minor. University of Delaware, Newark, DE. 1989

### PROFESSIONAL EXPERIENCE

**Scientist.** University of Delaware, Animal and Food Sciences, Newark, DE. 2018 to present  
**Associate Scientist.** University of Delaware, Animal and Food Sciences, Newark, DE. 2011 – 2017  
**Research Associate III.** University of Delaware, Animal and Food Sciences, Newark, DE. 2001 – 2011  
**Research Associate II.** University of Delaware, Animal and Food Sciences, Newark, DE. 1998 – 2001  
**Associate Scientist.** National Food Processors Association, Washington, DC. 1996 – 1998  
**Quality Assurance Microbiology Laboratory Manager.** Townsends, Inc., Millsboro, DE. 1991 - 1993  
**Quality Assurance Manager.** Townsends, Inc., Hummels Wharf, PA. 1989 - 1991

### PUBLICATIONS

#### Book Chapters:

**Shearer, A.E.H.**, Kniel, K.E., Chen, H., Hoover, D.G. 2016. High pressure effects on viruses, pp. 295-316, *In High Pressure Processing of Food – Principles, Technology and Applications*. V.M. Balasubramaniam, G.V. Barbosa-Cánovas, and H.L.M. Lelieveld (eds). Springer. New York, NY.

Kniel, K.E., **Shearer A.E.H.** 2015. Berry contamination: Outbreaks and contamination issues, *In The Produce Contamination Problem*, second ed. G. Sapers, E. Solomon, and K.R. Matthews (eds). Elsevier Inc.

Kniel, K.E., **Shearer A.E.H.** 2009. Berry contamination: Outbreaks and contamination issues, *In The Produce Contamination Problem*. G. Sapers, E. Solomon, and K.R. Matthews (eds). Elsevier Inc. pp. 271-305.

#### Refereed Journals:

**Shearer, A.E.H.**, Kniel, K.E. 2018. Enhanced removal of norovirus surrogates, murine norovirus and Tulane virus, from aqueous systems by zero-valent iron. *J. Food Prot.* 81(9): 1432-1438.

**Shearer, A.E.H.**, LeStrange, K., Saldaña Castañeda, R., Kniel K.E. 2016. Transfer of pathogens from cantaloupe rind to preparation surfaces and edible tissue as a function of cutting method. *J. Food Prot.* 79(5): 764-770.

**Shearer, A.E.H.**, Hoover, D.G, Kniel, K.E. 2014. Effect of bacterial cell-free supernatants on infectivity of norovirus surrogates. *J. Food Prot.* 77(1): 145-149.

**Shearer, A.E.H.**, Snider, S., Kniel K.E. 2014. Implementation and assessment of novel food safety educational materials for secondary and post-secondary education. *J. Food Sci. Ed.* 13(1): 4-11.

**Shearer, A.E.H.**, Snider, S., Kniel, K.E. 2013. Development, dissemination, and pre-implementation evaluation of food safety educational materials for secondary education *J. Food Sci. Ed.* 12(2): 28-37.

Ye, M., Huang, Y., Neetoo, H., **Shearer, A. E.H.**, Chen H. 2011. Influence of growth conditions on pressure resistance of *Vibrio parahaemolyticus* in oysters and the optimization of post-pressure treatment recovery conditions *J. Food Prot.* 74(5):751-758.

**Shearer, A.E.H.**, Neetoo, H.S., Chen, H. 2010. Effect of growth and recovery temperatures on pressure resistance of *Listeria monocytogenes*. *Int. J. Food Microbiol.* 136: 359-363.

**Shearer, A.E.H.**, Kniel, K. E. 2009. High hydrostatic pressure for development of vaccines. *J. Food Prot.* 72(7): 1500-1508.

Kural, A.G., **Shearer, A.E.H.**, Kingsley, D.H., Chen, H. 2008. Pressure inactivation of *Vibrio parahaemolyticus* in oysters – the influence of pressure level and treatment temperature. *Int. J. Food Microbiol.* 127: 1-5.

Sharma, M., **Shearer, A.E.H.**, Hoover, D.G., Solomon, M. B., Liu, M.N., Kniel K.E. 2008. Comparison of hydrostatic and hydrodynamic pressure to inactivate foodborne viruses. *Innov. Food Sci. Emerg. Technol.* 9: 418-422.

Kniel, K.E., **Shearer, A.E.H.**, Cascarino, J.L., Wilkins, G.C., Jenkins, M.C. 2007. High hydrostatic pressure and UV light treatment of produce contaminated with *Eimeria acervulina* as a *Cyclospora cayatanensis* surrogate. *J. Food Prot.* 70(12): 2837-2842.

**Shearer, A.E.H.**, Wilkins, G.C., Jenkins, M.C., Kniel, K. E. 2007. Effects of high hydrostatic pressure on *Eimeria acervulina* pathogenicity, immunogenicity and structural integrity. *Innov. Food Sci. and Emerg. Technol.* 8: 259-268.

**Shearer, A.E.H.**, Davies, C.G. 2005. Physicochemical properties of freshly baked and stored whole wheat muffins with and without flaxseed meal. *J. Food Quality* 28: 50-66.

Strapp, C.M., **Shearer, A.E.H.**, Joerger, R.D. 2003. Survey of retail alfalfa sprouts and mushrooms for the presence of *Escherichia coli* O157:H7, *Salmonella*, and *Listeria* with BAX™, and evaluation of this polymerase chain reaction-based system with experimentally contaminated samples. *J. Food Prot.* 66(2): 182-187.

**Shearer, A.E.H.**, Chuyate, R., Mazzotta, A.S., Gombas, D. 2002. Heat resistance of juice spoilage microorganisms. *J. Food Prot.* 65(8): 1271-1275.

**Shearer, A.E.H.**, Strapp, C., Joerger, R.D. 2001. Evaluation of a polymerase chain reaction–based system for detection of *Salmonella* Enteritidis, *Escherichia coli* O157:H7, *Listeria* spp., and *Listeria monocytogenes* on fresh fruits and vegetables. *J. Food Prot.* 64(6): 788-795.

**Shearer, A.E.H.**, Dunne, C.P., Sikes, A., Hoover, D.G. 2000. Bacterial spore inhibition and inactivation in foods by pressure, chemical preservatives, and mild heat. *J. Food Prot.* 63(11): 1503-1510.

**Shearer, A.E.H.**, Paik, J.S., Hoover, D.G., Haynie, S.L., Kelley, M.J. 2000. Potential of an antibacterial ultraviolet-irradiated nylon film. *Biotech. Bioeng.* 67(2): 141-146.

#### **Synergistic Activities:**

**Pre-K to Grade 12 Food Safety Education Resources.** <http://canr.udel.edu/foodsafetyedresourcesk12/>. With K.E. Kniel and S. Snider.

**Video, case studies, and web games:** *Foodborne Illness Outbreak Investigation*, Materials for Secondary Science Education. 2010. <http://ag.udel.edu/foodinvestigation/>. With K.E. Kniel and S. Snider.

**White Paper:** **Shearer, A.E.H.** 1997. Biofilms in Food Processing, NFPA Publication.

#### **FUNDED RESEARCH GRANTS**

**Shearer, A.E.H.**, Kniel, K.E. University of Delaware, College of Agriculture and Natural Resources Seed Grant (\$25,025) 10/01/2019 – 07/31/2021, Interactions of bacteria and human norovirus and its surrogate, Tulane virus.

Kniel, K.E., **Shearer, A.E.H.**, Snider, S., Hoover, D.G., USDA-NIFA-Higher Education Challenge Grants Program (HEC) (\$265,485) 12/01/2012-11/30/2015, Development and assessment of an educational module for college students for conceptual and attitudinal changes towards food safety systems. In partnership with Chamberlin, B. and Gleason, J. (NMSU) and Cotton, C. and Hashem, F. (UMES)

Kniel, K.E., **Shearer, A.E.H.**, Snider, S., USDA-CREES-Secondary Education, Two-year Postsecondary Education, and Agriculture in the K-12 Classroom Challenge Grants Program (SPECAs) (\$35,000) 07/01/09-06/30/11, Integrating food safety investigations into science curricula for secondary education.

#### **PROFESSIONAL HONORS and AFFILIATIONS**

William F. Benton Graduate Student Award, Univ. of Delaware, College of Agriculture and Natural Resources, 2017  
Merit Awards: University of Delaware, 2002; National Food Processors Association, 1996, 1997

Institute of Food Technologists, member 1986 to present

International Association for Food Protection, member 2005 to present

American Society for Microbiology, member 2014 to present

North American Colleges and Teachers of Agriculture, member 2015 to 2016

American Association of Cereal Chemists, member 2000 to 2001