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a. Professional Preparation

Austin College, Sherman, Texas	Biology	B.A., 1975
University of California, Berkeley	Genetics	Ph.D., 1981
Cornell University, Ithaca, NY	Microbiology	Postdoc (1981-1984)

b. Appointments

09/01/00-now Professor (promoted, July 2008), Department of Food, Bioprocessing & Nutrition Sciences, North Carolina State University, Raleigh, NC

1990-2000 Associate Professor (tenure), Department of Microbiology, University of Hawaii, Honolulu, HI

1997-1998 Sabbatical Faculty, Center for Microbial Ecology, Michigan State University, E. Lansing, MI

1987-1990 Visiting Scientist, Centers for Disease Control & Prevention, Atlanta, GA

1988-1989 Temporary faculty, Emory University, Atlanta, GA, Department of Microbiology & Immunology

1984-1987 Research Associate, University of Würzburg, Germany, Department of Microbiology & Genetics (mentor: Werner Goebel)

c. Professional Scholarly Activities

Editor of two books

University Research Council, 2014-present

College Research Council, 2010-present (chair, 2013-2014)

Editor, Applied & Environmental Microbiology (2002-2012)

Diversity Council, 3-yr service (2010-2013), College of Agriculture and Life Sciences, North Carolina State University

Member, Emerging & Zoonotic Diseases Core group, Center for Comparative Medicine and Translational Research, North Carolina State University (2008-present)

Editorial Board, J. Food Protection (1997-2006)

Editorial Board, Applied & Environmental Microbiology (1998-2002)

d. Honors and Awards

Recipient of the Heinz P.R. Seeliger Award for promotion of scientific research in listeriosis, 2007

Gamma Sigma Delta Honor Society of Agriculture

e. Collaborators and grants, active/approved

- S. Kathariou, D. Carver. Farm-level practices to reduce *Campylobacter* prevalence in commercial turkeys. USDA-NIFA, 09/01/11-08/31/15, \$541,621
- S. Kathariou, L. Gorski, W. G. Miller. Molecular mechanisms for interactions between *listeria monocytogenes* and produce. USDA-NIFA, 01/01/12-02/12/16, \$499,773
- S. Kathariou, C. Melander. Assessment of novel synthetic and naturally occurring compounds to inhibit and disperse biofilms by spoilage and pathogenic bacteria of concern to the food industry Center for Aseptic Packaging and Processing (CAPPS) seed grant, 11/17/14-11/16/15, \$9,763
- S. Kathariou, D. Carver, B. Badgley, R. Dalloul. Response of the turkey gut microbiome to health-disease transitions and industry interventions. College Dean's Enrichment Fund / NCSU-Virginia Tech Collaborative, 07/01/15-06/30/17, \$74,928.

f. Selected Peer-Reviewed Publications (2004 to present)

BOOKS

O. Oyarzabal and S. Kathariou (Eds). 2012. DNA Methods in Food Safety: Molecular Typing of Foodborne and Waterborne Bacterial Pathogens. Wiley-Blackwell **ISBN: 978-1-118-26867-3**

P. Fratamico, Y. Liu, and S. Kathariou (Eds). Genomes of Foodborne and Waterborne Pathogens. 2010. ASM Press (ISBN: 978-1-55581-457-1).

TRADE MAGAZINE PUBLICATIONS

H. Bolinger and S. Kathariou. 2015. The drugs and bugs in your birds: understanding food safety implications of antibiotic resistance in *Campylobacter*. New Foods (in press)

R. O. Azizoglu, L. Gorski and S. Kathariou. 2014. *Listeria* and produce: a troublesome liaison! New Foods. <http://www.newfoodmagazine.com/15048/new-food-magazine/past-issues/issue-5-2014/listeria-produce-troublesome-liaison/>

BOOK CHAPTERS

Marquis, H., D. A. Drevets, M. S. Bronze, S. Kathariou, T.G. Golose, and J. I. Iruretagoyena. (in press) Pathogenesis of *Listeria monocytogenes* in humans. *In: Emerging and Re-emerging Human Infections*. S. Singh (Ed.). John Wiley and Sons.

Azizoglu, R, Dutta, V., Breidt, F, Kathariou S. 2015. Resistance of *Listeria monocytogenes* Biofilms to Sanitizing Agents (peer-reviewed chapter). *In: A. L. Pometto III and Ali Demirci, eds, "Biofilms in the Food Environment"* Wiley-Blackwell publishing.

Lee, S., R. M. Siletzky and S. Kathariou. 2012. Epidemiology, Pathogenesis, Ecology and Genetics of *Listeria monocytogenes*. In: Foodborne and Waterborne Bacterial Pathogens: Epidemiology, Evolution and Molecular Biology. S. M. Faruque (ed.), Caister Academic Press.

Czuprynski, C. J., S. Kathariou and K. poulsen. 2010. *Listeria*. Pp.167-179. In: C. L. Gyles, J. F. Prescott, J. G. Songer, C. O. Thoen (eds). Pathogenesis of Bacterial infections in Animals. Wiley-Blackwell.

Cheng Y, Siletzky RM, Kathariou S. 2008. Genomic divisions/lineages, epidemic clones, and population structure, p 337–358. In: D. Liu (ed), Handbook of *Listeria monocytogenes*, 1st ed. CRC Press, Boca Raton, FL.

Peer-reviewed publications

Dutta V, Elhanafi D, Osborne J, Rakic Martinez M, Kathariou S. 2014. Genetic characterization of plasmid-associated triphenylmethane reductase in *listeria monocytogenes*. Appl Environ Microbiol. 2014 Jun 20. pii: AEM.01398-14. [Epub ahead of print]

Thanissery, R., S. Kathariou, R. M. Siletzky, and D. P. Smith. 2014. Rosemary oil, clove oil, and a mix of thyme-orange essential oils inhibit *Salmonella* and *Campylobacter in vitro*. J. Appl. Poultry Res. doi: 10.3382/japr.2013-00888

Azizoglu RO, Elhanafi D, Kathariou S. 2014. Mutant construction and integration vector-mediated gene complementation in *Listeria monocytogenes*. Methods Mol Biol. 2014;1157:201-11. doi: 10.1007/978-1-4939-0703-8_17.

Azizoglu RO, Gorski L, Kathariou S. Isolation of *Listeria monocytogenes* from food and water: official and experimental protocols. Curr Protoc Microbiol. 2014 May 1;33:9B.5.1-9B.5.19. doi:

Lee, S., T. J. Ward, L. M. Graves, C. L. Tarr, R. M. Siletzky and S. Kathariou. Population structure of *listeria monocytogenes* serotype 4b isolates from sporadic human listeriosis in the United States, 2003-2008. Appl Environ Microbiol. 2014 Apr 4. [Epub ahead of print]

Wassinger, A., L. Zhang, E. Tracy, R. S. Munson, Jr, S. Kathariou and H. H. Wang. 2013. Role of a GntR-family response regulator LbrA in *Listeria monocytogenes* biofilm formation. PLoS One. 2013 Jul 23;8(7):e70448. doi: 10.1371/journal.pone.0070448.

Dutta, V., D. Elhanafi and S. Kathariou. 2013. Conservation and distribution of the benzalkonium chloride resistance cassette *bcrABC* in *Listeria monocytogenes*. Appl Environ Microbiol. 79(19):6067-74. doi: 10.1128/AEM.01751-13. Epub 2013 Jul 26.

Artymovich K, J. S. Kim, J. E. Linz, D. F. Hall, L. E. Kelley, H. L. Kalbach, S. Kathariou, J. Gaymer and B. Paschke. 2013. A "successful allele" at *Campylobacter jejuni* contingency

locus *Cj0170* regulates motility; "successful alleles" at locus *Cj0045* are strongly associated with mouse colonization. *Food Microbiol.* 34(2):425-430.

Lee, S., M. Rakic-Martinez, L. M. Graves, T. J. Ward, R. M. Siletzky and S. Kathariou. 2013. Genetic determinants for cadmium and arsenic resistance among *Listeria monocytogenes* Serotype 4b from sporadic human listeriosis. *Appl Environ Microbiol.* 79(7):2471-2476.

Rutledge, M. E., R. M. Siletzky, W. Gu, L. A. Degernes, C. E. Moorman, C. S. DePerno and S. Kathariou. 2013. Characterization of *Campylobacter* from resident Canada geese in an urban environment. *J. Wildlife Dis.* 49(1):1-9.

Crespo-Rodriguez, M. D., J. W. Olson, E. Altermann, R. M. Siletzky and S. Kathariou. 2012. Chromosomal *tet(O)* harboring-regions in *Campylobacter coli* from turkeys and swine. *Appl Environ Microbiol.* 78(23):8488-8491.

Ratani, S. S., R. M. Siletzky, V. Dutta, S. Yildirim, J. A. Osborne, W. Lin, A. D. Hitchins, T. J. Ward and S. Kathariou. 2012. Heavy metal and disinfectant resistance of *Listeria monocytogenes* from foods and food processing plants. *Appl. Environ. Microbiol.* 78(19):6938-6945.

Snipen, L., T. Wassenaar, E. Altermann, J. Olson, S. Kathariou, K. Lagesen, M. Takamiya, S. Knøchel, D. W. Ussery and R. J Meinersmann. 2012. Analysis of evolutionary patterns of genes in *Campylobacter jejuni* and *C. coli*. *Microb. Inform. & Experim.* 2:8 doi:10.1186/2042-5783-2-8.

Thanissery, R., S. Kathariou, R. M. Siletzky, and D. P. Smith. 2012. Microbiology of pre-chill carcasses from medium and fast growing pastured broiler chicken strains. *J. Appl. Poult. Res.* 21:623-629.

Katharios-Lanwermeier S., M. Rakic-Martinez, D. Elhanafi, S. Ratani, J. M. Tiedje and S. Kathariou. 2012. Coselection of cadmium and benzalkonium chloride resistance in conjugative transfers from nonpathogenic *Listeria* spp. to other listeriae. *Appl. Environ. Microbiol.* 78 (21):7549-7556.

Brul, S., J. Bassett, P. Cook, S. Kathariou, P. McClure and P. R. Jasti. 2012. 'Omics' technologies in Quantitative Microbial Risk Assessment. *Trends Food Sci. & Technol.* 27 (1): 12-24.

Thanissery, R., S. Kathariou, R. M. Siletzky, and D. P. Smith. 2012. Microbiology of pre-chill carcasses from medium and fast growing pastured broiler chicken strains. *J. Appl. Poult. Res.* 21:623-629.

Faith, N. G., J. W. Kim, R. Azizoglu, S. Kathariou and C. Czuprynski. 2012. Purine biosynthesis mutants (*purA* and *purB*) of serotype 4b *Listeria monocytogenes* are severely attenuated for systemic infection in intragastrically inoculated A/J mice. *Foodborne Pathog. Dis.* 9(5):480-486.

Lee, S, T. J. Ward, R. M. Siletzky and S. Kathariou. 2012. Two novel type II restriction-modification systems occupying genomically equivalent locations on the chromosomes of *Listeria monocytogenes* strains. *Appl. Environ. Microbiol.* 78(8):2623-2630.

Kim, J. W., V. Dutta, D. Elhanafi, S. Lee, J. A. Osborne and S. Kathariou. 2012. A novel restriction-modification system is responsible for temperature-dependent phage resistance in *Listeria monocytogenes* ECII. *Appl. Environ. Microbiol.* 78(6):1995-2004.

Lee, S., T. J. Ward, L. M. Graves, L. A. Wolf, K. Sperry, R. M. Siletzky and S. Kathariou. 2012. Characterization of atypical *Listeria monocytogenes* serotype 4b strains harboring a lineage II-specific gene cassette. *Appl. Environ. Microbiol.* 78(3):660-667.

Rakic-Martinez, M., D. A. Drevets, V. Dutta, V. Katic and S. Kathariou. 2011. *Listeria monocytogenes* strains selected on ciprofloxacin or the disinfectant benzalkonium chloride exhibit reduced susceptibility to ciprofloxacin, gentamicin, benzalkonium chloride, and other toxic compounds. *Appl. Environ. Microbiol.* 77(24):8714-8721.

Rahimi, S, S. Kathariou, J. L. Grimes and R. M. Siletzky. 2011. Effect of direct-fed microbials on performance and *Clostridium perfringens* colonization of turkey poults. *Poultry Sci.* 90(11):2656-2662.

Vergheese, B., M. Lok, J. Wen, V. Alessandria, Y. Chen, S. Kathariou, and S. Knabel. 2011. *comK* prophage junction fragments identify genotypes of *Listeria monocytogenes* unique to individual meat and poultry processing plants: A possible model for rapid niche-specific adaptation, biofilm formation and persistence. *Appl. Environ. Microbiol.* 77:3279-3292.

Vishnivetskaya, T. A., S. Lucas, A. Copeland, A. Lapidus, T. Del Rio Glavina, E. Dalin, H. Tice, D. C. Bruce, L. A. Goodwin, S. Pitluck, E. Saunders, T. Brettin, C. Detter, C. Han, F. Larimer, M. L. Land, L. J. Hauser, N. C. Kyrpides, G. Ovchinnikova, S. Kathariou, R. F. Ramaley, D. F. Rodrigues, C. Hendrix, P. Richardson, and J. M. Tiedje. 2011. Complete genome sequence of the thermophilic *Exiguobacterium* sp. AT1b. *J. Bacteriol.* 193:2880-2881.

Wright, S., S. Wilson, W. G. Miller, R. E. Mandrell, R. M. Siletzky, and S. Kathariou. 2010. Differences in methylation at GATC sites in genomic DNA of *Campylobacter coli* from turkeys and swine. *Appl. Environ. Microbiol.* 76:7314-7317.

Elhanafi D, V. Dutta, and S. Kathariou. 2010. Genetic characterization of plasmid-associated benzalkonium chloride resistance determinants in a *Listeria monocytogenes* strain from the 1998-1999 outbreak. *Appl. Environ. Microbiol.* 76:8231-8238.

Azizoglu, R. O., and S. Kathariou. 2010. Temperature-dependent requirement for catalase in aerobic growth of *Listeria monocytogenes* F2365. *Appl. Environ. Microbiol.* 76:6998-7003.

- Yildirim, S., D. Elhanafi, W. Lin, A. D. Hitchins, R. M. Siletzky, and S. Kathariou. 2010.** Conserved genomic localization and sequence content of Sau3AI-like restriction-modification gene cassettes between *Listeria monocytogenes* Epidemic Clone I and selected strains of serotype 1/2a. *Appl. Environ. Microbiol.* 76:5577-5584.
- Azizoglu, R. O. and S. Kathariou. 2010.** Impact of growth temperature and agar versus liquid media on freeze-thaw tolerance of *Yersinia enterocolitica*. *Foodborne Pathog Dis.* 7:1125-1128.
- Azizoglu, R. O. and S. Kathariou. 2010.** Inactivation of a cold-induced putative RNA helicase gene of *Listeria monocytogenes* is accompanied by failure to grow at low temperatures but does not affect freeze-thaw tolerance. *J. Food Prot.* 73:1474-1479.
- Cheng, Y., J. W. Kim, S. Lee, R. M. Siletzky, and S. Kathariou. 2010.** DNA probes for unambiguous identification of *Listeria monocytogenes* Epidemic Clone II strains. *Appl. Environ. Microbiol.* 76:3061-3068.
- Mullapudi, S., R. M. Siletzky, and S. Kathariou. 2010.** Diverse cadmium resistance determinants in *Listeria monocytogenes* from the environment of turkey processing plants. *Appl Environ Microbiol.* 76:627-630.
- Pan, Y, F. Breidt, Jr, and S. Kathariou. 2009.** Competition of *Listeria monocytogenes* serotype 1/2a and 4b strains in mixed culture biofilms. *Appl. Environ. Microbiol.* 75:5846-5852.
- Vishnivetskaya, T. A., S. Kathariou, and J. M. Tiedje. 2009.** The *Exiguobacterium* genus: biodiversity and biogeography. *Extremophiles.* 13:541-555.
- Kim, J. W. and S. Kathariou. 2009.** Temperature-dependent phage resistance of *Listeria monocytogenes* epidemic clone II. *Appl. Environ. Microbiol.* 75:2433-2438.
- Azizoglu, R. O., J. Osborne, S. Wilson, and S. Kathariou. 2009.** Role of growth temperature on freeze-thaw tolerance of *Listeria* spp. *Appl. Environ. Microbiol.* 75:5315-5320.
- Gu, W., R. S. Siletzky, S. Wright, M. Islam, and S. Kathariou. 2009.** Antimicrobial susceptibility profiles and strain type diversity of *Campylobacter jejuni* isolates from turkeys in eastern North Carolina. *Appl. Environ. Microbiol.* 75:474-482.
- Wright S. L., D. K. Carver, R. M. Siletzky, S. Romine, W. E. Morrow, and S. Kathariou. 2008.** Longitudinal study of prevalence of *Campylobacter jejuni* and *Campylobacter coli* from turkeys and swine grown in close proximity. *J. Food Prot.* 71:1791-1796.
- Kim J. S., Kim J. W., Kathariou S. 2008.** Differential effects of temperature on natural transformation to erythromycin and nalidixic acid resistance in *Campylobacter coli*. *Appl. Environ. Microbiol.* 74:6121-6125.

- Chan K., D. Elhanafi., and S. Kathariou. 2008.** Genomic evidence for interspecies acquisition of chromosomal DNA from *Campylobacter jejuni* by *Campylobacter coli* strains of a turkey-associated clonal group (cluster II). *Foodborne Pathog Dis.* 5:387-398.
- Faith, N., S. Kathariou, Y. Cheng, N. Promadej, B. L. Neudeck, Q. Zhang, J. Luchansky, and C. Czuprynski. 2008.** The role of *Listeria monocytogenes* serotype 4b *gtcA* in gastrointestinal listeriosis in A/J mice. *Foodborne Pathog Dis.* 6:39-48.
- Kim, J. W., R. M. Siletzky, and S. Kathariou. 2008.** Host ranges of *Listeria*-specific bacteriophages from the turkey processing plant environment in the United States. *Appl Environ. Microbiol.* 74:6623-6630.
- Mullapudi, S., R. M. Siletzky, and S. Kathariou. 2008.** Heavy metal and benzalkonium chloride resistance of *Listeria monocytogenes* from the environment of turkey processing plants. *Appl. Environ. Microbiol.* 74:1464-1468.
- Sperry, K. E. , S. Kathariou, J. S. Edwards, and L. A. Wolf. 2008.** Multiple-locus variable-number tandem-repeat analysis as a tool for subtyping *Listeria monocytogenes* strains. *J. Clin. Microbiol.* 46:1435-1450.
- Cheng, Y., N. Promadej, J. W. Kim, and S. Kathariou. 2008.** Teichoic acid glycosylation mediated by *gtcA* is required for phage adsorption and susceptibility of *Listeria monocytogenes* serotype 4b. *Appl. Environ. Microbiol.* 74:1653-1655.
- Vishnivetskaya T.A., R. Siletzky, N. Jefferies, J.M. Tiedje, and S. Kathariou. 2007.** Effect of low temperature and culture media on the growth and freeze-thawing tolerance of *Exiguobacterium* strains. *Cryobiology* 54:234-240.
- Faith, N. G., S. Kathariou, B. L. Neudeck, J. B. Luchansky, and C. J. Czuprynski. 2007.** A P60 mutant of *Listeria monocytogenes* is impaired in its ability to cause infection in intragastrically inoculated mice. *Microbial Pathog.* 42:237-241.
- Chan, K., W. G. Miller, R. E. Mandrell, and S. Kathariou. 2007.** Absence of intervening sequences in 23s rRNA genes of *Campylobacter coli* from turkeys is a unique attribute of a cluster of related strains which also lack resistance to erythromycin. *Appl. Environ. Microbiol.* 73:1208-1214.
- Bazaco, M. C., J. D. Eifert, R. C. Williams, and S. Kathariou. 2007.** Quantitative recovery of *Listeria monocytogenes* and select salmonella serotypes from environmental sample media. *J AOAC Int.* 90:250-257.
- D'lima, C. B., W. G. Miller, R. E. Mandrell, S. L. Wright, R. M. Siletzky, D. K. Carver, and S. Kathariou. 2007.** Clonal population structure and specific genotypes of multidrug-resistant *Campylobacter coli* from turkeys. *Appl. Environ. Microbiol.* 73:2156-64.