

Salina Parveen, Ph.D.

Professor

Department of Agriculture, Food and Resource Sciences

2116 Center for Food Science & Technology

Email: sparveen@umes.edu

Phone: 410-651-8339

Education:

- Ph.D. Food Science and Human Nutrition, Specializing in Microbiology and Molecular Biology. University of Florida, Gainesville, Florida.
- M.Sc. Microbiology., University of Dhaka, Dhaka, Bangladesh.
- B.Sc. Major: Botany; Minor: Biochemistry and Zoology. University of Dhaka, Dhaka, Bangladesh.

Professional Experience:

- **Professor** (50% teaching and 50% research); Graduate Faculty and Univ. System of Maryland Marine, Estuarine, Environmental Sciences (USM MEES) faculty and Food Science and Technology Ph.D. Program, Department of Agriculture, Food and Resource Sciences, University of Maryland Eastern Shore, Princess Anne, Maryland 21853, 2013 (summer) to present.
- **Associate Professor** (50% teaching and 50% research); Graduate Faculty and Univ. System of Maryland Marine, Estuarine, Environmental Sciences (USM MEES) faculty and Food Science and Technology Ph.D. Program, Department of Agriculture, Food and Resource Sciences, University of Maryland Eastern Shore, Princess Anne, Maryland 21853, 2002 (fall) to 2008.
- **Assistant Professor** (50% teaching and 50% research); Graduate Faculty and Univ. System of Maryland Marine, Estuarine, Environmental Sciences (USM MEES) faculty and Food Science and Technology Ph.D. Program, Department of Agriculture, Food and Resource Sciences, University of Maryland Eastern Shore, Princess Anne, Maryland 21853, 2002 (fall) to present.
- **Visiting Scientist**, USDA- ARS, Microbial Food Safety Research Unit, Delaware State University, Dover, DE 19901, 2001-2002.
- **Visiting Assistant**, Dept. of Microbiology and Cell (Faculty) Science, Univ. of Florida, Gainesville, FL 32611, 1999-2000.
- **Visiting Assistant**, Post-Doctoral Associate & Food Safety Laboratory, Inst. of Food and Agricultural Sciences, Univ. of Florida, Gainesville, FL 32611, 1997-1999.
- **Research Assistant**, Food Safety Laboratory, Inst. of Food and Agricultural Sciences, Univ. of Florida, Gainesville, FL 32611, 1993-1997.
- **Microbiologist**, International Center for Diarrheal Disease Research, Bangladesh (ICDDR.B); Biman Flight Catering Center (BFCC) of Bangladesh

Airlines; Diphtheria, Pertussis and Tetanus (D.P.T) Vaccine Development Project, Institute of Public Health (IPH), Dhaka, Bangladesh, 1988-1993.

Professional Affiliations:

- American Society for Microbiology, 1996-present.
- Institute of Food Technology, 1997-present.
- International Association for Food Protection, 2003-present.
- Member, Dhaka University Microbiology Alumni Association, 2000-present
- Bangladesh Environmental Society, 2005-present.
- Global Network of Bangladeshi Biotechnologists, 2005-present.

Research:

The major focus of my research is Food Safety, Food and Environmental Microbiology, and Water Quality.

My research objectives are:

- Improvement of safety and quality characteristics of seafood, poultry, meat and fresh produce.
- Application of genotypic and phenotypic methods for tracking sources of food- and water- borne pathogens in food processing plants and in aquatic environments.
- Development and application of rapid molecular and immunological methods for detection of water- and food -borne pathogens.
- Development of predictive models for the growth and survival of food-borne pathogens in seafood and poultry.
- Investigation of antimicrobial resistance, pathogenicity and control of food- and- water borne pathogens.

Honors and Awards:

- Distinguished Scholar Award, School of Graduate Studies, UMES. 2014.
- Associate Editor, Frontiers in Environmental Health. 2013-present.
- Member, Editorial board, Journal of Food Protection. 2015-.
- Member, Editorial board, Food microbiology. 2014-present
- Member, Editorial board, Infection and Drug Resistance. 2008-present.
- Member, Editorial board, Food and Nutrition Sciences. 2012-present.
- Outstanding Mentor Award, School of Graduate Studies, UMES. 2012.
- Outstanding Women Award, UMES. 2009.
- Member, National Advisory Committee on Microbiological Criteria for Foods (NACMCF), USDA. 2013-present.
- American Society for Microbiology Minority Travel Grant. 2007 and 2009.

- Listed with Biography in the Marquis Who's Who in America, Who's Who in American Women, Who's Who Registry of Executives and Professionals, and Who's Who in American Education. 2005-2008.
- Outstanding New Faculty Award, School of Agricultural and Natural Sciences, UMES. 2004.
- Gamma Sigma Delta, elected member, The Honor Society of Agriculture. 1997.
- Graduate Research Assistantship, University of Florida. (1993-1997).
- Chancellor Award, Govt. of Bangladesh, 1985 (for securing First class First position in B.Sc.).
- Book Award, Dhaka University. 1985 (for securing First class First position in B.Sc.).
- Merit Scholarship, Dhaka University (1985-1988).

Publications:

Published more than 140 peer-reviewed journal articles, book chapters and abstracts. Selected journal articles and book chapters are:

Journal articles:

- Mohamed, T., **Parveen, S.**, and Oscar, T. 2015. Chlorine Inactivation of Antibiotic Resistant and Non-resistant *Salmonella* Kentucky Isolated from Pre- and Post-chill Whole Broilers Carcasses. *J. Food Prot.* 78(2):414-8.
- Rodgers, C., **Parveen, S.**, Chigbu, P., Ishaque, A., Jacobs, J., Rhodes, M., and Harter-Dennis, J. 2014. Prevalence of *Vibrio parahaemolyticus*, and *V. vulnificus* in Blue Crabs (*Callinectes sapidus*), Seawater, and Sediments of the Maryland Coastal Bays. *J. Appl. Microbiol.* 78(2):414-8.
- Mudoh, F.M., **Parveen, S.**, Schwarz, J., Rippen, T., and Chaudhuri, A. 2014. The effects of storage temperature on the prevalence of *Vibrio parahaemolyticus*, and physical and sensory properties of oysters. *Front. Public Health.* 2014 May 16; 2:45. doi: 10.3389/fpubh.2014.00045. eCollection 2014.
- Mohamed, T., Zhao, S., White, D., and **Parveen, S.** 2014. Molecular characterization of resistant *Salmonella* Typhimurium and *Salmonella* Kentucky isolated from pre- and post-chill whole broilers carcasses. *Food. Microbiol.* 38:6-15.
- Oscar, T.P., Tasmin, R., and **Parveen, S.** 2013. Chlorine inactivation of non-resistant and antibiotic resistant strains of *Salmonella* Typhimurium isolated from chicken carcasses. *J. Food Prot.* 76(6):1031-4.
- **Parveen, S.**, DaSilva, L., DePaola, A., Bowers, J., White, C., Munasinghe, K.A., Brohawn, K., Mudoh, M., and Tamplin, M.L. 2013. Development and validation of

a predictive model for the growth of *Vibrio parahaemolyticus* in post-harvest shellstock oysters. Int. J. Microbiol. 161:1-6.

- Tkachenko, A., DaSilva, L., Hearne, J.L., **Parveen, S.**, and Waguespack, Y. 2013. An assay to screen bacterial adhesion to mucus biomolecules. Letters in Appl. Microbiol. 2012 Sep. 28. doi: 10.1111/lam.12003.
- Pagadala, S., **Parveen, S.**, Rippen, T., Luchansky, J.B., Call, J.E., Tamplin, M.L., and Porto-FeltA.C. 2012. Prevalence, characterization and sources of *Listeria monocytogenes* in blue crab meat (*Callinectes sapidu*) and blue crab processing plants. Food Microbiol. 31(2):263-270.
- DaSilva, L.V., **Parveen, S.**, DePaola, A., Bowers, J., and Tamplin, M.L. 2012. Development and validation of a predictive model for the growth of *Vibrio vulnificus* in post-harvest shellstock oysters. Appl. Environ. Microbiol. 78 (6):1675-168.
- Pagadala, S., **Parveen, S.**, Rippen, T., Schwarz, J., and Luchansky, J.B. 2011. Comparison of automated BAX polymerase chain reaction and standard culture methods for detection of *Listeria monocytogenes* in blue crab meat (*Callinectes sapidus*) and blue crab processing plants. J. Food Prot. 74 (11): 1930-1933.
- Oscar, T.P., Rutto, G.K., Ludwig, J.B., and **Parveen, S.** 2010. Qualitative map of *Salmonella* contamination on young chicken carcasses J. Food Prot. 73 (9):1596-603 (**Most widely read and top ten down load Journal article**).
- Whitley, N.C., Cazac, D., Rude, B.J., Jackson-O'Brien, D.J., and **Parveen, S.** 2009. Use of a commercial probiotic supplement in meat goat. J. Anim. Sci. 87(2):723-8.
- **Parveen, S.**, Hettiarachchi, K.A., Bowers, J.C., Nordstrom, J.L., Tamplin, M.L., McKay, R., Beatty, W., Brohawn, K., DaSilva, L., and DePaola, A. 2008. Seasonal distribution of total and pathogenic *Vibrio parahaemolyticus* in Chesapeake Bay oysters and waters. Int. J. Food. Microbiol. 128:354-361.
- **Parveen, S.**, Taabodi, M., Schwarz, J.P., Oscar, T.P., Harter-Dennis, J., and White, D. 2007. Prevalence and antimicrobial resistance of *Salmonella* spp. in processed poultry. J. Food. Prot. 70(11):2466-2472.
- **Parveen, S.**, Lukasik, J., Scott, T.M., Tamplin, M.L., Portier, K.M., Sheperd, S., Braun, K., and Farrah, S.R. 2006. Geographical variation in antibiotic resistance patterns of *Escherichia coli* isolated from swine, poultry, beef and dairy cattle farms in Florida. J. Appl. Microbiol. 100:50-57.
- Richards, G.P., Watson, M.A., and **Parveen, S.** 2005. Development of a simple and rapid fluorogenic procedure for the identification of *Vibrionaceae* family members. Appl. Environ. Microbiol. 71(7):3524-3527.

- Richards, G.P. and **Parveen, S.** 2005. A survey for phosphoglucose isomerase with lysyl Aminopeptidase activity in *Vibrionaceae* and non-*Vibrio* pathogens. *Biochimica et Biophysica Acta (BBA)*. 1748 (1):128-33.
- Richards, G.P., Hammer, C.H., Garfield, M.K., and **Parveen, S.** 2004. Characterization of lysyl aminopeptidase activity from phosphoglucose isomerase of *Vibrio vulnificus*. *Biochimica et Biophysica Acta (BBA)*. 1700:219-229.
- **Parveen, S.**, Farrah, S.R., Gonzalezbonilla, C., Zamudio, A.V., and Tamplin, M.L. 2003. Characterization of a clinical *Vibrio cholerae* O139 isolate from Mexico. *Can. J. Microbiol.* 49 (1):65-70.
- Scott, T.M., **Parveen, S.**, Portier, K.M., Rose, J.B., Tamplin, M.L., Farrah, S.R., and Lukasik, J. 2003. Geographical Variation in ribotype profiles of *Escherichia coli* isolated from humans, swine, poultry, beef and dairy cattle in Florida. *Appl. Environ. Microbiol.* 69 (2):1089-1092.
- **Parveen, S.**, Hodge, N.C., Stall, R.E., Farrah, S.R., and Tamplin, M.L. 2001. Genotypic and phenotypic characterization of human and nonhuman *Escherichia coli*. *Water Res.* 35 2):379-386.
- Gallman, A.M., Doyle, T.J., Tamplin, M.L., **Parveen, S.**, Skinner, S.C., Bomeisl, P.E., and Gulig, P.A. 2000. Pathogenesis of infection by virulent and naturally attenuated strains of *Vibrio vulnificus* in subcutaneously inoculated, iron dextran-treated mice. *Infect. Immun.* 68 (10):5785-93.
- **Parveen, S.**, Portier, K.M., Robinson, K., Edmiston, L., and Tamplin, M.L. 1999. Discriminant analysis of ribotype profiles of *Escherichia coli* for differentiating human and nonhuman sources of fecal pollution. *Appl. Environ. Microbiol.* 65(7):3142-3147.
- **Parveen, S.**, Murphree, R., Edmiston, L., Kaspar, C.W., Portier, K.M., and Tamplin, M.L. 1997. Association of multiple-antibiotic-resistance profiles with point and nonpoint sources of *Escherichia coli* in Apalachicola Bay. *Appl. Environ. Microbiol.* 63(7):2607-2612.
- **Parveen, S.**, Islam, M.S., and Huq, A. 1995. Abundance of *Aeromonas* spp. in river and lake waters in and around Dhaka, Bangladesh. *J. Diarrheal Dis. Res.* 13(3):183-186.
- Huq, A., **Parveen, S.**, Quadri, F., Sack, D.A., and Colwell, R.R. 1993. Comparison of *Vibrio cholerae* O1 strains isolated from patients and the aquatic environment. *J. Trop. Med. Hyg.* 96:86-92.
- **Parveen, S.**, Huq, A., Hassan, J.A.K., and Aziz, K.M.S. 1992. Occurrence of hemolysin producing *Aeromonas* spp. in the aquatic environments. *Microbios.* 70:67-70.

- Huq, A, Alam, M., **Parveen, S.**, and Colwell, R.R. 1992. Occurrence of resistance to Vibriostatic compound O/129 in *Vibrio cholerae* O1 isolated from clinical and environmental samples in Bangladesh. J. Clin. Microbiol. 30(1):219-221.
- **Parveen, S.**, and Huq, A. 1990. Enterotoxigenicity of *Aeromonas* spp. isolated from environmental sources. Bangladesh J. Microbiol. 7(2):89-93.
- Huq, A., Colwell, R.R., Rahman, R., Ali, A., Chowdhury, M.A.R., **Parveen, S.**, Sack, D.A., and Russek-Cohen, E. 1990. Detection of *Vibrio cholerae* O1 in the aquatic environment by fluorescent-monoclonal antibody and culture methods. Appl. Environ. Microbiol. 56(8): 2370-2373.
- Morshed, M.G., Sayeed, S., **Parveen, S.**, Ahmed, A.U., and Hossain, A. 1989. Coliform bacteria during peak flood period in Dhaka city-a case study. Bangladesh J. Life Sci. 2: 41-45.
- **Parveen, S.**, Huq, A., and Aziz, K.M.S. 1988. Antibiotic resistance patterns of *Aeromonas* spp. isolated from environmental and clinical sources. Bangladesh J. Microbiol. 5(2): 25-32.

Book Chapters:

- **Parveen, S.**, and Tamplin, M.L. 2002. Sources of Fecal Contamination. Encyclopedia of Environmental Microbiology. vol. 3, pp: 1256-1264. John Wiley and Sons, Inc. New York, NY.
- **Parveen, S.**, and Tamplin, M.L. *Vibrio vulnificus*, *Vibrio parahaemolyticus*, and *Vibrio cholera*. 2012. Willey Blackwell, UK. Pages: 116-162.
- Chigbu, P. and **Parveen, S.** 2012. Bacteriological analysis of water. CRC Press, Inc., New York, NY. Pages: 148-179.

Course List:

Course Developed and Taught:

- Advanced Food Microbiology (FDST 692)
- Food Microbiology Lab. (FDST 693)
- Advanced Food Toxicology (FDST 802)
- Seminar in Food Sci. and Tech. (FDST 700)

Course Updated and Taught:

- Food and Agricultural Sciences Seminar (AGSC 600)
- Master's Thesis Research (AGSC 799)
- Individual Studies in Food and Nutrition (NUTD 680)

- Undergraduate Research (BIOL 499)
- Independent Study (BIOL 498)
- Doctoral Dissertation Research (FDST 899)

Grants:

Received more than \$5 million external funding and several internal grants.
Current selected grants are:

- Development of integrated control strategies for *Vibrio parahaemolyticus* in eastern oyster (*Crassostrea virginica*) for raw consumption. Maryland Agricultural Experiment Station. 01/01/2015 to 06/30/2016. (Co-PI).
- A rapid, user friendly method for detection of total Vibrionaceae as an indicator of pathogenic *Vibri*ospecies in oysters and seawater. USDA NIFA CBG 09/01/2014 to 08/31/2017. \$480,000 (PI).
- Determine and develop improved on farm food safety practices and outreach/educational programs for small and mid-size conventional and organic growers in the Mid-Atlantic, South and South Central regions consistent with USDA-GAPs and FDA guidelines. USDA NIFA CBG 09/01/2014 to 08/31/2017. \$600,000 (Co-PI).
- Control of *Salmonella* in ground chicken using bacteriophage. Perdue Poultry Industry. 3/15/2014 to 11/14/2015. \$13,500 (PI).
- Control of *Salmonella* in ground chicken using Antimicrobial agents. Perdue Poultry Industry. 3/15/2014 to 11/14/2015. \$7,000 (PI).
- Prevalence and characterization of *Escherichia coli* O157:H7 Recovered from Retail ground veal in Mid-Atlantic region of the United States. USDA NIFA STEC CAP and USDA ARS. 04/01/2014 to 11/30/2015. \$175,000 (PI).
- Evaluation of foodborne pathogens and antibiotic residues in imported and domestic seafood. USDA Evans Allen. 01/31/2013-12/31/2015 (PI).
- Interdisciplinary program of education on food safety for fresh fruits and vegetables. USDA NIFA Capacity Building Grants (CBG). 09/01/2012-08/31/2015, \$300,000 (Co- PI).
- University of Maryland Eastern Shore REU in Marine Sciences. NSF. 09/01/2012- 08/31/2015. \$262,000 (Senior Personnel).
- Whole genome sequencing of *Salmonella* Typhimurium recovered from processed poultry. USFDA. 2014-2015 (PI).

- The Changes of *Salmonella* Typhimurium throughout the lifecycle under environmental and antimicrobial stresses. USDA ARS. 2015-2016 (PI).