

# Bhushan M. Jayarao

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**CITIZENSHIP:** Citizen of United States

**AREAS OF INTEREST:** Veterinary Public Health, Zoonotic Diseases, Food Safety, Animal Health and Well being, Epidemiology, Diagnostic Microbiology, Mastitis, Milk Quality

## EDUCATIONAL BACKGROUND

BVSc & AH	1980	Bachelor of Veterinary Science and Animal Husbandry, Bombay Veterinary College, Mumbai, India.
MVSc	1982	Master of Veterinary Science in Food Hygiene and Veterinary Public Health, Bombay Veterinary College, Mumbai, India.
Ph.D.	1989	Food Microbiology and Epidemiology, University of Veterinary Sciences, Budapest, Hungary.
M.P.H.	1994	Occupational/ Environmental Health and Safety, The University of Tennessee, Knoxville, Tennessee.

## CAREER HISTORY

Sept. 2008- Aug. 2009	FASS/AAAS Congressional Science Fellow House of Representatives, Committee on Energy and Commerce, Subcommittee on Oversight and Investigations, 316 Ford Bldg. Washington DC.
2008- present	Professor/ Extension Veterinarian / Interim Head, Bacteriology Section

## RESEARCH

- 1) Characterization of *Clostridium difficile* isolated from healthy and sick calves
- 2) Occupational health of women working on dairy farms in Pennsylvania
- 3) Molecular epidemiology of *Mycoplasma bovis* pneumonia and mastitis on dairy herds.

## EXTENSION

- 1) Veterinary Public Health
  - a) Agrosecurity and Biosecurity
  - b) Pennsylvania Quality Milk Program
  - c) Emerging Infectious Diseases

## TEACHING

- 1) Molecular Epidemiology of Infectious Diseases (VBSC 445)
- 2) Epidemiology of Infectious Diseases (VBSC 444)

## DIAGNOSTIC SERVICE

July 1-2007 –August 2008. Supervisor of Bacteriology Section of the Animal diagnostic laboratory (finalize case reports, manage staff, respond to clientele, assist with diagnostic queries)

## SERVICE

- 1) Advisor (2003-present)- Joint University Program. Assist and advice JUP program managers on developing and implementing appropriate biological threat reduction programs as directed by Defense Threat Reduction Agency.
- 2) Section Editor (Physiology and Management)- *Journal of Dairy Science (2008-2011)*. Review, assign and make a decision on manuscripts submitted to the physiology and management section of *Journal of Dairy Science*.
- 3) Member, Council for Veterinary Public Health and Regulatory Affairs, American Veterinary Medical Association (2007-2013). Provide advice, and opinion on issues related to Public Health as deemed important by the American Veterinary Medical Association.

2002-2007	Associate Professor / Extension Veterinarian, Dept. of Veterinary and Biomedical Sciences, Penn State.
1998-2002	Assistant Professor / Extension Veterinarian, Dept. of Veterinary and Biomedical Sciences, Penn State.
1995-1998	Assistant Professor, Dairy Science Department, South Dakota State University, Brookings, South Dakota.
1991-1995	Research Assistant Professor, Department of Animal Science, The University of Tennessee, Knoxville.
1989-1991	Post-Doctoral Research Associate, Department of Animal Science, The University of Tennessee, Knoxville.
1986-1989	Ph.D. Fellow, University of Veterinary Sciences, Budapest, Hungary.
1982-1986	Assistant Professor of Veterinary Public Health, Bombay Veterinary College, Bombay, India.
1980-1986	Veterinarian; Bandra Veterinary Clinic, Bandra, Bombay, India.

## Research and/or Scholarly Publications

### 1. Articles published in referred journals (accessed through PUBMED)

[Houser BA, Donaldson SC, Padte R, Sawant AA, DebRoy C, Jayarao BM.](#) Assessment of phenotypic and genotypic diversity of Escherichia coli shed by healthy lactating dairy cattle. Foodborne Pathog Dis. 2008 Spring;5(1):41-51.

[Brooks JW, Jayarao BM.](#) Management practices used by white-tailed deer farms in Pennsylvania and herd health problems. J Am Vet Med Assoc. 2008 Jan 1;232(1):98-104.

[Gurjar AA, Hegde NV, Love BC, Jayarao BM.](#) Real-time multiplex PCR assay for rapid detection and toxintyping of Clostridium perfringens toxin producing strains in feces of dairy cattle. Mol Cell Probes. 2008 Apr;22(2):90-5. Epub 2007 Aug 19.

[Kehoe SI, Jayarao BM, Heinrichs AJ.](#) A survey of bovine colostrum composition and colostrum management practices on Pennsylvania dairy farms. J Dairy Sci. 2007 Sep;90(9):4108-16.

[Gurjar AA, Yennawar NH, Yennawar HP, Rajashankar KR, Hegde NV, Jayarao BM.](#) Expression, crystallization and preliminary X-ray diffraction studies of recombinant Clostridium perfringens beta 2-toxin. Acta Crystallogr Sect F Struct Biol Cryst Commun. 2007 Jun 1;63(Pt 6):484-7. Epub 2007 May 5.

[Sawant AA, Hegde NV, Straley BA, Donaldson SC, Love BC, Knabel SJ, Jayarao BM.](#) Antimicrobial-resistant enteric bacteria from dairy cattle. Appl Environ Microbiol. 2007 Jan;73(1):156-63. Epub 2006 Nov 10.

[Straley BA, Donaldson SC, Hedge NV, Sawant AA, Srinivasan V, Oliver SP, Jayarao BM.](#) Public health significance of antimicrobial-resistant gram-negative bacteria in raw bulk tank milk. Foodborne Pathog Dis. 2006 Fall;3(3):222-33. Review.

[Jayarao BM, Donaldson SC, Straley BA, Sawant AA, Hegde NV, Brown JL.](#) A survey of foodborne pathogens in bulk tank milk and raw milk consumption among farm families in Pennsylvania. J Dairy Sci. 2006 Jul;89(7):2451-8.

[Donaldson SC, Straley BA, Hegde NV, Sawant AA, DebRoy C, Jayarao BM.](#) Molecular epidemiology of ceftiofur-resistant Escherichia coli isolates from dairy calves. Appl Environ Microbiol. 2006 Jun;72(6):3940-8.

[Hegde NV, Cook ML, Wolfgang DR, Love BC, Maddox CC, Jayarao BM.](#) Dissemination of Salmonella enterica subsp. enterica Serovar Typhimurium var. Copenhagen clonal types through a contract heifer-raising operation. J Clin Microbiol. 2005 Aug;43(8):4208-11.

[Sawant AA, Sordillo LM, Jayarao BM.](#) A survey on antibiotic usage in dairy herds in Pennsylvania. J Dairy Sci. 2005 Aug;88(8):2991-9.

[Oliver SP, Jayarao BM, Almeida RA.](#) Foodborne pathogens in milk and the dairy farm environment: food safety and public health implications. Foodborne Pathog Dis. 2005 Summer;2(2):115-29. Review.

[Jayarao BM, Pillai SR, Wolfgang DR, Griswold DR, Rossiter CA, Tewari D, Burns CM, Hutchinson LJ.](#) Evaluation of IS900-PCR assay for detection of Mycobacterium avium subspecies Paratuberculosis infection in cattle using quarter milk and bulk tank milk samples. Foodborne Pathog Dis. 2004 Spring;1(1):17-26.

[Jayarao BM, Pillai SR, Sawant AA, Wolfgang DR, Hegde NV.](#) Guidelines for monitoring bulk tank milk somatic cell and bacterial counts. J Dairy Sci. 2004 Oct;87(10):3561-73.

[Zhang W, Jayarao BM, Knabel SJ.](#) Multi-virulence-locus sequence typing of *Listeria monocytogenes*. *Appl Environ Microbiol.* 2004 Feb;70(2):913-20.

[Gillespie BE, Mathew AG, Draughon FA, Jayarao BM, Oliveri SP.](#) Detection of *Salmonella enterica* somatic groups C1 and E1 by PCR-enzyme-linked immunosorbent assay. *J Food Prot.* 2003 Dec;66(12):2367-70.

[Sharer MV, Su C, Hegde NV, Jayarao BM, Sordillo LM.](#) Differential expression of the lactose transporter gene affects growth of *Staphylococcus aureus* in milk. *J Dairy Sci.* 2003 Jul;86(7):2373-81.

[Jayarao BM, Wolfgang DR.](#) Bulk-tank milk analysis. A useful tool for improving milk quality and herd udder health. *Vet Clin North Am Food Anim Pract.* 2003 Mar;19(1):75-92, vi. Review.

[Sawant AA, Pillai SR, Jayarao BM.](#) Evaluation of five selective media for isolation of catalase-negative gram-positive cocci from bulk tank milk. *J Dairy Sci.* 2002 May;85(5):1127-32.

[Pillai SR, Jayarao BM.](#) Application of IS900 PCR for detection of *Mycobacterium avium* subsp. *paratuberculosis* directly from raw milk. *J Dairy Sci.* 2002 May;85(5):1052-7.