

VITAE

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NAME: Frances Ann Draughon

POSITION: Professor & Co-Director, Food Safety Center of Excellence
Co-Director UTIA Food Safety Initiative
2605 River Rd, Food Safety & Proc. Building
The University of Tennessee, Knoxville, TN 37996

EDUCATION:

<u>Degree</u>	<u>Major</u>	<u>Institution</u>	<u>Date</u>
B.S.	Microbiology	The University of Tennessee	1973
M.S.	Food Technology-Microbiology	The University of Tennessee	1976
Ph.D.	Food Science-Microbiology	The University of Georgia	1979

PROFESSIONAL EXPERIENCE:

2001-Present	The University of Tennessee	Director (co) Food Safety Center of Excellence
1998-Present	The University of Tennessee The Institute of Agriculture	Director (co) Food Safety Initiative
1995-1996	President	International Association for Food Protection
1989-Present	The University of Tennessee Food Science and Technology Dept.	Professor of Food Microbiology and Toxicology
1989-1990	Chinese Association of Science and Technology, Sabbatical Beijing, China	Professor for Multi-City Mycotoxin Training
1984-1989	The University of Tennessee Food Science and Technology Dept	Assoc. Professor of Food Microbiology and Tox.
1979-1984	The University of Tennessee	Asst. Professor of Food Microbiology and Tox. Food Science and Technology Dept

PROFESSIONAL ACTIVITIES:

Activities in Professional Societies:

President International Association of Milk Food and Environmental Sanitarians (IAMFES)

Other IAMFES Activities: (Pres-Elect '94, Vice Pres '93, Secretary '92); Co-Chair Local Arrangements for 1998 Annual IAMFES Meeting, Nashville, TN; Chair, Nominating Committee 1998-1999; Chairman, IAMFES Nominations Committee, 1998-99; Technical Session Chairperson 1999; Chair, Tellers Committee, 1999, Chair, Nominating Committee, 1999.

Secretary, Tennessee Association of Milk Water Food Protection 1996-present

1997-Present, AOAC Expert Panel on Microbiological Methods

1999-2000 - Panel Manager, SBIR, USDA, Food Science & Nutrition Panel.

1999-SBIR USDA Review Panel

American Society of Microbiology since 1973
Food Safety Consortium Grant Review Panel since 1998

Institute of Food Technologists (IFT) since 1973

Professional member, Committee Service: Program Committee, Student Scholarship, Chair, National IFT, Z. John Ordal and J.C. Ayres Food Microbiology Graduate Paper Competitions Committee of the Food Microbiology Division of the Institute of Food Technologists; Awards Committee, SAAS, Southern Regional Sections of IFT 1999;

National Association of College Teachers of Agriculture (NACTA - Lifetime Member)
Dairy Food Environmental Sanitation Editorial Review Board

HONORS AND AWARDS

- 2004. Director, National Center for Food Safety and Security, Center for Microbial Diversity and Ecology
- 2002 Director and Chair, NAFS Center for Microbial Ecology
- 2001 Named Director (co) and awarded the \$5 million Food Safety Center of Excellence, The University of Tennessee with colleague Steve Oliver
- 2001 Fellow Award, International Association for Food Protection
- 2000. Harry Haverland Citation Award for Lifetime Service to Food Protection, International Association for Food Protection
- 1999. Board, National Alliance for Food Safety
- 1999. Gamma Sigma Delta Award of Excellence for Research
- 1999. CASNR Peacock Outstanding Teaching Award
- 1998. Named Co-director, UTIA Tennessee Food Safety Initiative
- 1998. Outstanding Faculty Member with more than 10 years experience, The University of Tennessee, Department of Food Science and Technology
- 1985. Elected to Faculty of Biotechnology, The University of Tennessee, 1985,
- 1994. Elected to Faculty of Toxicology, 1984.
- 1994. NACTA (National Association of College Teachers of Agriculture) Teaching Award of Merit. Lifetime membership.
- 1993. Professional Scientist Award. The Southern Association of Agricultural Scientists, Food Science and Nutrition Section, Southern Sections of IFT.
- 1985 - 2001 Designated Roddy Research Distinguished Professor, Graduate School, University of Tennessee
- 1984 - 2001. Lifetime Approval Awarded by University of Tennessee Graduate School for Direction of Doctoral Dissertations and Teaching Doctoral Level Classes

PUBLICATIONS (last five years only)

Referred Journals

- Lee, R., R. Harbison, And F.A. Draughon. 2003. Food As a Weapon. *Food Prot. Trends* 23: 664-674.
- Pangloli, P., Y. Dje, S.P. Oliver, A. Mathew, D.A. Golden, W.J. Taylor and F.A. Draughon. 2003. Evaluation of methods for recovery of *Salmonella* from dairy cattle, poultry and swine farms. *J. Food Prot.* 66: 1987-1995.
- Murinda, S. E., L. T. Nguyen, T. L. Landers, F. A. Draughon, A. G. Mathew, J. S. Hogan, K. L. Smith, D. D. Hancock, and S. P. Oliver. 2003. Multiplex PCR for detection of pathogenic *Escherichia coli*. *In: Proc. Natl. Mastitis Counc.* pp. 348-349.
- Gillespie, B. E., B. M. Jayarao, A. G. Mathew, F. A. Draughon, and S. P. Oliver. 2003. Development of a PCR-ELISA procedure for identification of *Salmonella* serovars A, B, C1, C2, D, and E. *J. Food Prot. F. Food Prot.* 66: 2367-2370.

- Murinda, S. E., L. T. Nguyen, T. L. Landers, F. A. Draughon, A. G. Mathew, J. S. Hogan, K. L. Smith, D. D. Hancock, and S. P. Oliver. 2003. Multiplex PCR for detection and confirmation of Shiga-toxin producing *Escherichia coli*. J. Clin. Microbiol. (Submitted).
- Chardonnet, C.O., C.E. Sams, W.S. Conway, J.R. Mount and F.A. Draughon. 2002. Osmotic dehydration of apple slices with CaCl and sucrose limits decay caused by *Penicillium expansum*, *Colletotrichum acutatum* and *Botrytis cinerea* and does not promote *Listeria monocytogenes* or total aerobic population growth. J. Food Prot. 65: 172-177.
- Draughon, F.A. 2002. Food Security and Bioterrorism. Dairy Food Environmental Sanitation 22(4): 312.
- S. E. Murinda, L. T. Nguyen, S. J. Ivey, B. E. Gillespie, R. A. Almeida, F. A. Draughon, and S. P. Oliver. 2002. Prevalence and Molecular Characterization of *Escherichia coli* O157:H7 in Bulk Tank Milk and Fecal Samples from Cull Cows: A 12-Month Survey of Dairy Farms in East Tennessee. J. Food Prot. 65: 752B759.
- S. E. Murinda, L. T. Nguyen, S. J. Ivey, B. E. Gillespie, R. A. Almeida, F. A. Draughon, and S. P. Oliver. 2002. Molecular Characterization of *Salmonella* spp. Isolated from Bulk Tank Milk and Cull Dairy Cow Fecal Samples. J. Food Prot. 65: 1100-1105.
- Murinda, S. E., L. T. Nguyen, S. J. Ivey, R. A. Almeida, M. J. Montgomery, F. A. Draughon, and S. P. Oliver. 2002. Isolation of mastitis and foodborne pathogens in bulk tank milk and fecal samples from cull dairy cows. In: *Proc. Natl. Mastitis Counc.* pp. 178-179.
- Murinda, S. E., L. T. Nguyen, S. J. Ivey, R. A. Almeida, F. A. Draughon, and S. P. Oliver. 2002. Prevalence of *Escherichia coli* O157:H7 in bulk tank milk and fecal samples from cull dairy cows. In: *Proc. Natl. Mastitis Counc.* pp. 176-177.
- Murinda, S. E., L. T. Nguyen, S. J. Ivey, R. A. Almeida, F. A. Draughon, and S. P. Oliver. 2002. Prevalence of *Salmonella* species in bulk tank milk and fecal samples from cull dairy cows. In: *Proc. Natl. Mastitis Counc.* pp. 174-175.
- Taylor, W. and F.A. Draughon. 2001. *Nanocystis exedens* as a potential biocompetitive agent against *Aspergillus parasiticus* and *Aspergillus flavus*. J. Food Prot. 64: 1030-1034.
- Elgayyar, M., F.A. Draughon, D.A. Golden and J.R. Mount. 2001. Antimicrobial activity of essential oils from plants against selected pathogenic and saprophytic microorganisms. J. Food Prot. 64: 1019-1024.
- Gillespie, B. E., B. M. Jayarao, A. G. Mathew, F. A. Draughon, and S. P. Oliver. 2001. PCR-ELISA procedure for *Salmonella* serovars A, B, C1, C2 and D. In: *Proc. 2nd Intl. Mastitis and Milk Quality Symposium*, pp. 460-461.
- Chardonnet, C.O., C.E. Sams, W.S. Conway, J.R. Mount. and F.A. Draughon. 2001. Osmotic dehydration of apple slices using a sucrose/CaCl₂ combination to control spoilage caused by *Botrytis cinerea*, *Colletotrichum acutatum* and *Penicillium expansum*. J. Food Prot. 64: 1425-1429.
- Smiley, D.R. and F.A. Draughon. 2000. Evidence of degradation of aflatoxin B1 by *Flavobacterium aurantiacum* is enzymatic. J. Food Prot. 63:415-418.

Pompelli, G. F.A. Draughon, J.R. Mount and W. Morris. 2000. Food Processing in Tennessee - Dynamic and Growing. Publication 00-15 Tennessee Agriculture Experiment Station.

Draughon, F.A. 2000. The role of food protection association in preparedness against BT events. IN Booklet #Bioterrorism and Food Protection published by the International Assoc. Food Protection. Also published on Internet: <http://www.litigation.support.ene.com/bioterrorism/> 2/1/01.

Draughon, F.A., Anthony, B., and Denton, M. 1999. Isolation of *Listeria spp.* from rainbow trout purchased in retail markets. Dairy Food Environmental Sanitation. 19:90-94.

Bodnaruk, P. and Draughon, F.A. 1998. Effect of packaging atmosphere and pH on the virulence and growth of *Yersinia enterocolitica* on pork stored at 4°C. Food Microbiol. 15:129-136.

3. Research Communications Presented at Scientific Meeting With Abstracts: (last five years only)

Valerie W. Ling, P. Michael Davidson, and F. Ann Draughon. 2003. Antimicrobial Activity of Selected Chemical Components from Essential Oils against *Salmonella* Typhimurium and *Listeria monocytogens*. P011. Presented at the 90th annual meeting of the International Association for Food Protection, Aug. 10-13, 2003, New Orleans, Louisiana.

P. Pangloli, C. A. Doane, O. Ahmed, D. A. Golden, and F. A. Draughon. 2003. Evaluation and Development of Methods for Recovery of *Escherichia coli* O157:H7 from Artificially Contaminated Chicken Litter. P061. Presented at the 90th annual meeting of the International Association for Food Protection, Aug. 10-13, 2003, New Orleans, Louisiana.

F. R. Jackson, P. Pangloli, Y. Dje, S. P. Oliver, A. Mathew, D. A. Golden, W. J. Taylor, and F. A. Draughon. 2003. Evaluation of Methods for Recovery of *Salmonella* from Poultry and Swine Feed. P086. Presented at the 90th annual meeting of the International Association for Food Protection, Aug. 10-13, 2003, New Orleans, Louisiana.

P. Pangloli, Yobouet Dje, W. J. Taylor, D. A. Golden, S. P. Oliver, and F. A. Draughon. 2003. Evaluation of Methods for Recovery of *Salmonella* ssp. from Dairy Environmental Samples. P092. Presented at the 90th annual meeting of the International Association for Food Protection, Aug. 10-13, 2003, New Orleans, Louisiana.

Ken A. Armstrong, Felix R. Jackson, Robert T. Burns, Forbes R. Walker, and F. Ann Draughon. 2003. Effect of Liquid Alum on Naturally Occurring *Salmonella* and *Campylobacter* in Poultry Broiler Production Facilities. 2003. P117. Presented at the 90th annual meeting of the International Association for Food Protection, Aug. 10-13, 2003, New Orleans, Louisiana.

Kimberly D. Lamar, Phillipus Pangloli, David Golden, Stephen P. Oliver, and F. Ann Draughon. 2003. Geographic Information System and Epidemiological Association among Foodborne Pathogens at the Farm. P141. Presented at the 90th annual meeting of the International Association for Food Protection, Aug. 10-13, 2003, New Orleans, Louisiana.

Min Huang, Sharon L. Melton, and F. Ann Draughon. 2003. Simultaneous Determination of Multi-pesticide Residues in Vegetables. P248. Presented at the 90th annual meeting of the International Association for Food Protection, Aug. 10-13, 2003, New Orleans, Louisiana.

- Evans, M.R., F.A. Draughon, S.P. Oliver and V. Ling. 2002. Genotypic diversity of *Listeria* isolates from dairy cows, calves and the farm environment. 89th annual meeting of the International Association of Food Protection, Abstract #PO75, June 29-July 4, 2002, San Diego, CA.
- Lamar, L.D., M. Evans, V. Ling, S.P. Oliver, D.A. Golden and F.A. Draughon. 2002. Geographic Information System (GIS) and *Listeria* isolates recovered from dairy cows, calves and farm environments. 89th annual meeting of the International Association of Food Protection, Abstract #PO70. (Note: Ms. Lamar won 1st place in the Developing Scientist Competition), June 29-July 4, 2002, San Diego, CA.
- Ling, V.W., K. Davenport, P.M. Davidson and F.A. Draughon 2002 Antimicrobial activity and mechanisms of action of essential oils and components. 89th annual meeting of the International Association of Food Protection, Abstract #PO77, June 29-July 4, 2002, San Diego, CA.
- Kim, J.S., A. Mathew, and F.A. Draughon. 2002. Evaluation of enrichments methods for recovery of *Yersinia enterocolitica* O:3 and O:8 from swine feeds. 89th annual meeting of the International Association of Food Protection, Abstract #P121, June 29-July 4, 2002, San Diego, CA.
- Oliver, S. P., and F. A. Draughon. 2002. Food safety research and educational programs at The University of Tennessee Food Safety Center of Excellence. In: *Proc. Intl. Workshop on the Safety of Foods of Animal Origin*, Zhejiang University, Hangzhou, China, pp. 5-6.
- Murinda, S. E., L. T. Nguyen, S. J. Ivey, R. A. Almeida, M. J. Montgomery, F. A. Draughon, and S. P. Oliver. 2001. Isolation of mastitis and foodborne pathogens in bulk tank milk and fecal samples from cull dairy cows. In: *Proc. 2nd Intl. Mastitis and Milk Quality Symposium*, pp. 496-497.
- Murinda, S. E., L. T. Nguyen, S. J. Ivey, R. A. Almeida, F. A. Draughon, and S. P. Oliver. 2001. Prevalence of *Escherichia coli* O157:H7 in bulk tank milk and fecal samples from cull dairy cows. In: *Proc. 2nd Intl. Mastitis and Milk Quality Symposium*, pp. 500-501.
- Murinda, S. E., L. T. Nguyen, S. J. Ivey, R. A. Almeida, F. A. Draughon, and S. P. Oliver. 2001. Prevalence of *Salmonella* species in bulk tank milk and fecal samples from cull dairy cows. In: *Proc. 2nd Intl. Mastitis and Milk Quality Symposium*, pp. 498-499.
- Murinda, S. E., L. T. Nguyen, S. J. Ivey, R. A. Almeida, F. A. Draughon, and S. P. Oliver. 2001. Evaluation of antimicrobial agents for inhibiting fungal growth on agar media for isolation of *Campylobacter* in fecal samples from cull dairy cows. In: *Proc. 2nd Intl. Mastitis and Milk Quality Symposium*, pp. 494-495.
- Almeida, R. A. L. F. Calvino, D. Dopfer, and S. P. Oliver. 2001. Internalization of mastitis pathogens: A bacterial strategy to survive and cause intramammary infection. In: *Proc. 2nd Intl. Mastitis and Milk Quality Symposium*, pp. 426-427.
- Oliver, S. P., and F. A. Draughon. 2001. The University of Tennessee Food Safety Center of Excellence. In: *Proc. Natl. Mastitis Council*. pp. 249-250.
- Cate, M. and F.A. Draughon. 2000 Antimicrobial and toxicological characteristics of commercial herbal nutraceuticals. Presented at the Annual Meeting of the Institute of Food Technologists (Presentation 84-2), Dallas, TX, June 18-21, 2000.
- Dje, Y. , F.A. Draughon, D.A. Golden, S.P. Oliver and W. Taylor. 2000. Isolation of *Salmonella* from air samples in a dairy calf barn. Presented at the Annual Meeting of the Institute of Food Technologists (Poster 78F-17), Dallas, TX, June 18-21, 2000.
- Gillespie, B. E., B. M. Jayarao, A. G. Mathew, F. A. Draughon, and S. P. Oliver. 2000. PCR-ELISA procedure for *Salmonella* serovars a, b, c2 and d. In: *Proc. Natl. Mastitis Council*, pp. 197-198.
- Dje, Y. , F.A. Draughon, D.A. Golden, S.P. Oliver and W. Taylor. 2000. Recovery of *Salmonella* from on-farm environmental surfaces and hair from lactating cows. Presented at the Annual Meeting of the Institute of Food Technologists (Poster 78F-18), Dallas, TX, June 18-21, 2000.
- Cate, M., F.A. Draughon, J.R. Mount and D.A. Golden. 2000. The antimicrobial efficacy of herbs in marinated chicken. Presented at the Annual Meeting of the International Association for Food Protection (Presentation T32), Atlanta, GA, August 6-9, 2000.

- Evans, M.R., V.W. Ling, F.A. Draughon, and S.P. Oliver 2000. Sampling of dairy cattle for *Listeria monocytogenes*. Presented at the Annual Meeting of the International Association for Food Protection (Poster P101), Atlanta, GA, August 6-9, 2000.
- Draughon, F.A. The role of food protection associations in preparedness against bioterrorist events. Presented at the Annual Meeting of the International Association for Food Protection (Symposium S14), Atlanta, GA, August 6-9, 2000.
- Dje, Y. , F.A. Draughon, D.A. Golden, S.P. Oliver and W. Taylor. 2000. Recovery of *Salmonella* from artificially contaminated dairy feeds. Presented at the Annual Meeting of the International Association for Food Protection (Poster P125), Atlanta, GA, August 6-9, 2000.
- Kiefer, C.A., D.A. Golden, F.A. Draughon, A. G. Mathew and S.P. Oliver, 2000. Evaluation of FDA/BAM and rapid methods for enumeration and detection of *Escherichia coli* O157:H7 from farm animal environments. Presented at the Annual Meeting of the International Association for Food Protection (Poster P117), Atlanta, GA, August 6-9, 2000.
- Taylor, W.J., F.A. Draughon, D.A. Golden, S..P. Oliver and M. Saul. 2000. Detection of *Campylobacter jejuni* in dairy silage. Presented at the Annual Meeting of the International Association for Food Protection (Poster P127), Atlanta, GA, August 6-9, 2000.
- Taylor, W.J., F.A. Draughon, D.A. Golden, S..P. Oliver and M. Saul. 2000. A comparison of isolation protocols for recovery of *Campylobacter jejuni* from cattle feces. Presented at the Annual Meeting of the International Association for Food Protection (Poster P128), Atlanta, GA, August 6-9, 2000.
- Yilmaz, Y., G. J. Hulbert, W. Tan, F.A. Draughon, J.R. Mount and A.M. Saxton. 1999. Predictive model for *Listeria monocytogenes* growth on fresh and minimally processed green beans. Proc. of the Institute of Biological Engineers, B59-B73.
- Elgayyar, M. and F.A. Draughon. 1999. Antimicrobial activity of essential oils from plants to selected pathogenic and saprophytic bacteria. 99th Annual Meeting of the American Society for Microbiology, May 30-June 3, 1999, Chicago, IL. ASM Book of Abstracts, No. P-79, p. 526.
- Elgayyar, M. and F. A. Draughon. 1999. Inhibition of *E. coli* O:157H7 by herbal and spice essential oils. 86th Annual Meeting of the International Association of Milk Food Environmental Sanitarians, August 1-4, 1999, Detroit, MI Book of Abstracts. JFPRDR 62 (Sup. A), poster #75.
- Elgayyar, M. and F.A. Draughon. 1999. Use of extracts of *Nigella sativa* to inhibit spoilage and pathogenic microorganisms in rainbow trout. 86th Annual Meeting of the International Association of Milk Food Environmental Sanitarians, August 1-4, 1999, Detroit, MI Book of Abstracts. JFPRDR 62 (Sup. A), (poster #74).
- Francis, P.A., K.R. Robbins, A.G. Mathew, F.A. Draughon and D.A. Golden. 1999. The effects of avizyme in rye or corn based diets on broiler performance, microbiological and fermentation changes in the gastrointestinal tract. Southern Poultry Science 20th Annual Meeting, January 18-20, 1999.
- Mount, J.R., S. Kasraei and F.A. Draughon. 1999. Dimethyl dicarbonate and potassium sorbate effects on microbial growth in fresh salsa. Annual Meeting Inst. Food Technologists, Chicago, IL, Abstract No. 22D-9.
- Draughon, F.A. 1999. Why a Tennessee Food Safety Initiative? Tennessee AgriScience. Fall 1999:4-6.

4. Patents

none

5. Doctoral Dissertations Directed (Last 5 Years Only)

- Lamar, Kim. 2003 Geographic Information System (GIS) and Epidemiological Associations Among Foodborne Pathogens at the Farm. The University of Tennessee (directed by F. Ann Draughon).

- Ling, Valerie. In Progress. Antimicrobial activity and mechanisms of action of essential oils and their components against foodborne pathogens. The University of Tennessee (directed by F. Ann Draughon)
- Rasmussen, David. In Progress. Epidemiological associations among *Listeria* isolates from 16 locations in the United States using GIS. . The University of Tennessee (directed by F. Ann Draughon).
- Taylor, Will. In Progress. An improved isolation and identification method for *Campylobacter jejuni* from swine, cattle and poultry.. The University of Tennessee (directed by F. Ann Draughon).
- Naar, Carolina. In Progress. Cellular degradation and disruption of bacterial membrane of gram positive and gram negative bacteria by essential oils.. The University of Tennessee (directed by F. Ann Draughon).
- Smiley, Ronald Derike. 1998. Partial purification and characterization of Aflatoxin B1 degrading enzyme produced by *Flavobacterium aurantiacum*.. The University of Tennessee (directed by F. Ann Draughon).

Note: Eight (8) additional doctoral dissertations and 46 master-s thesis have been directed since 1979.