Environmental Microbial and Food Safety Laboratory

18 permanent scientists (full or partial FTE)

FY17 NTL = $8.9 million (ca. 60 - 75 total staff)

Mission Statement

Characterize protozoan parasites and pathogenic bacteria found in livestock manures and assess their transmission on and off of the farm; investigate transport of pathogens from manure; assess the introduction, dissemination, persistence, and survival of pathogens during harvest, postharvest handling, and processing of fresh fruits and produce; and develop rapid, sensitive methods for identification of foodborne pathogens and rapid, nondestructive, sensing methods for detection of contaminants on fresh fruits, produce, and on food processing surfaces.

Sensing Technologies

Moon Kim (Lead)	Research Physicist
Kevin Chao	Agricultural Engineer
Alan Lefcourt	Biomedical Engineer
Walter Schmidt	Research Chemist

Produce Contamination

Jitu Patel (Lead)	Research Food Technologist
Manan Sharma	Research Microbiologist (Bacteriologist)
Xiangwu Nou	Research Microbiologist (Bacteriologist)
Pat Millner (0.6-SASL)	Research Microbiologist (Bacteriologist)
Yaguang Luo (0.4-FQL)	Research Food Technologist

Transcriptomics/Genomics

Arvind Bhagwat (Lead)	Research Microbiologist (Bacteriologist)
Xianghe Yan	Computational Biologist

Parasitic Pathogens

Vice-Ron Fayer	Research Zoologist
Monica Santin (Lead)	Research Microbiologist (Parasitologist)
Mark Jenkins (0.4-APDL)	Research Microbiologist (Parasitologist)

Dairy Pathogens

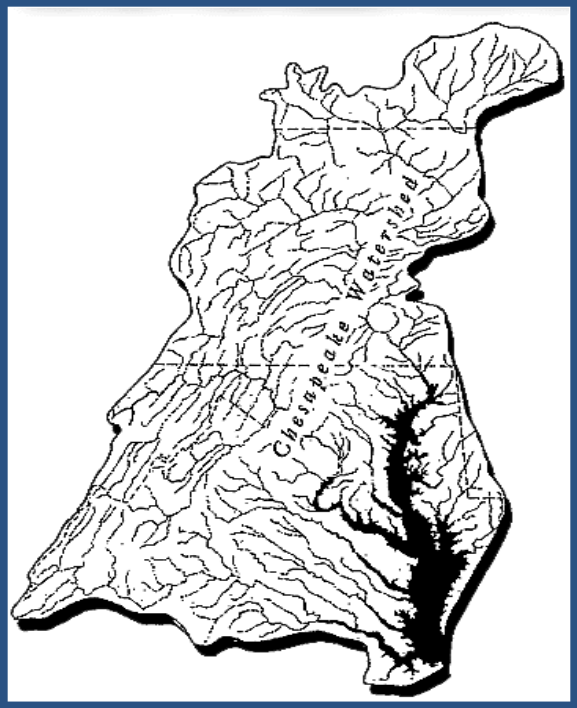
JoAnn Van Kessel (Lead)	Research Animal Scientist
Bradd Haley	Research Microbiologist (Bacteriologist)

Environmental Fate/Transport

Yakov Pachepsky (Lead)	Research Soil Scientist
Dan Shelton	Research Microbiologist (Ecologist)

Environmental Fate and Transport

Development and evaluation of best management practices to prevent microbial pathogen transport to irrigation, recreation, and drinking water sources



Predicted modeling of pathogen dissemination via hydrologic pathways

Fresh Produce Contamination (1)

During Production

Produce may be contaminated in the field, or in greenhouses/hoop houses during the growing season via overhead or drip irrigation water

Studies are conducted to assess pathogen survival and dissemination within the plant vegetation and root systems

Fresh Produce Contamination (2)

During Harvest

Produce may be contaminated during harvest

Studies are conducted to assess the extent of pathogen dissemination by contaminated harvesting equipment

Fresh Produce Contamination (3)

During Processing

Studies are conducted to optimize disinfection wash steps to reduce pathogen risk from fresh produce, and to develop packaging protocols to extend shelf-life of bagged salad