The laboratory is equipped with various instruments that enable us to successfully address foodborne and nosocomial pathogen concerns. The IDMEL is primarily engaged in conducting research on fundamental issues of multidrug-resistant foodborne and nosocomial bacterial pathogens.

Access to fee schedules and turn around time can be found at: http://vet.osu.edu/IDMELServices

http://vet.osu.edu/IDMEL

Laboratory Director
Wondwosen Gebreyes
gebreyes@cvm.osu.edu

Laboratory Manager
Melanie Abley
abley.1@osu.edu

Laboratory Address
VMAB 371
1900 Coffey Rd
Columbus, OH 43210
Tel: 614.292.3412
Mission
Our mission is to explore how foodborne and nosocomial microbes can affect animal and human health. As a team of scientists, we seek to unravel the epidemiology and molecular mechanisms of foodborne and nosocomial pathogens, with a special interest in antimicrobial resistance, to improve the health and well-being of humans and animals.

Services
The Infectious Diseases and Molecular Epidemiology Laboratory (IDMEL) offers various services including bacterial isolation, antibiotic susceptibility, sequencing and pulsed field gel electrophoresis. These services are conducted primarily on a collaborative basis. A minimal fee to recover costs incurred in processing specimens is charged for collaborators. Please refer to the sample submission form on our website for all of our non-collaborative prices.

We offer the following services:

Bacterial Culture and Isolation
- Salmonella
- Staphylococcus
- Campylobacter

Phenotyping
- Serogrouping (Salmonella)
- Kirby-Bauer Disc Diffusion (No MIC)
- E-test (MIC)
- Micro broth Dilution (Sensititer)
- Agar Dilution (Campylobacter)

Genotyping
- Polymerase Chain Reaction (PCR)
- SCCmec Typing (Staphylococcus)
- Primer design
- Toxinotyping (Clostridium difficile)
- Amplified Fragment Length Polymorphism (AFLP)
- Multi-Locus Sequence Typing (MLST)
- Sequencing
- Bionumerics data analysis

Other Services:
- Bacterial cryopreservation
- Slant preservation
- DNA extraction (fecal, gram positive and gram negative bacteria)

Infectious Diseases Molecular Epidemiology Laboratory (IDMEL)

Services and Equipment:
Bacterial culture and phenotyping:
The laboratory is well-equipped with the necessary instrumentation to isolate and identify diverse foodborne and nosocomial pathogens. Additional phenotyping methods such as serogrouping of Salmonella and antimicrobial susceptibility testing of different pathogens are routinely performed using various approaches including Kirby-Bauer disc diffusion, agar dilution, and broth microdilution.

Gene detection and amplification:
We perform traditional PCR and real time PCR for the detection and quantification of various genes. Our equipment includes an AirClean 600 PCR work station, Stratagene Mx3000P and Mx3005P real time PCR machines, MJ and Eppendorf Thermocyclers, and the Bio-Rad Gel Doc 2000 system for visualization using the Quantity One software for analysis.

Molecular subtyping (PFGE, AFLP, MLST and others):
We carry out molecular subtyping mainly by using Bio-Rad CHEF-DR III pulsed-field gel electrophoresis (PFGE) system. The gel image is captured using the Bio-Rad Gel Doc 2000 workstation, and the resulting PFGE patterns are analyzed using the BioNumerics® software package. We perform Amplified Fragment Length Polymorphism (AFLP), Multi Locus Sequence Typing (MLST), and sequencing using the Beckman Coulter CEQ 8000 Genetic Analysis System.