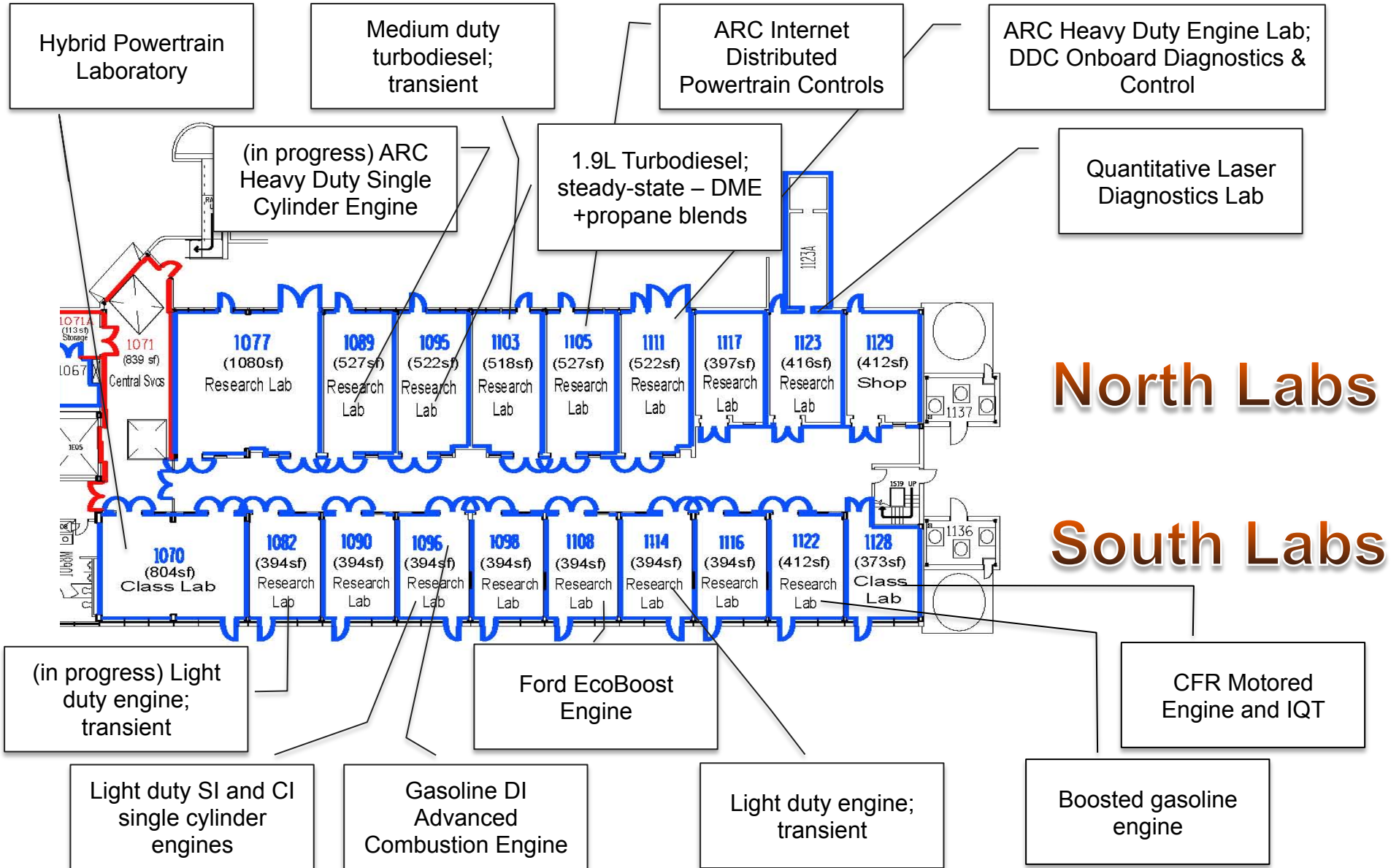


UM Autolab Virtual Tour



South Labs

- Hybrid Powertrain Laboratory; 1070 Autolab
 - Prof. Huei Peng, Dr. Jason Martz
 - Education lab that supports two courses: modeling and control of hybrid electric vehicles, and internal combustion engines. Designed for testing small engines and electric machines and study their integration into hybrid powertrains through simulations
- Scalable Battery Systems lab (moving in 2016 to new space); 1082 Autolab
 - Prof. Anna Stefanopoulou, Dr. Jason Siegel
 - Electrothermal Battery Diagnostics, Dynamics and Management
 - Observability of Cell-to-Cell Imbalance in Battery Packs
 - Parameterization for neutron imaging and In-Situ Validation of Electrochemical Cell models
 - Stress and Strain Dynamics from expansion
- Optical, GDI and DME Single cylinder engines, 1096 Autolab
 - Prof. Margaret Wooldridge, Prof. Andre Boehman
 - Multiple single cylinder engines, some are modified commercial engines and some are dedicated research engines
- Ford EcoBoost Engine, 1108 Autolab
 - Prof. Anna Stefanopoulou, Dr. Jason Martz: Boosting / LP-EGR architectures, dynamic modeling, estimation, and control
 - Start-stop and micro-hybrid
 - Mr. John Hoard: Charge air cooler condensation management
- Engine Cell for High Efficiency Light-Duty Vehicles, 1114 Autolab
 - Dr. Stani Bohac, Prof. Margaret Wooldridge, Prof. Andre Boehman
 - Advanced light duty PFI and DI engines
 - In-cylinder imaging
- Boosted gasoline engine, 1122 Autolab
 - Prof. Margaret Wooldridge, Prof. André Boehman
 - Knock limit extension for high efficiency boosted GDI engines
- Fuel Characterization Lab, 1128 Autolab
 - Prof. André Boehman
 - Motored engine and cetane rating instruments for fuel autoignition studies

North Labs

- Hydrocarbon Speciation Laboratory; 1105 Autolab
 - Dr. Stani Bohac
 - Exhaust characterization and after-treatment assessment studies
- Light Duty Turbodiesel and Single Cylinder Heavy Duty Diesel Engines, 1089/1095
 - Prof. André Boehman
 - Studies of fuel effects on conventional and advanced combustion
- Catalyst Flow Bench, 1095 Autolab
 - Mr. John Hoard
 - Low temperature catalyst studies for advanced aftertreatment
- Medium Duty Turbodiesel Engine, 1103 Autolab
 - Mr. John Hoard
 - Fuels, air path, engine control and emission controls
- ARC Internet Distributed Powertrain Controls, 1103/1105 Autolab
 - Dr. Tulga Ersal
 - Internet-enabled framework to integrate geographically distributed hardware-in-the-loop setups in real-time for concurrent, high-fidelity, systems-level engineering with application to powertrain controls
- ARC Diesel Engine, 1111/1105 Autolab
 - Prof. Angela Violi, Dr. Jason Martz
 - Combined simulation and experiments, focused on understanding the chemical/physical causes of cetane number variation in JP-8, development of an improved JP-8 kinetic mechanism and chemical surrogate(s)
- DDC Onboard Diagnostics and Controls, 1111/1105 Autolab
 - Prof. Anna Stefanopoulou, Dr. Jason Martz
 - Real time controls for fuel variability with advanced sensing
 - Diagnostics and On-board Calibration of EGR Recirculation
- Quantitative Laser Diagnostics Laboratory, 1123 Autolab
 - Prof. Volker Sick, Dr. David Reuss
 - High-speed imaging for turbulence, misfire, and boundary layer (heat transfer) studies
 - Large-Eddy Simulation Working Group