

## Personnel

### Faculty



**Dr. Uri Vandsburger**  
205 Randolph Hall  
540.231.4459 or  
540.231.4585 / 5882  
uri@vt.edu



**Dr. William R. Saunders**  
203 Randolph Hall  
540.231.7295  
wills@vt.edu



**Dr. William T. Baumann**  
442 Whittemore Hall  
540.231.4446  
baumann@vt.edu



**Dr. Robert L. West**  
204 Randolph Hall  
540.231.7185  
westrl@vt.edu

### Staff



**Steve LePera**  
VACCG, Plantation Road Lab  
540.231.4585  
leperas@vt.edu



**VACCG Members**

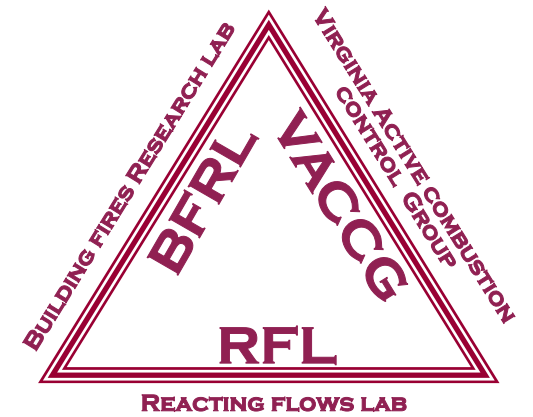


**VACCG lab on Plantation Road**



**Compartment and hallway rig at BFRL**

For Information Contact:  
Uri Vandsburger  
Virginia Tech  
Mechanical Engineering 0238  
Blacksburg, VA 24061  
[www.combustion.me.vt.edu](http://www.combustion.me.vt.edu)



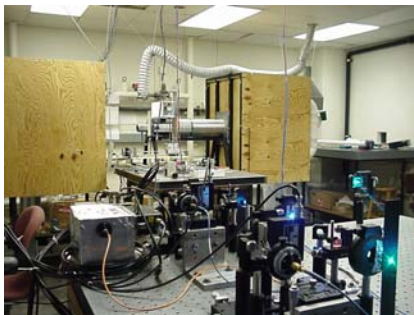
# Reacting Flows Laboratory

## Research Focus Areas

- Shear flow physics and stability
- Shear flow actuation and control
- Flow management systems
- Application of laser diagnostics for unsteady reacting flows
- Emissions from combustions systems

## Facilities

- Laser systems for elastic light scattering by molecules and particles, LDV, PLIF, and IR absorption measurement
- ICCD camera for planar imaging
- Electro-optical devices and detectors
- Electric signal conditioning and processing devices
- Four element hot wire probes and multi-channel anemometer
- Various benchtop burners, swirling flows tunnel



*Swirl flow stability tunnel and LDV optics*

# Virginia Active Combustion Control Group

## Research Focus Areas

- Combustion instabilities and characterization methodologies
- Development of reduced order models for combustion dynamics
- 3-D acoustic modeling of combustors and flow trains
- 1-D full physics and multi-dimensional reduced chemistry combustions modeling
- Development of controllers for ACC
- Development of pulsed fuel injection system



*Lean premixed turbulent combustor*

## Facilities

- Several turbulent, swirl and bluff-body stabilized combustors
- Pressure velocity, flame emissions measurement equipment
- ICCD camera
- Arc and flash lamps, argon laser
- 2000 sq. ft. experimental and high bay area
- Compressed air-190 psig, 1200 scfm
- Air heater, full flow up to 1080°F

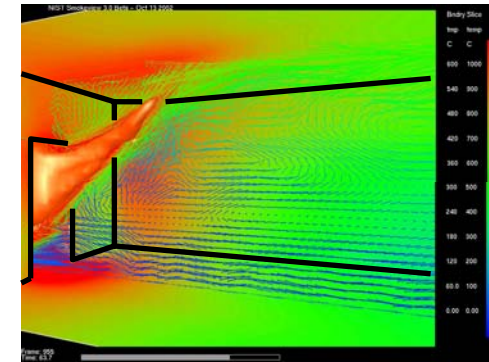
# Building Fire Research Laboratory

## Research Focus Areas

- CO formation in compartment fires
- CO transport in building fires
- Development of correlations for combustion product formation in compartment fires
- Heat transfer in building fires
- Development of design tools for fire protection engineers for CO formation and transport

## Facilities

- 1/2 scale ISO 9705 compartment and hallway
- Gas analyzers- oxygen, carbon monoxide, carbon dioxide, unburned hydrocarbons
- Hot gas sampling facilities- velocity and thermocouples capability to test
- Gaseous, liquid, and solid fuels



*FDS compartment fire model.*