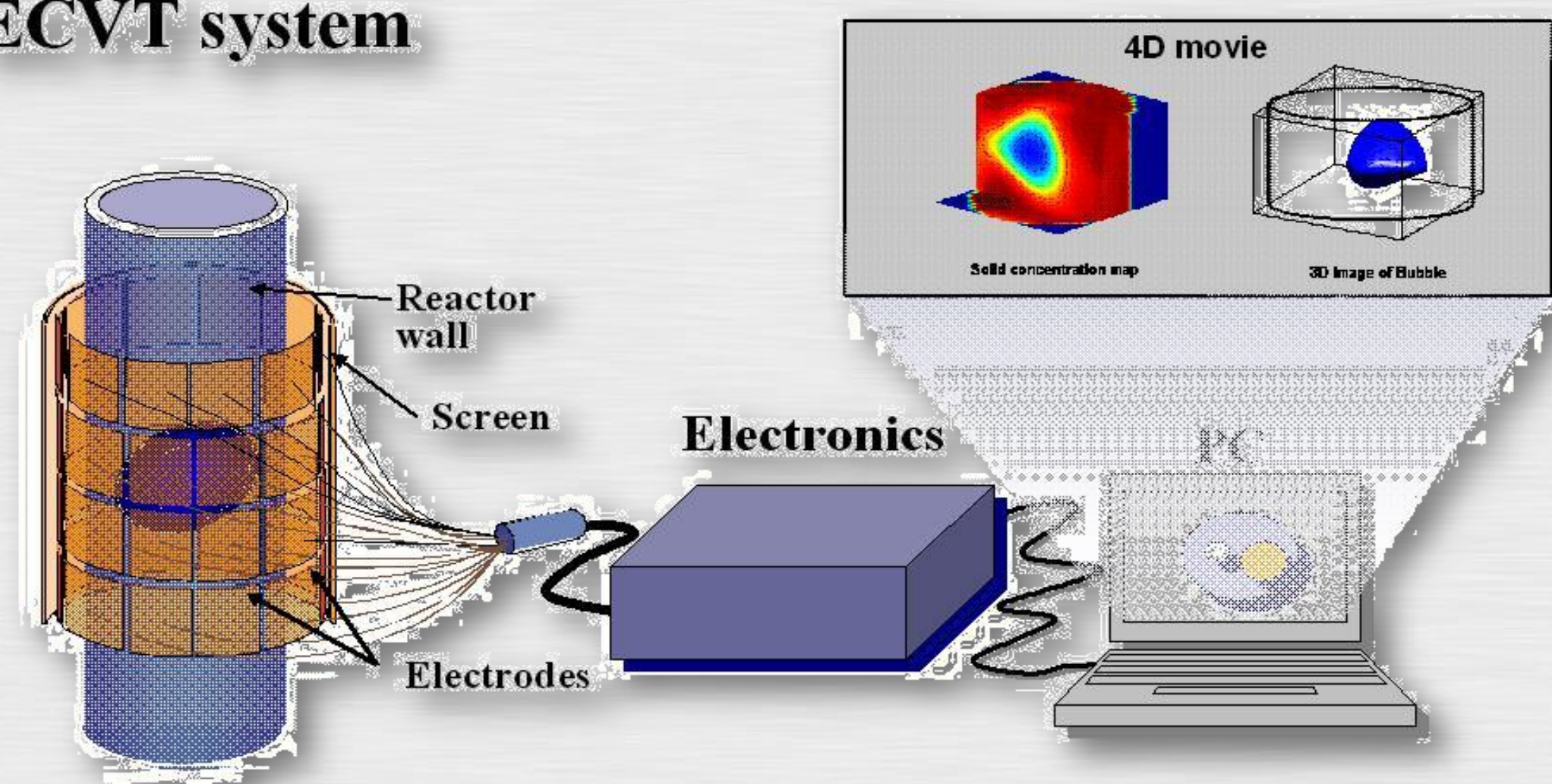


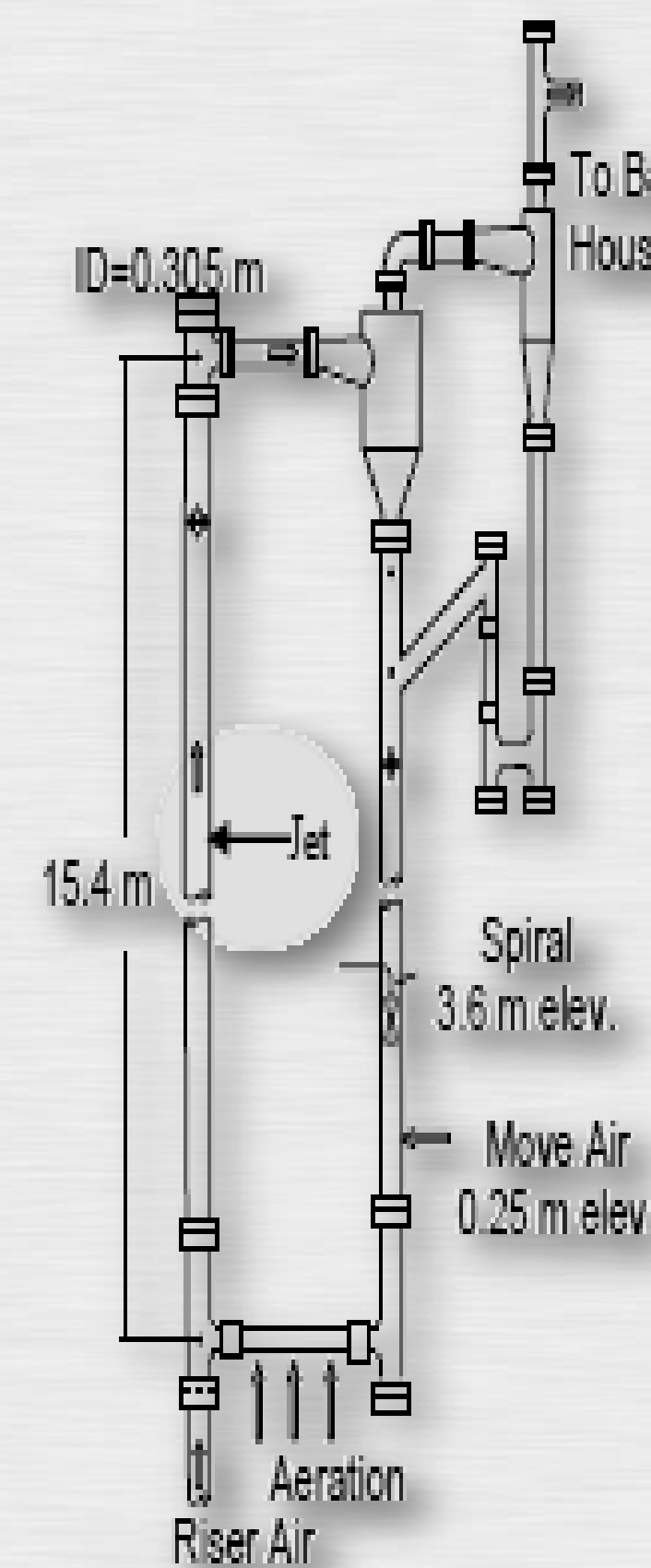
ECVT system



Tech4Imaging

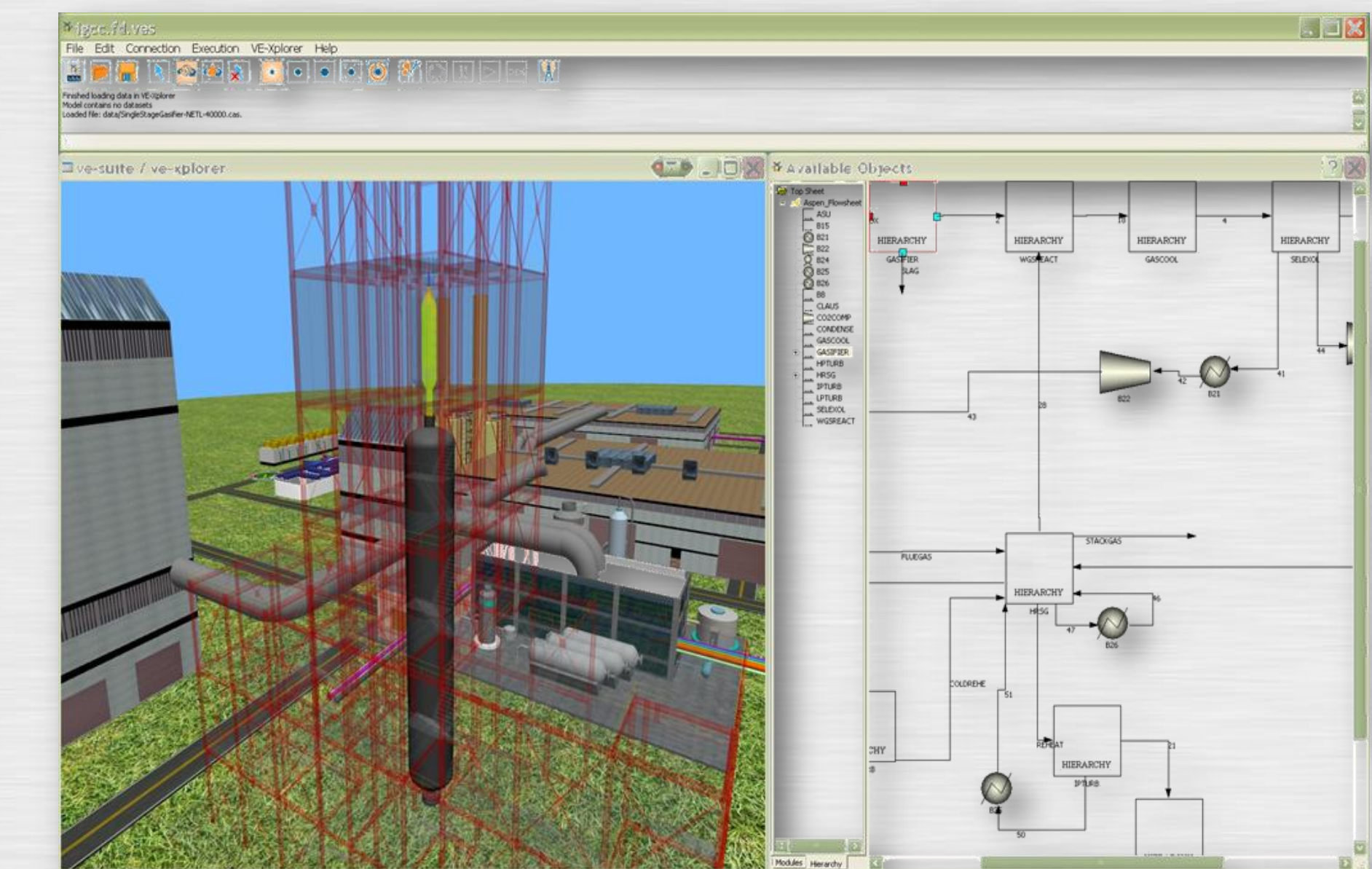
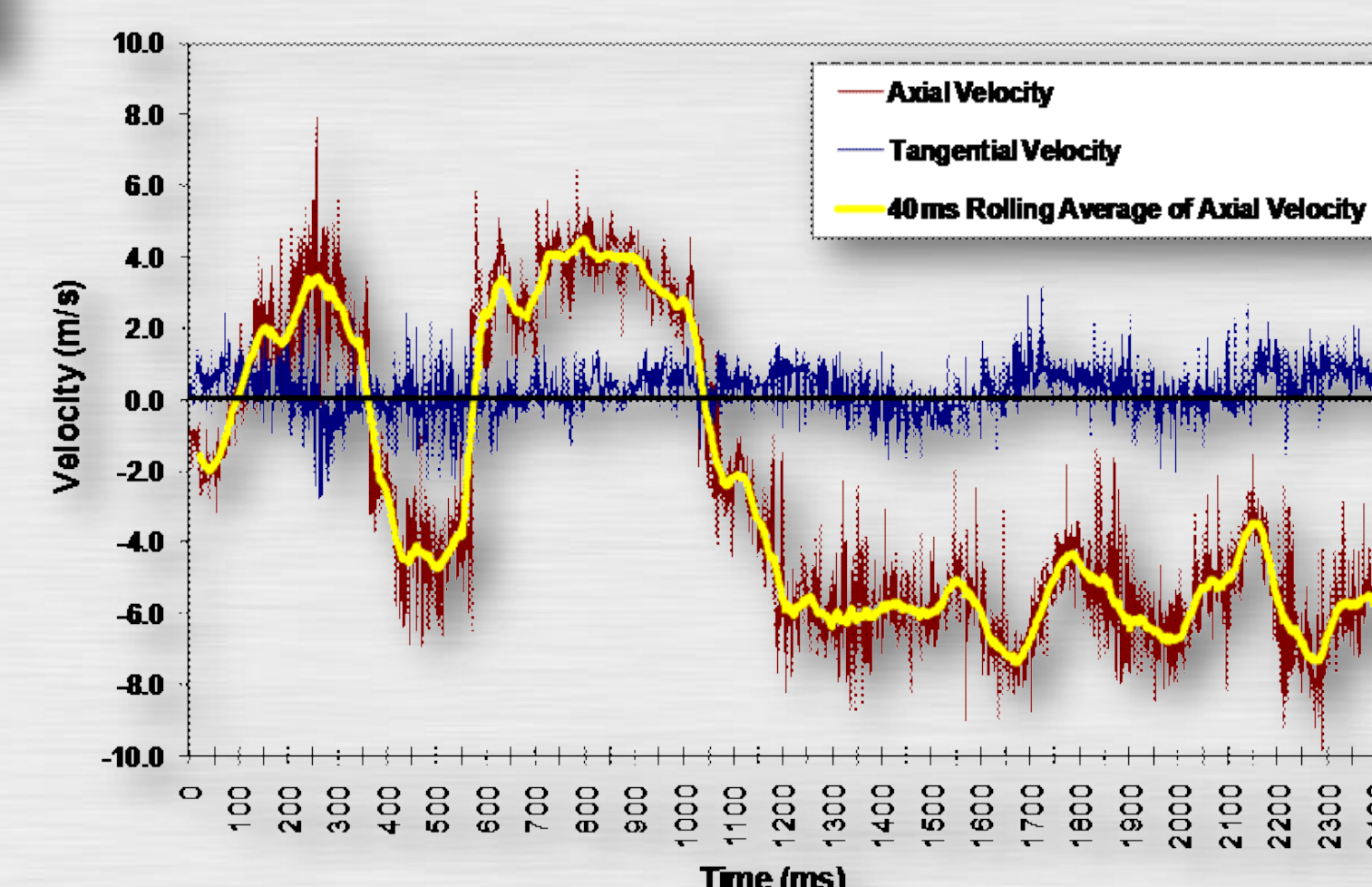
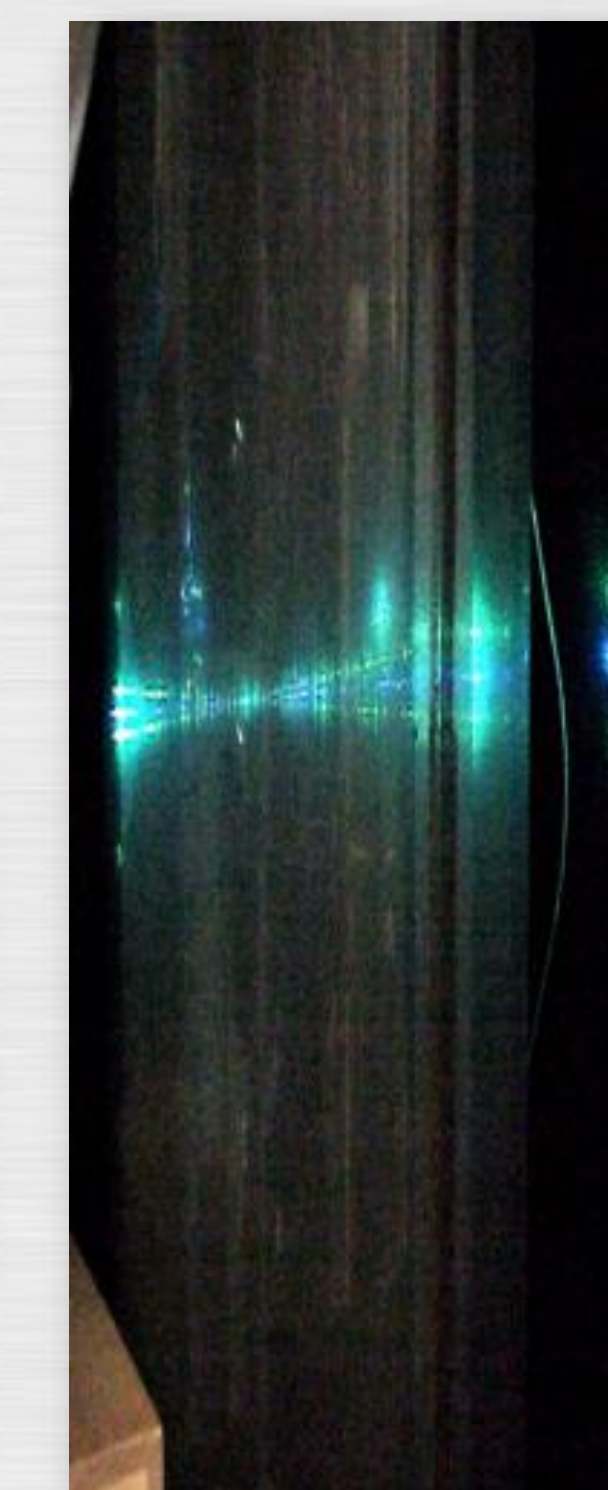
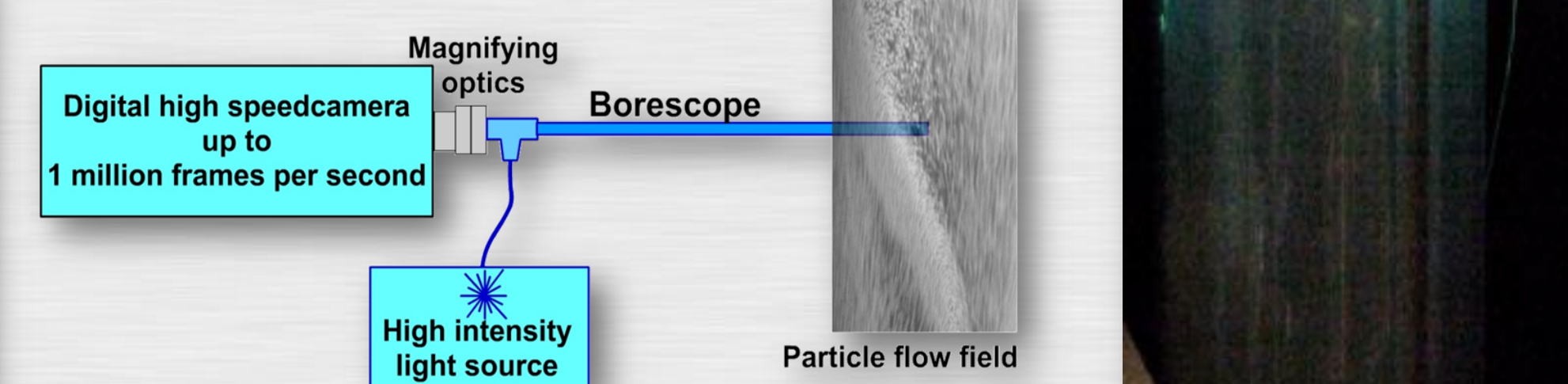
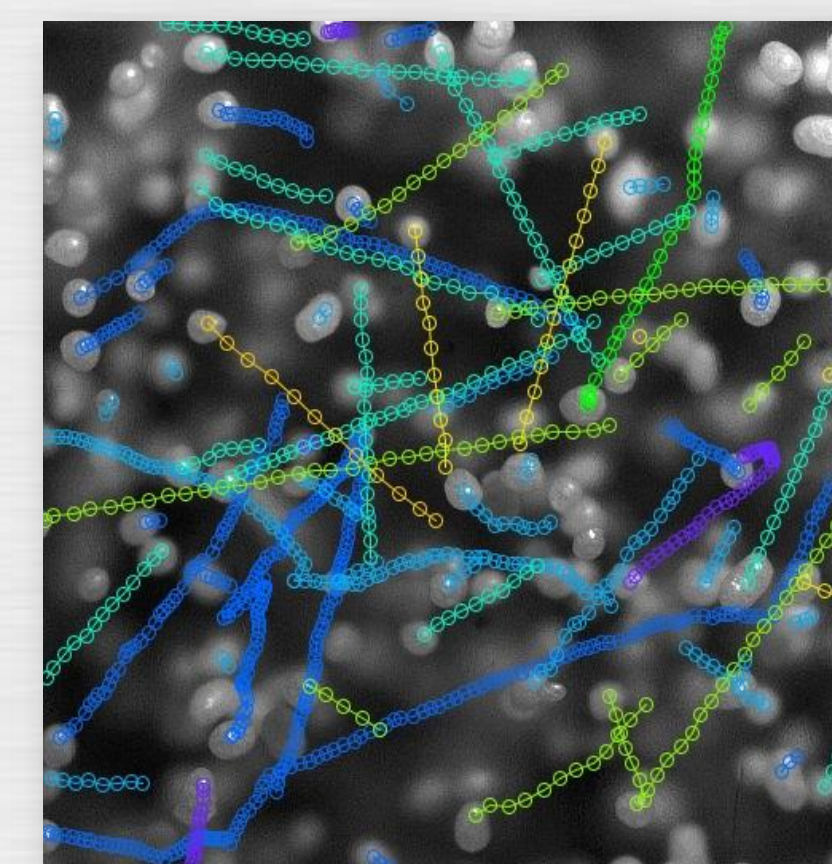
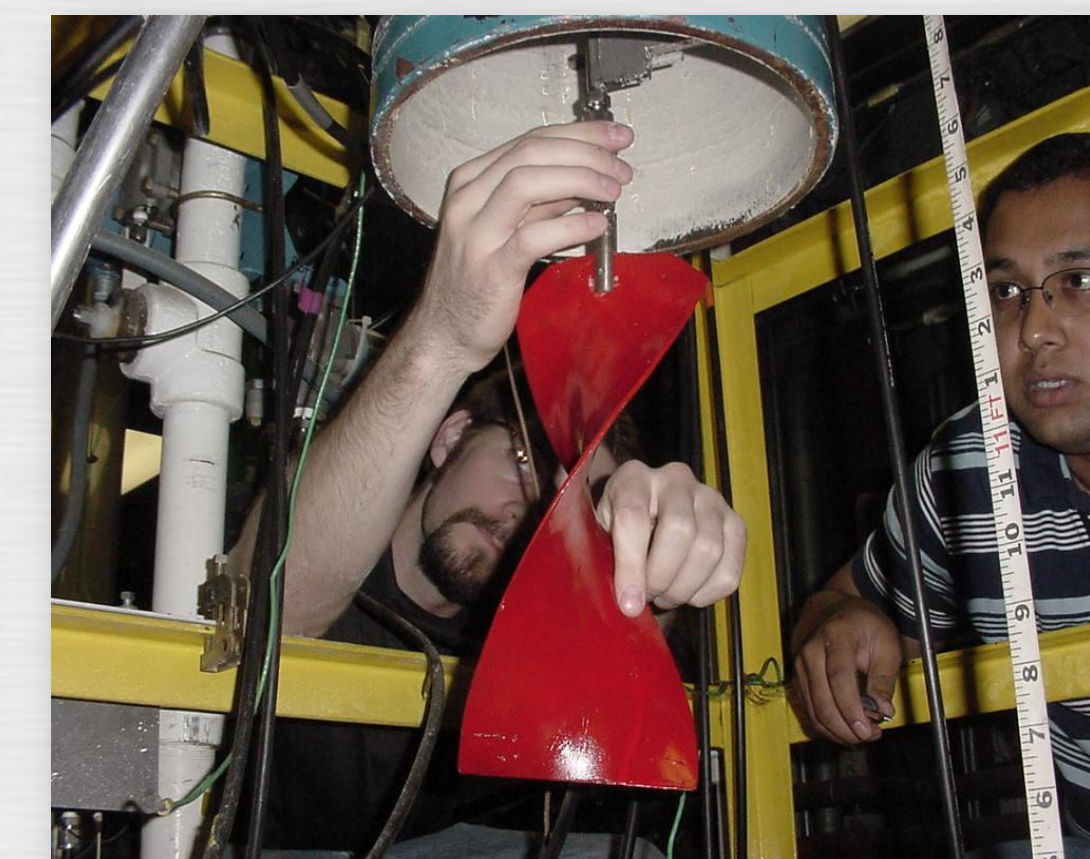
- Develop and adapt a novel Electrical Capacitance Volume Tomography (ECVT) system to study the flow patterns of particles common to pilot scale circulating fluidized beds
- Evaluate its capability to collect data useful in validating multiphase flow models.
- Advance research in multiphase flow

Develop, Enhance, and Foster Acceptance of Computer Models for Design of Clean Energy Systems



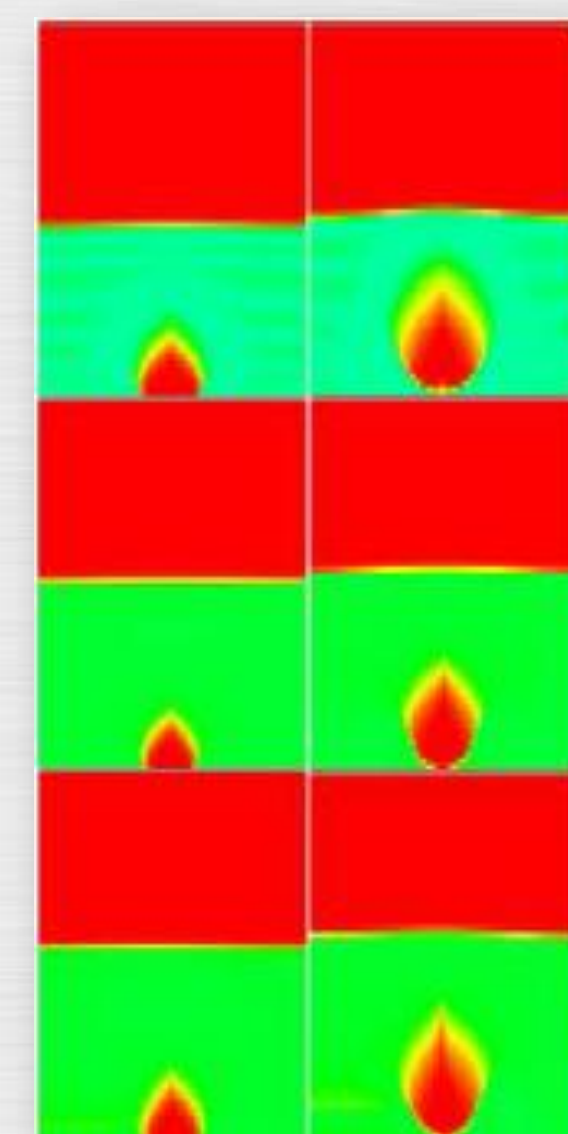
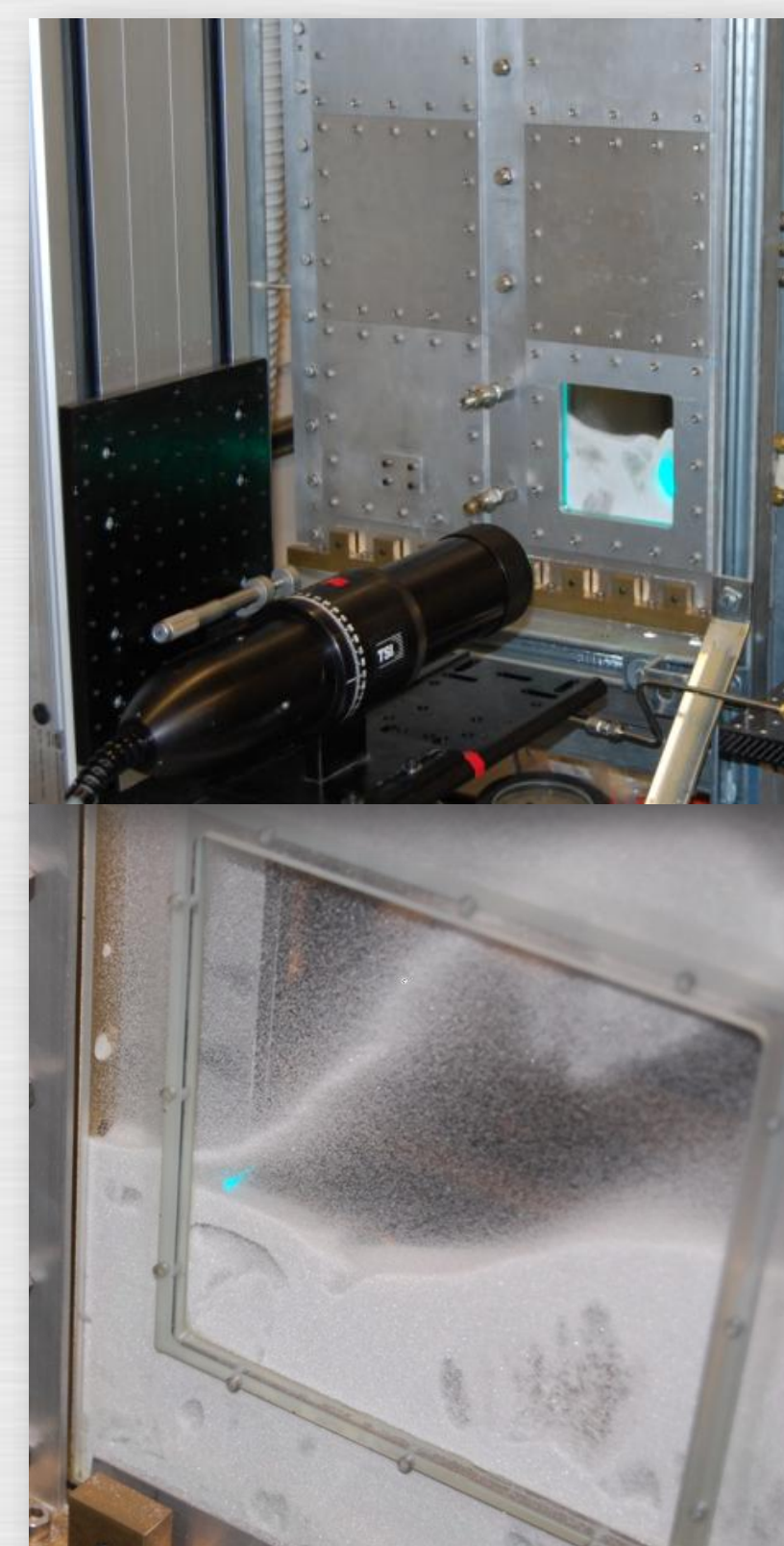
Research Instrumentation

- High Speed PIV
 - Patent pending
 - Nominated for R&D100
- Gas and Solids Tracers
 - Patent pending
 - Solids Circulation device
- LDV BILS
- Fiber Optic Sensors



Ames National Laboratory

- Determines what fidelity of model is needed to make an engineering decision
- Real-time physics
- Integrates the necessary tools into VE-Suite to enable virtual plant walkthroughs
- Integrates multi-scale modeling hierarchies
- Creates the necessary algorithms and software tools to enable integrating models across scales and components
- Provides a software environment for interfacing computational models to 3-D renderings of the virtual power plant



University of Michigan / University of Florida

- Comprehensive study of horizontal gas jets injected into a 2D bubbling fluidized bed of non-spherical particles
- Expand NETL's MFIX computational capabilities with experimentally verified physical models

