

Winners of the highly competitive
SBIR PHASE II Awards



National Science Foundation
Directorate of Engineering
Education

Interactive Flow Studies is dedicated to support and enhance learning through the use of state of the art technology.

miniPIV System with FLOWEX™ software are used as tutors and they serve to increase basic skills and knowledge of fluid mechanics.

miniPIV System is used as tool that can be applied to a variety of goals and can serve as a resource to help develop higher order thinking, creativity and research skills.

See a Demo of FLOWEX™
at
www.interactiveflows.com



➤ Provide exceptional opportunity for students to participate in research.

➤ Very easy to set up and use.

➤ Particle Image Velocimetry (PIV) analysis with patented FLOWEX™ software.

➤ Perform state of the art image evaluation and extract information from the data with superior post-processing features in FLOWEX™ software resulting in a global velocity field of the flow.

➤ Optional open source feature in FLOWEX™ software provides the maximum flexibility to the user for extending and adapting the PIV analysis code.

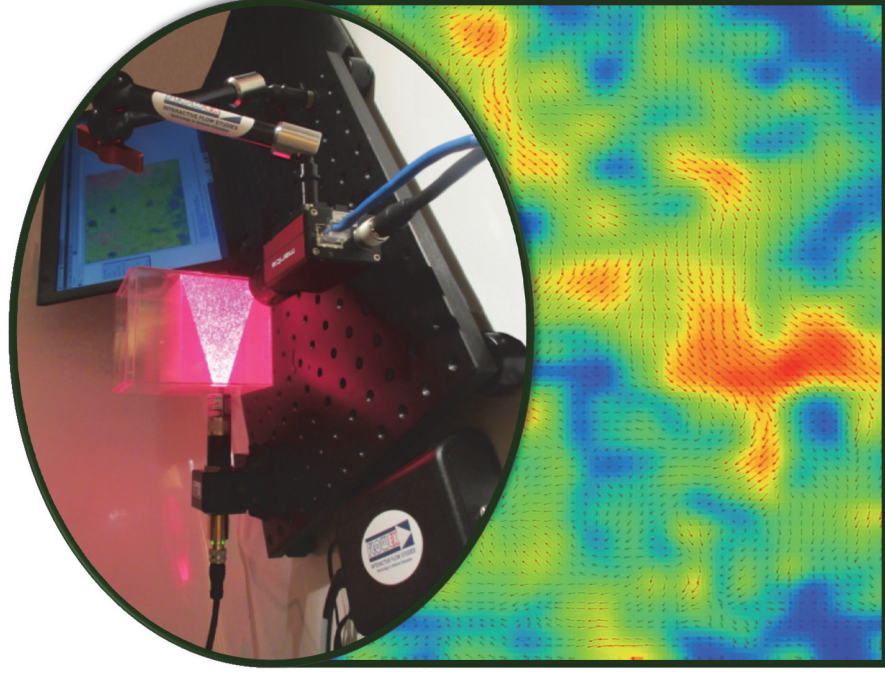
➤ Optional LED version.

➤ Optional upgrade for Flowcoach or Thermoflow.

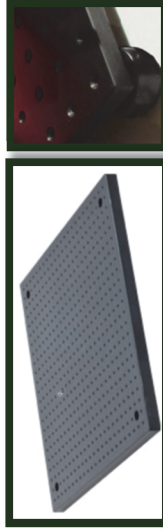


Interactive Flow Studies
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MINI Particle Image Velocimetry



Interactive Flow Studies
Technology In Science Education & Research



Laser & Mount

- ☐ 100mW Laser (enquire for higher powers).
- ☐ 2 x 16W LED Arrays (LED Based miniPIV)
- ☐ Tip and Tilt Adjustable Laser Mount.
- ☐ Class 3b Laser Diode Module.
- ☐ 1mm thick plane illumination.
- ☐ Harsh Environment.
- ☐ Built in laser line optics.
- ☐ Water proof.
- ☐ Focusable.
- ☐ Heat Sink.

PIV Camera & 360° Articulated Arm

- ☐ Minimum time between images = 114 μ s.
- ☐ Lens: WD=100mm, FL=25mm, F=1.4
- ☐ Sony ICX415 1/2" CCD.
- ☐ CS- or C-mount lens.
- ☐ 67fps @ 780x580.
- ☐ 14Bit ADC.
- ☐ GigE.

Breadboard & Vibration Mount

- ☐ Optical Aluminum Breadboard.
- ☐ Anti-Vibration Mounts.
- ☐ 1/4"-20 Threaded.
- ☐ 12" x 12" x 1/2" .

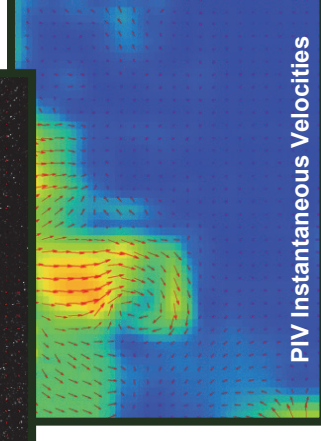
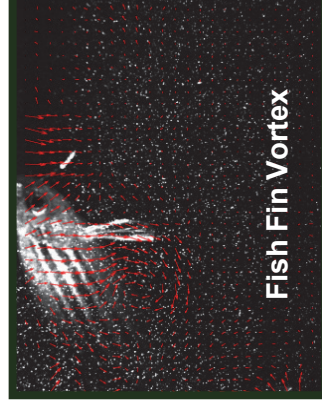
FLOWEX™ Software

- ☐ Powerful state of the art PIV algorithms.
- ☐ Pre-processing & Post-processing.
- ☐ Integrated PIV & CFD analysis.
- ☐ User friendly & interactive.
- ☐ Optional open source.
- ☐ Works on any PC.

Synchronizer

- ☐ Synchronizes light source and camera.
- ☐ Very high resolution < 1 μ s.
- ☐ 24VDC for laser & 12VDC for LED.
- ☐ Safety locks.

Example miniPIV Results



PIV Instantaneous Velocities

