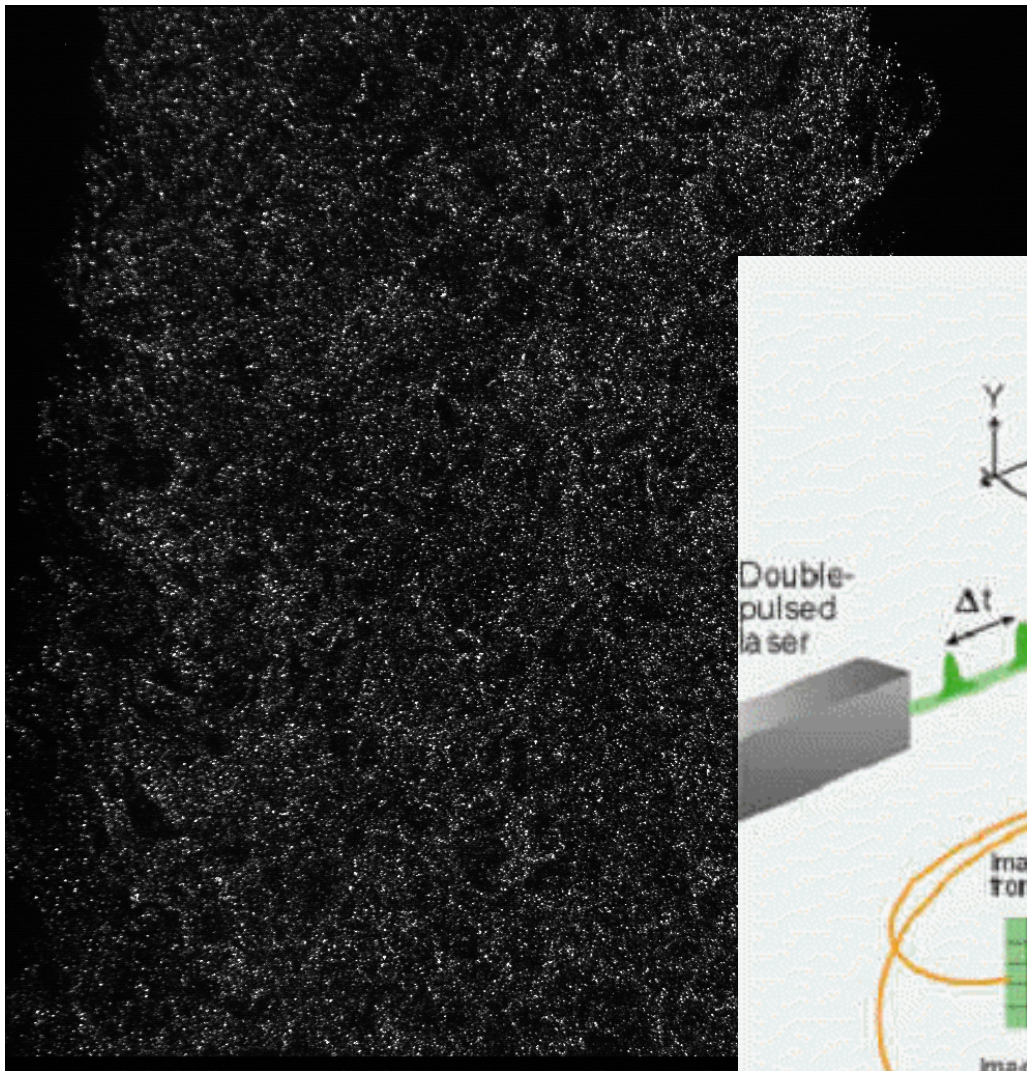


# Adaptive Particle Image Velocimetry (PIV)

Robin Deits

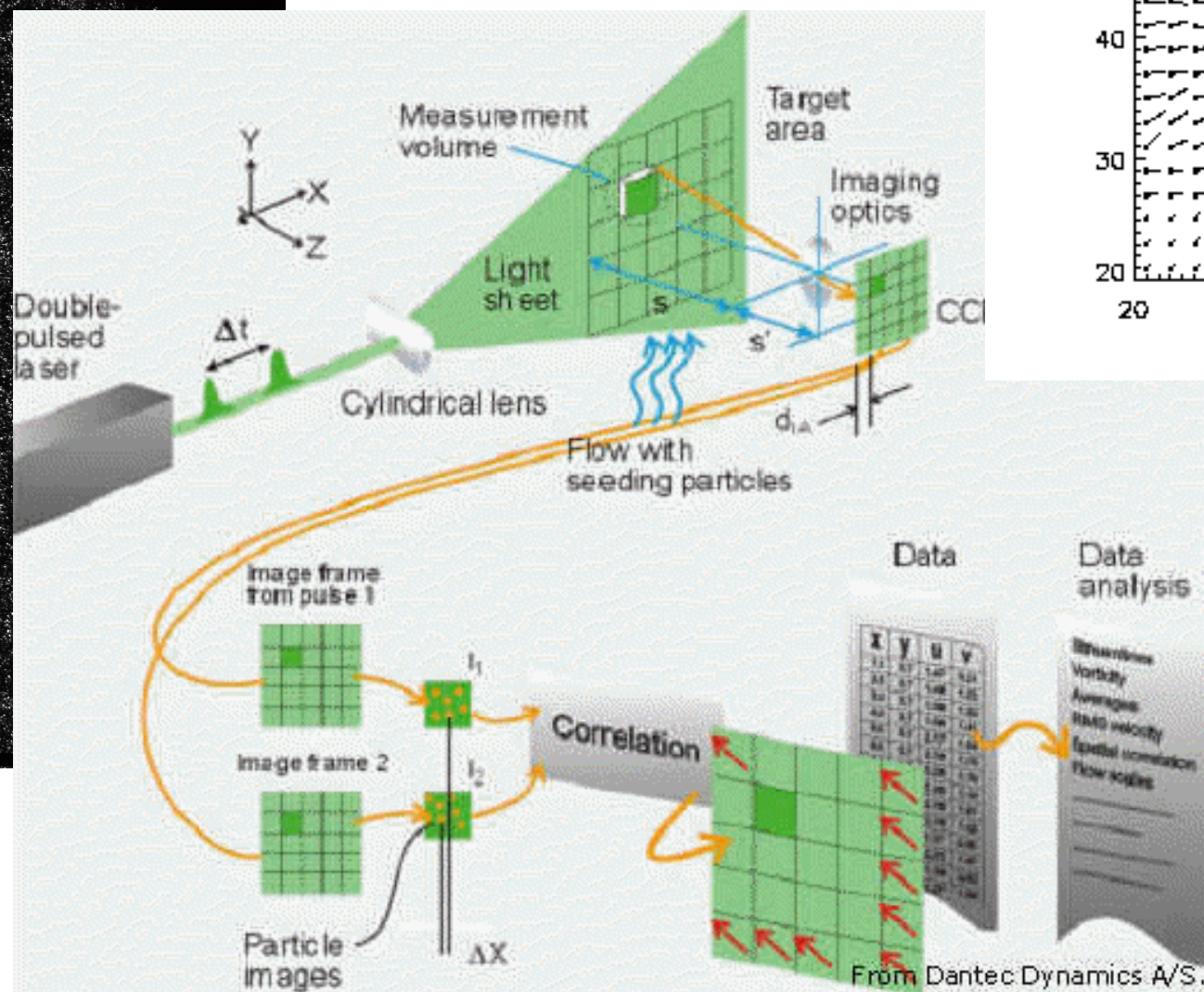
# Particle Image Velocimetry

[http://efd1.cims.nyu.edu/laboratory/lab\\_numerical/educate/codes/PIV/simple\\_flow/expt\\_001\\_a.bmp](http://efd1.cims.nyu.edu/laboratory/lab_numerical/educate/codes/PIV/simple_flow/expt_001_a.bmp)



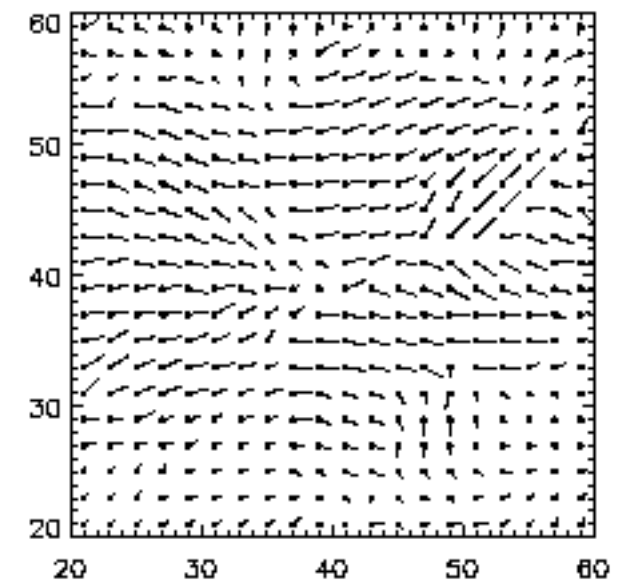
Seed particles

<http://www.coe.neu.edu/Research/rcl/projects/PIV/piv.gif>



Cross-correlation

<http://www.physics.emory.edu/~weeks/idl/pics/piv02.gif>



Flow vector field

# Adaptive PIV

- Standard PIV:
  - Interrogation windows spaced evenly across image
- Adaptive PIV:
  - Use seed particle density and *previous* velocity estimate to control interrogation window size and placement
  - More information in busier regions