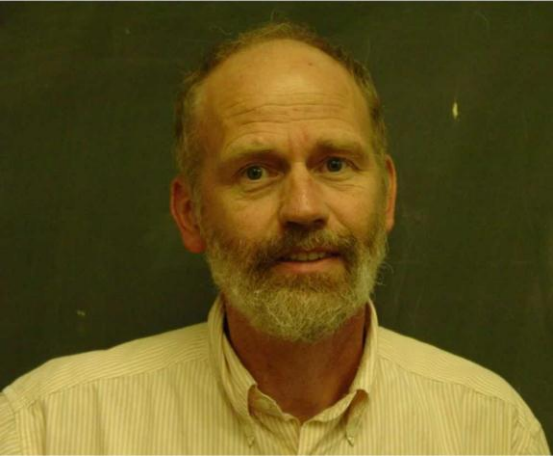
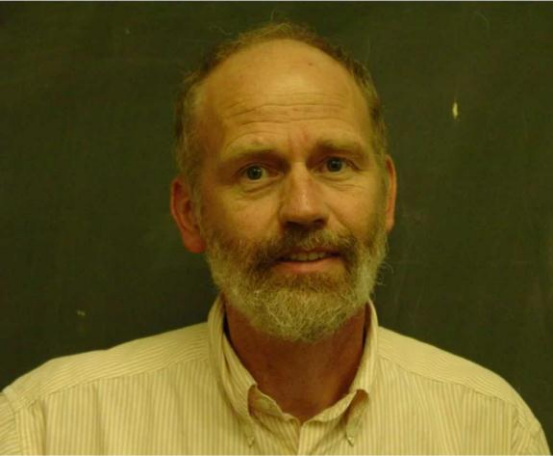


Dr.WIEB VAN DER MEER
Physics and Biophysics

FRET

FRET = FLUORESCENCE with RESONANCE ENERGY TRANSFER

- Two projects:
  - 1a) using FRET for Biosensors
  - 1b) using polarized FRET to study orientations of antibodies on surfaces



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Physics and Biophysics

- 1a) using FRET for Biosensors
  - FRET for Biosensors in collaboration with Frommer's group at Stanford University. Frommer et al have constructed "molecular flytraps" consisting of Green Fluorescent Protein and Yellow Fluorescent Protein. When a ligand binds the trap closes, dramatically decreasing the FRET between the two proteins. There are difficulties in interpreting the data. Orientation and/or extreme high transfer rates play a role. Wieb van der Meer is helping to model the results.
- 1b) using polarized FRET to study orientations of antibodies on surfaces
  - in collaboration with Laszlo Bene, University of Budapest. Polarization data using FRET are very rare, because the theoretical framework has not been developed yet. We are working on that.