Laboratory of Terahertz & Ultrafast Spectroscopy
Center of Terahertz Research

Professor Ingrid Wilke

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Areas of research

• **Time-domain Terahertz Spectroscopy**
  Development of THz-emitters, THz-detectors & THz-spectroscopy systems, Interaction of THz-radiation with inorganic matter and biological matter

• **Ultrafast Spectroscopy**
  Semiconductors, opto-injection of living cells
Ultrafast Spectroscopy
Optoporation of living cells

• Requires interest in:
interdisciplinary research physics / cell biology, ultrafast laser applications, optics, cell biology, bioengineering, biotechnology

• Provides training in:
femtosecond laser operation, optics, fluorescence microscopy, cell culture
Terahertz wave research

• Requires interest in:
  Experimental physics, optics, laser applications, spectroscopy, properties of materials at THz-frequencies, solid state physics

• Provides training in:
  Femtosecond laser operation, lock-in detection, operation of high-voltage supply, current amplifier, photo diode detectors, cryogenics, THz-generation, THz-detection
Previous undergraduate research assistants
Matthew Mitos-Jacobs 2003-2004
Kyle Denniston (SUNY Geneseo) Summer 2003
Carl Shneider 2004

New undergraduate research participation starting Fall 2005
How is the research organized?

- project
  - (topic, goals)

- research student
  - (motivation, interest, time, likes, dislikes)

- project leader
  - (motivation, time, likes, dislikes)