

## Ultra-fast Science with “Tickle and Probe”

June 20 & 21, 2011

Robert Purcell Conference Center, Cornell University, Ithaca NY

### The purpose:

To assess the scientific potential of ultra-fast (~50 fs - few ps), diffraction limited, hard x-ray pulses at high repetition rates (>MHz) for time-resolved structural and spectroscopic studies of weakly pumped (tickled) systems.

The workshop will focus on new areas of scientific research and novel approaches that would be enabled by a high repetition rate ultrafast source.

**Shin-ichi Adachi**, High Energy Accelerator Research Organization, KEK

*“Toward Fourier-limited X-ray Science”*

**Don Bilderback**, Cornell University

*“Expected Performance of CW ERL & USR Ultra-fast Hard X-ray Sources”*

**Christian Bressler**, European XFEL GmbH

*“Time-resolved X-ray Spectroscopies and Scattering with One Trillion Photons”*

**Edward Castner**, Rutgers University

*“Rapid Chemical and Physical Processes in Solution”*

**Lin Chen**, Northwestern University

*“X-ray Transient Absorption Spectroscopy: A Decade and Beyond”*

**Chi-Chang Kao**, SLAC National Accelerator Laboratory

*“What is the “ideal” X-ray Source?”*

**Aaron Lindenberg**, SLAC National Accelerator Laboratory

*“High-repetition-rate Ultrafast X-ray Experiments with Accelerator-based Sources”*

**Anne Marie March**, Advanced Photon Source

*“X-ray Probes of Laser-controlled Molecules in Gases and Solutions”*

**David Reis**, SLAC National Accelerator Laboratory

*“Time-resolved Diffuse Scattering”*

**Robert Schoenlein**, Lawrence Berkeley National Laboratory

*“Ultrafast X-ray Studies of Complex Materials: Science Challenges and Opportunities”*

**Roseanne Sension**, University of Michigan

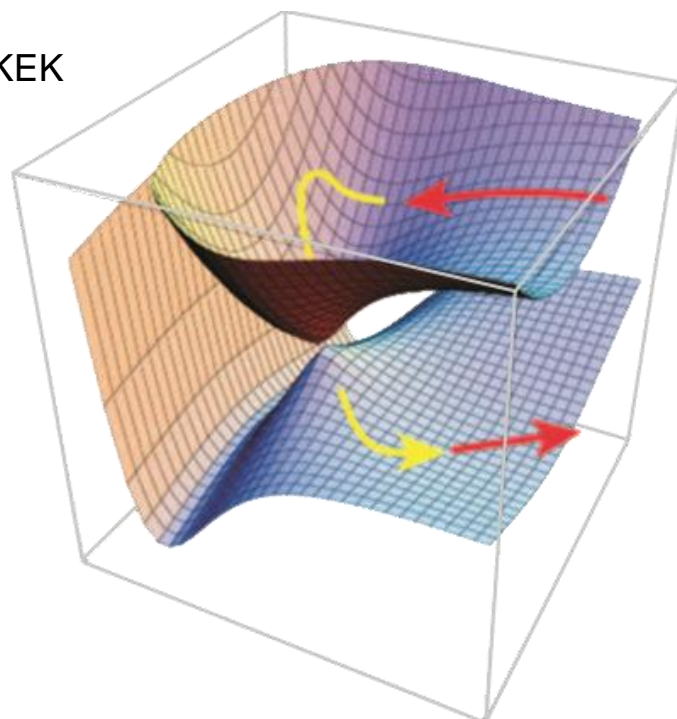
*“Using Optical Knobs to Control Photoinitiated Reactions”*

**Simone Techert**, Max Planck Institute, Goettingen

*“Molecular Switches and Molecular Machines Investigated with Ultrafast Pulsed X-ray Radiation”*

**Carol Thompson**, Northern Illinois University

*“Ferroelectrics at the ERL”*



From the BESAC Grand Challenges report (12/20/2007)



### Organizers:

Robert Schoenlein (Lawrence Berkeley National Laboratory),  
 Brian Stephenson (Argonne National Laboratory),  
 Eric Dufresne (Advanced Photon Source),  
 Joel Brock (Cornell University)



Go to [http://erl.chess.cornell.edu/gatherings/2011\\_Workshops/index.htm](http://erl.chess.cornell.edu/gatherings/2011_Workshops/index.htm)

For more information contact Kathy Dedrick, User Administrator – 607-255-0920

