

**PRINCETON/TAMU Summer School on Quantum Optics
and Molecular Physics**
(August 2-7, 2009, Jackson Hole, WY)

=====

Monday

8:00
Breakfast

8:25
George and Marlan
Introductions

8:30
Mike McKinney, TAMU
Welcoming Remarks

8:45
Marlan Scully
Follow-up remarks

9:00
George R. Welch, TAMU
``FAST CARS``

9:45
Torsten Siebert, Freie Universität Berlin
``Nonlinear Raman optical activity: chirality for contrast
in optical imaging``

10:30
Coffee Break

11:00
Tamar Seideman, Northwestern University
--TBA--

11:45
Eyob Sete, TAMU
``Gain swept superradiance and lasing without inversion
in the XUV``

12:05
End of Session

7:00 p.m.
Dinner and discussion

7:30
Jeff Tsao, Sandia National Lab.
``Solid-state lighting: progress and challenges``

8:15
Shaul Mukamel, University of California at Irvine
``Coherent multidimensional spectroscopy of excitons
using classical fields and entangled photons``

9:00
Edward S. Fry, TAMU
``Integrating Cavity Ring-Down Spectroscopy``

9:45
End of Session

=====

Tuesday

8:00
Breakfast

8:30
Bob Nevels, TAMU
``Plasmonic Nano Antennas''

9:15
Alexandre Kolomenski, TAMU
``Surface plasmon resonance: Efficient coupling, field enhancement and sensing''

10:00
Coffee Break

10:30
Eric Shaner, Sandia National Lab.
``Plasmonic approaches to light manipulation, absorption and emission''

11:15
Carlos Ordonez, University of Houston
``Conformal Tightness of Holographic Scaling For Black Hole Thermodynamics''

12:00
End of session

7:00 p.m.
Dinner and discussion

7:30
Wolfgang Schleich, Universität Ulm
--TBA--

8:15
Sunney Xiaoliang Xie, Harvard University
``The Quest for Ultimate Sensitivity in Biomedical Imaging.''

9:00
Dudley Herschbach, Texas A&M and Harvard Universities
``The hot field of cold and ultracold molecules''

9:45
Moochan Kim, TAMU
``Condensation in a weakly interacting Bose Gas''

10:05
End of Session

=====

Wednesday

8:00
Breakfast

8:30
Gordon Chen, TAMU
``Mathematical Issues in the Dimensional Scaling Method
for Atoms and Molecules''

9:15
Marlan O. Scully, TAMU/Princeton
``Superradiance and Infinity-free QED''

10:00
Coffee Break

10:30
Bernhard Adams, Argonne National Laboratory
``Nuclear gamma-ray superradiance''

11:15
Anatoly Svidzinsky, TAMU
``Evolution of collective N atom states in single-photon
superradiance: effect of virtual Lamb shift processes''

12:00
End of Session

7:00 p.m.
Western Dinner

=====

Thursday

8:00
Breakfast

8:30
Aleksy Zheltikov, Moscow State University
``Photonic-crystal fibers: Shining a new light on
ultrafast optical science''

9:15
Alexei Sokolov, TAMU
Several possibilities for talks:
``Enhancing Raman microscopy by playing tricks with
molecular coherence''

10:00
Coffee Break

10:30
T. S. (Willie) Luk, Sandia National Lab.
``Enhancing solar energy harvesting with
quantum-dot monolayer on a photonic crystal''

11:15
Dudley Herschbach, Texas A&M and Harvard Universities
``Coherent control of photodissociation and chemical reactions''

12:00
End of Session

7:00 p.m.
Dinner and discussion

7:30
Jaan Laane, TAMU
--TBA--

8:15
Yuri V. Rostovtsev, TAMU
``Atomic coherence induced by strong laser pulses:
different excitation mechanisms and the role of absolute phase''

9:00
Inès Waldmueller, Sandia National Lab.
``Thinking outside the box: Quantum Cascade Lasers seen differently''

9:45
Pankaj Jha, TAMU
``Pulse Propagation in Cascade type Media''

10:05
End of Session

=====

Friday

8:00
Breakfast

8:30
Weng W. Chow, Sandia National Lab.
``Will quantum dot lasers ever replace all quantum well lasers?``

9:15
Jeff Nelson, Sandia National Lab.
``Solar PV: progress and challenges``

10:00
Coffee Break

10:30
Alexei Sokolov, TAMU
``Controlling directionality of mirrorless lasing by femtosecond pulse shaping and timing``

11:15
Hui Xia, Princeton University
``Surface Enhanced Raman Experiments``

11:45
End of Session

=====