

TAMU Physics of Quantum Electronics Workshop

(Sponsored by D. Marble, M. Scully, and A. Sokolov)

January 12-13, 2010

Tuesday 01/12/10

Wednesday 01/13/10

| Session (Location) | I. (MIST M102) | Session (Location) | III. (MIST M102) |
|--------------------|--|--------------------|--|
| 8:30 - 8:45 | Welcome and Introduction President Bowen Loftin, Texas | 8:30 - 8:45 | |
| 8:45 - 9:25 | "Designer plasmonic metamaterials for nanophotonics" Federico Capasso, Harvard/Texas | 8:45 - 9:25 | "Towards Supercontinuum Spectroscopy and Control of Ultrafast Molecular Processes" Torsten Siebert, Free University Berlin/Texas |
| 9:25 - 10:05 | "Multiplasmon processes in enhanced laser fields" Norbert Kroo, Hungarian Academy of Sciences | 9:25 - 10:05 | "EIT in Mechanical Effects of Light" Girish Agarwal, Oklahoma State |
| 10:05 - 10:40 | BREAK | 10:05 - 10:40 | BREAK |
| 10:40 - 11:20 | "H Atoms in Solid H ₂ Films: To BEC or not to BEC" David Lee, Texas | 10:40 - 11:00 | "Application of a 4.4 micron Quantum Cascade Laser and other Supersonic Jet Spectrometers" John Bevan, Texas |
| | | 11:00 - 11:20 | "Analytic Spatiotemporal Coherent Control of Ultrafast Nano-Optical Excitations" Dmitri Voronine, Germany |
| 11:20 - 12:00 | "Quantum Plasmonics" Peter Norlander, Rice | 11:20 - 11:40 | "Experimental observation of Localized vortices in semiconductor Lasers" Patrice Genevet, Texas |
| | | 11:40 - 12:00 | "Ring-Down Spectroscopy in an Integrating Cavity" Edward S. Fry, Texas |
| Lunch 12:00 - 1:40 | MIST Foyer (Catered by Jason's Deli) | Lunch 12:00 - 1:40 | MIST Foyer (Catered by Jason's Deli) |
| Session (Location) | II. (MIST M102) | Session (Location) | IV. (MIST M102) |
| 1:40 - 2:00 | "Rydberg Atoms: Spectroscopy and Cavity QED" Thomas Becker, MPQ | 1:40 - 2:00 | "Experimental schemes of Coherently Driven Transitions in He and He-like Ions for XUV and X-Ray Lasing" Hui Xia, Princeton/Texas |
| 2:00 - 2:20 | "Propagation of beam-shaped ultra-intense laser pulses in transparent Kerr media" Pavel Polynkin, Arizona | 2:00 - 2:20 | "Analytical solution for BEC critical phenomena" Vitaly Kocharovskiy, Texas |
| 2:20 - 2:40 | "High resolution single spin imaging with NV diamond" Phil Hemmer, Texas | 2:20 - 2:40 | "Backward mirror-less lasing achieved through pump pulse shaping" Alexei Sokolov, Texas |
| 2:40 - 3:00 | "Interference-induced terahertz transparency in a semiconductor magneto-plasma" Alexey Belyanin, Texas | 2:40 - 3:00 | "Carrier-Envelope Phase Effects in Multi-Photon Processes under Bichromatic Field Excitation" Pankaj Kumar Jha, Texas |
| 3:00 - 3:40 | BREAK/Poster Session | 3:00 - 3:40 | BREAK/Poster Session |
| 3:40 - 4:00 | "Generation of X-ray and nuclear radiation via quantum coherence excited by far-detuned optical pulses" Yuri Rostovtsev, UNT | 3:40 - 4:00 | "Fluctuations in Superfluorescence Delay Time" Gombojav Ariunbold, Texas |
| 4:00 - 4:20 | "Analytical Solutions of the Schrodinger Equation in time and space" Hichem El Euch, Texas | 4:00 - 4:20 | "Design of a quantum dot (well) solar energy convertor utilizing wide solar spectrum" Anatoly Svidzinsky, Texas |
| 4:20 - 4:40 | "Transient XUV lasing without inversion via He triplet states" Eyob Sete, Texas | 4:20 - 4:40 | "The Quantum Solar Cell: Using quantum thermodynamics to mitigate recombination and enhance efficiency" Marlan Scully, Texas |
| 4:40 - 5:00 | "Study of ions interactions in solids by means of EIT" Olga Kocharovskaya, Texas | 4:40 - 5:00 | |

OTHER Planned Activities

January 12: 5:30 PM Reception and Dinner, Bar-B-Que Buffet, Foyer of the Mitchell Institute (Welcoming remarks by Chancellor Michael McKinney)