

PQE XXXII Participants

Ercan Alp, Argonne National Laboratory

“Inelastic X-Ray Scattering with Synchrotron Radiation”

Ladan Arissian, University of New Mexico

Robert Armstrong, New Mexico State University

“Enhanced emission from fractal/microcavity composites”

Iwasaki Atsushi, Universite Laval, Canada

David Attwood, UC Berkeley

“Soft X-ray Microscopy and EUV Lithography: Imaging in the 20-50 nm Regime”

Sudeep Banerjee, University of Michigan

“High Harmonic Generation in Plasmas by Relativistic Thomson Scattering”

W. Barletta, Lawrence Berkeley National Laboratory

“Dedicated Synchrotron Radiation Sources for Ultra-fast X-ray Science”

Murray Barrett, Georgia Institute of Technology

“All Optical BEC”

Victor Batista, Yale University

“Coherent optical control of reaction dynamics in large molecular systems”

Alexey Belyanin, TAMU

“Nonlinear optical phenomena in semiconductor lasers with self-generated driving fields”

Janos Bergou, Hunter College, CUNY

“Quantum State Filtering”

Sasha Betin, Raytheon

“High Power Solid State Lasers with Phase Conjugation”

Rolf Binder, University of Arizona

“Theory of intervalence band coherences in semiconductor quantum wells”

Steve Blair, University of Utah

Thomas Bottger, Montana State University

“Lasers Stabilized to Regenerative Spectral Holes - Experiment, Modeling, and SHB Material Optimization”

Charles M. Bowden, U. S. Army Aviation & Missile Research

“Intense Femtosecond Pulse Propagation in Air: Intensity Clamping and Third Harmonic Generation”

Robert W. Boyd, University of Rochester

“Slow Light in Nanostructured Optical Materials”

Sergey Bozhevolnyi, Aalborg University, Institute of Physics, Denmark

“Second-harmonic microscopy of individual nanostructures”

Timothy Brucks, Raytheon

“Target Detection Algorithms and Approaches for Uncooled Infrared Imagery”

Paul Brumer, University of Toronto
“Developments in the Coherent Control of Molecular Processes: Controlling Chaos and Chirality”

Dmitry Budker, UC Berkeley
“Nonlinear faraday magnetometry for the earth’s field”

William A. Bundy, Raytheon

Robert Byer, Stanford
“Scalable High Power Solid State Lasers”

Mark Byrd, University of Toronto
“Bang-Bang Operations for Quantum Error Suppression From a Geometric Perspective”

Robert Byren, Raytheon

Hui Cao, Northwestern, Physics
“Quantum Dot Microdisk Lasers”

See Leang Chin, Laval
“Intense Femtosecond Laser Pulse Propagation in Air”

Weng Chow, Sandia
“Anomalous dispersion in quantum dots - Deviations from the ‘atom-like’ picture”

Mark Coffey, TRW
“SQUID-Based Quantum Computing: Exploiting the Flux Basis”

Leon Cohen, City University of New York (Hunter College)
“Why do wave packets sometimes contract?”

Rufus L. Cone, Montana State University
“Overview of Rare Earth Materials for Quantum Information Applications”

Paul Corkum, National Research Council of Canada
“Producing, Measuring and Using Attosecond Optical and Electron Pulses”

Robin Cote, University of Connecticut
“Mesoscopic molecular ions in Bose-Einstein condensates”

Dennis Deppe, University of Texas at Austin
“Electrically Injected Microcavity Devices for Single Photon Sources”

Jean-Claude Diels, University of New Mexico
“Stabilization of mode-locked trains, and dark resonance of two-photon lambda level structures”

Michelle M. Donegan, Johns Hopkins

Jonathan P. Dowling, NASA Jet Propulsion Laboratory
“Quantum Metrology”

Shaya Fainman, Univ. of California, San Diego
“Quantum Device Technologies – Applying 2-D Photonic Crystals”

Christopher Fang-Yen, M.I.T.

“Multiple thresholds in the microlaser”

Michael Feld, M.I.T.

“Optical Spectroscopy for Cancer Detection: Final Diagnosis and Fractal Dimension”

Michael Fitch, Johns Hopkins

“High resolution quantum optics applied to metrology and clocks”

Scott Fochs, LLNL

“Heat Capacity Operation of Solid-State Laser System Near Term Solution to Mobile High Avg Power Field Laser”

Ron Folman, University of Heidelberg, Germany

“The atom chip: manipulation of ultra cold atoms on nano-fabricated surfaces”

Jim Franson, Johns Hopkins

Edward S. Fry, TAMU

Alexander Gaeta, Cornell University

“Robust pulse collapse: observation of the Townes soliton”

Lorenzo Galleani, Politecnico di Torino, Italy

“The Wigner distribution as a tool for studying differential equations”

Al Garroway, NRL

“Detection of Landmines by Nuclear Quadrupole Resonance (NQR): better than a Pointed Stick?”

Daniel J. Gauthier, Duke University

“Modulation-instability limits to “fast” light pulse propagation”

A. Gavrielides, U. S. Air Force

Claire Gmachl, Bell Labs, Lucent Technologies

“High performance Quantum Cascade lasers from the mid- to far-infrared and applications”

Lov Grover, Lucent Technologies

Mark Gyure, HRL Laboratories

“Scalable Quantum Information Processing Devices”

Kohzo Hakuta, The University of Electro-Communications, Japan

“Parametric Raman Beating in Solid Hydrogen: Towards Subfemtosecond Pulse Generation”

Byoung Ham, E.T.R.I.

“Dark resonance coherence swapping for optical switching”

Uwe Happek, University of Georgia

“Thermally stimulated laser excitation spectroscopy (TSLES): Another tool to locate the position of impurity energy levels relative to the host energy bands”

Dennis Harris, Boeing LEOS and LLNL

“1 KW Yb: YAG Laser”

Jim Harris, Stanford University

“GaInNAs Long Wavelength Lasers: The Potential and Challenges”

William Harter, University of Arkansas

“Coherent Waves Make Space and Time Reference Frames: Symmetry properties of quantum revivals and fractals”

Zameer Hasan, Temple University

“Doped II-VI semiconductors with large electric dipole moments”

Philip R. Hemmer, TAMU

“Ultra slow and stopped light pulses in a solid”

John Holzrichter, LLNL

“Review of optical projects at LLNL”

Chia-Ren Hu, TAMU

“A family of sure-fire quantum algorithms for solving a generalized Grover search problem”

Randy Hulet, Rice University

“Quantum Degeneracy in a Mixed Bose/Fermi Gas”

Boaz Ilan, Tel Aviv University

“Self-Focusing and Multiple Filamentation of Circularly-Polarized Beams”

Erich Ippen, M. I. T.

Deborah Jackson, NASA Jet Propulsion Laboratory

“The Use of Correlated Photons in Optical Communications Links”

Bryan Jacobs, Johns Hopkins

Ravi Jain, UNM

“Novel Tunable Fiber Lasers based on Rare-Earth Doped Glasses”

Ali Javan, M.I.T.

Juha Javanainen, University of Connecticut

“A dense BEC: is there a scattering length?”

Henry Kapteyn, JILA

“Compressing Light Pulses with Spinning Molecules”

Masayuki Katsuragawa, The University of Electro-Communications, Japan

Tom Kennedy, Naval Research Laboratory

“A Model Qubit using Optics and Microwaves with the NV-Center in Diamond”

Jacob Khurgin, Johns Hopkins University

“Slow wave propagation and switching in nonlinear fiber gratings”

Fam Le Kien, University of Electro-Communications, Japan

“Slow Light in Solid Hydrogen”

- Yoon Ho Kim**, Oak Ridge National Laboratory
“Preparing bright polarization-entangled photon pairs via temporal and spectral engineering”
- Olga Kocharovskaya**, TAMU
“Electromagnetically induced transparency in gamma-rays”
- Vitaly Kocharovsky**, TAMU
“Exchange of Atoms between Condensate and Noncondensate”
- R. Kolesov**, TAMU
“Optical continua generation in a coherently prepared Raman Medium”
- Prem Kumar**, Northwestern University
“Fiber-optic quantum communications”
- E. Kuznetsova**, TAMU
“Atomic interference phenomena in solids with a long-lived spin coherence”
- Hwang Lee**, NASA Jet Propulsion Laboratory
“Showdown at High NOON”
- Robert Levis**, Wayne State University
“Chemical Control Using Tailored, Strong Laser Fields”
- Ivan Lorgere**, Lab. Aim Cotton, CNRS
“Broadband radio-frequency spectrum-analysis based on spectral hole burning”
- Patrick Loughlin**, University of Washington
“Application of the Wigner distribution to shallow-water sound propagation”
- Robert Lucht**, TAMU
“Time-Dependent, Multi-State Numerical Simulation of Laser Interactions”
- Luigi Lugiato**, Universit dell’Insubria
“Cavity solitons in semiconductor microresonators: theory and experiment”
- Mikhail D. Lukin**, Harvard University
“Quantum Communication in Noisy Channels via Atomic Ensembles and Light”
- Jon Marangos**, Imperial College
“High order harmonic generation and electron wavepacket interference in aligned molecules”
- Igor Mariyenko**, TAMU
“Second Harmonic Generation by Singular Beams with Fractional Topological Charges”
- Eric Mazur**, Harvard University
“Oscillating between semiconductor and metal: moving ions faster than electron wave functions can spread”
- Alfred J. Meixner**, Universitt Siegen, Germany
“Nanoscale Surface-Enhanced Resonance Raman Spectroscopy at the Single-Molecule Level”
- Kris Merkel**, Montana State University
“Analog optical processing of high bandwidth, large dynamic range signals using spectral hole burning”

- Eugeniy Mikhailov**, TAMU
“Experimental study of Stokes fields linewidth in resonant four-wave mixing in hot Rb vapor”
- Gerard Mourou**, University of Michigan
“Ultrahigh Intensity, Relativistic Optics and Applications”
- Harm Muller**, AMOLF Netherlands
“Measurement of attosecond structure in XUV pulses from high-harmonic generation”
- Margaret Murnane**, JILA
“Coherent Control of Atoms and Molecules on Attosecond Timescales”
- Dinh C. Nguyen**, LAN
“Femtosecond Free-Electron Laser Laser Pulses”
- Gunter Nitz**, University of Cologne/Germany
“Universal Tunnelling Time and Nonlocal Reflection by Photonic Barriers”
- David Nolte**, Purdue University
“Photorefractive Semiconductor Nanostructures”
- Irina Novikova**, TAMU
“Generation of Squeezed Vacuum via Zeeman Coherence in Hot Atomic Vapor”
- Richard Packard**, University of California at Berkeley
“The He3 dc-SQUID: a superFLUID quantum interference device”
- Gerhard Paulus**, MPQ, Germany
“Measurement of the absolute phase of a femtosecond laser pulse”
- Justin Peatross**, Brigham Young University
“Controlling Laser High Harmonic Generation with Weak Interfering Light”
- Achim Peters**, Universitaet Konstanz
“Testing the foundations of special relativity using cryogenic optical resonators”
- David Petrosyan**, Weizmann Institute of Science, Israel
“Entanglement transfer from dissociated molecules to photons”
- Alan Pike**, Defense Strategies and Systems, Inc.
- Hersch Pilloff**, JILA
“The negative potential well in atom guiding and a new atom trap”
- Mark Pilloff**, UC Berkeley
“Wigner Distributions and Condensate Statistics in the Weakly Interacting Bose Gas”
- Todd Pittman**, Johns Hopkins
“Demonstration of non-deterministic quantum logic operations using linear optical elements”
- Marcus Pollnau**, Swiss Federal Institute of Technology
“Fractional energy-transfer upconversion as a probe for rare-earth-ion distributions in the host”

- Chitra Rangan**, University of Michigan
“Performing Grover’s search algorithm on a Rydberg atom data register”
- Aleksander Rebane**, Montana State University
“Ultrafast coherent transients in one- and two-photon transitions in organic solids”
- Thomas L. Reinecke**, Naval Research Laboratory
“Semiconductor Nanostructures for Quantum Information Technology”
- Paul Robinson**, Sandia
“A Brief Survey of Major Laser Programs at Sandia National Labs”
- Yuri Rostovtsev**, TAMU
“Stop and Go Control of Light in Hot Gases”
- Michele Saba**, Federal Institute of Technology, Lausanne
“Polariton Parametric Amplification in Semiconductor Microcavities”
- Zoe Sariyanni**, TAMU
“LWI vs Raman Lasing”
- Ken Schafer**, Lund University/Louisiana State University
“Theory of electron spectra from ultrafast cross-correlation processes”
- Vern Schlie**, AFRL/DELS
“Scaling SSL: Realistic - Invariant Propagating Beams”
- Axel Schulzgen**, University of Arizona
“Coherently coupled optical Stark shifts in a semiconductor 3 band system”
- Jens Schwarz**, University of New Mexico
“Self-trapped filaments in air, how much energy can they carry, how will they go?”
- Marlan O. Scully**, TAMU
“FAST CARS: and Anthrax detection”
- Tamar Seideman**, National Research Council, Canada
“Molecular Interferometry in Configuration Space”
- Alexander Sergienko**, Boston University
“Hyper-entanglement and Quantum Cryptography”
- Vladimir M. Shalaev**, Purdue University
“Manipulating Light and Sensing Molecules with Plasmonic Nanomaterials”
- Lu J. Sham**, University of California, San Diego
“Quantum Operations in Semiconductor Dots”
- Yanhua Shih**, UMBC
“Quantum Imaging and Uncertainty principle”
- Alexei Sokolov**, TAMU
“Femtosecond Light Source Synchronized with Molecular Motion”

Phillip Sprangle, NRL

“Compression, Focusing, Filamentation and Spectral Broadening of Laser Pulses Propagating in Air”

Dmitry Strekalov, Jet Propulsion Laboratory, Caltech

“Two-photon processes in faint biphoton field”

Carlos Stroud, University of Rochester

“Quantum Mechanics at the Classical-Quantum Interface”

Richard J. Tansey, Boeing

Malvin Teich, Boston University and Columbia University

“Multi-Photon Absorption”

C. W. Thiel, Montana State University

“Progress in Relating Rare Earth Ion 4f and 5d Energy Levels to Host Bands and Optical Material Design for Hole Burning, Quantum Information, and Phosphors”

Mingzhen Tian, Montana State University

“Optical Coherent Transient True-Time Delay: Broadband Programming Methods”

Mark Trainoff, Raytheon Electronic Systems

Ken-ichi Ueda, The University of Electro-Communications, Japan

“Ceramic Lasers: New Generation of Solid State Laser Materials”

Paul Voss, Northwestern

“Experimental Realization of “Universal Homodyne Tomography” with a Single Local Oscillator”

Kelvin Wagner, University of Colorado

“Spatial-spectral holography for broadband RF array imaging and high resolution spectral analysis”

Warren Warren, Princeton University

“Femtosecond Pulse Shaping Throughout the Electromagnetic Spectrum”

Martin Weitz, Universitaet Tuebingen

“Controlled Decoherence in Multiple Beam Ramsey Interference”

George R. Welch, TAMU

“EIT and Radiation Trapping”

Colin Williams, Stanford University

“Automated Design of Quantum Circuits and Interferometers”

Klaus-Juergen Witte, Max-Planck-Institut fuer Quantenoptik

“Fusion and Star Plasmas Generated with Femtosecond Laser Pulses”

Yoshi Yamamoto, Stanford University

“Generation of single photons and entangled photon-pairs from a single quantum dot”

Deniz Yavuz, Stanford University

“Multiplicative technique for single cycle pulses”

Cun-Yun Ye, TAMU

“Three-Photon EIT in Hot Atomic Vapor”

Shi-Yao Zhu, Hong Kong Baptist University
“Spontaneous Emission manipulation by 2- π pulses”

Max Zolotarev, LBNL
“Production and application of bunches of ultrarelativistic electrons with attosecond duration”

M. Suhail Zubairy, TAMU
“Quantum searching, with and without entanglement”