PQE XXXVI Participants

Mark Alexander, Sasha Consulting

Maria Allegrini, Università di Pisa

Roland Allen, Texas A&M University
"Vibrational modes of dipicolinic acid, and their role in the response to femtosecond-scale laser pulses"

Esen E. Alp, Argonne National Laboratory
"Applications of nuclear resonant spectroscopy in nanoscience"

Petr Anisimov, Texas A&M University
"Mossbauer spectroscopy in a spinning magnetic field"

Petr Anisimov, Texas A&M University
"Level anticrossing and Mossbauer spectroscopy" (poster)

Ennio Arimondo, Università di Pisa
"Quantum Optics with Bose-Einstein condensates"

Gombojav Ariunbold, Texas A&M University
"Intensity-intensity correlations and decoherence in Rb atomic vapor" (poster)

John Arthur, Stanford University
"Applications of intense coherent x-ray pulses from LCLS"

Robert H. Austin, Princeton University
"Narrow States and Energy Trapping in Proteins?"

Ilya Averbukh, Weizmann Institute of Science
"Isotope-selective alignment of molecules"

Yoav Avitzour, Princeton University
"Feasibility of X-Ray Laser within the "Water Window" at 3.4 nm"

Victor S. Batista, Yale University
"Coherent Quantum Control of Electronic Excitations in Sensitized Semiconductors"

Dieter Bauer, Max-Planck-Institut fuer Kernphysik, Heidelberg
"Emergence of Classical Orbits in Few-Cycle Laser Ionization of Atoms"

Wilhelm Becker, Max Born Institut Berlin
"Attosecond electron thermalization by laser-driven electron recollision in atoms"

Alexey Belyanin, Texas A&M University
"Quantum cascade structures: from lasers to detectors"

Will Bertsche, Lawrence Berkeley National Laboratory
"Persistent Spatially-Driven Kinetic Waves in Pure Electron Plasmas"

Alexander A. Betin, Raytheon

Jens Biegert, ETH, Switzerland
"Coherent control of higher order haromonic generation with intense fs pulse"

Christophe Blondel, Laboratoire Aimé Cotton, CNRS
"Images of a photoelectron interfering with itself: the photodetachment microscope"

Robert W. Boyd, University of Rochester
"Quantum Imaging"

Sergey Bozhevolnyi, University of Aalborg, Denmark
"Plasmon-Polaritonic Crystals - Metasurfaces for Nanophotonics"

Howard Brandt, US Army Research Laboratory
"Entangled Eavesdropping on Quantum Key Distribution"

Hans J. Briegel, University of Innsbruck
"Entanglement in open and noisy quantum systems"

Andrea Burzo, Texas A&M University
"Interplay of Raman molecular modulation technique and Stimulated Raman Scattering for generation of ultra-broadband radiation"

Leonid Butov, University of California at San Diego
"Coherence of the macroscopically ordered exciton state"

Robert W. Byren, Raytheon

Wes Campbell, Harvard University
"Loading a Magnetic Trap from a Molecular Beam of NH Radicals"

Andrea Cavalleri, Oxford University
"Phase transition dynamics in complex solids viewed with femtosecond x-rays"

Carlton M. Caves, University of New Mexico
"GHZ correlations are just a bit nonlocal"

Thierry Chaneliere, Georgia Institute of Technology
"Storage and retrieval of single photons transmitted between remote quantum memories"

Gordon Chen, Texas A&M University
"The Dimensional Scaling Method for the Excited States of the Helium Atom"

Hui Chen, Texas A&M University
"Electromagnetically Induced Transparancy in Molecular Cs" (poster)

Raymond Chiao, University of California at Berkeley
"The Interface of Quantum Mechanics with General Relativity: Generation and Detection of Gravity Waves via Planck-mass Superfluid Systems with Electron Attachment"

Kent Choquette, University of Illinois at Urbana-Champaign
"Tunable and coherent coupling of multiple defect photonic crystal vertical cavity lasers"

Weng W. Chow, Sandia National Laboratory
"Active photonic lattices: is greater than blackbody intensity possible?"

Pete Christopher, University of Toronto
"Control of internal conversion in pyrazine: the overlapping resonances perspective in quantum control"

David Citrin, Georgia Institute of Technology
"Phase coherence effects on radiative lifetimes of excitons in QWs"

Leon Cohen, City University of New York (Hunter College)
"Wigner distribution for operators at two different times"

Eric Collet, University of Rennes 1
"Opportunities to probe photoinduced phase transition by ultra-fast x-ray diffraction"

John Corlett, Lawrence Berkeley National Laboratory
"Proposals and Concepts for Future FELs"

David Cory, Massachusetts Institute of Technology
"Quantum Information Processing with Nuclear Spins"

Thomas Cowan, University of Nevada
"Laser Generated Ion Beams"

Milena D'Angelo, European Lab of Nonlinear Spectroscopy, Florence
"Remotely prepared single-photon time-encoded ebits: homodyne thomography and Bell's inequality test"

Milena D'Angelo, European Lab of Nonlinear Spectroscopy, Florence
"Remotely prepared single-photon time-encoded ebits: homodyne thomography and Bell's inequality test" (poster)

Marcos Dantus, Michigan State University
"Systematic Chemical Recognition Using Shaped Laser Pulses"

Barak Dayan, California Institute of Technology
"Towards Experimental Cavity-QED with Microcavities" (poster)

Jack Denur, Electric & Gas Technology, Inc.

Ivan Deutsch, University of New Mexico
"From diphotons to diatoms"

Jean-Claude Diels, University of New Mexico
"Coherent interaction with ultrashort pulses"

Aristide Dogariu, CREOL & FPCE, University of Central Florida
"Polarimetry of random electromagnetic fields"

Arthur Dogariu, Princeton University
"Femtosecond Ultraviolet CARS for discrimination of Dipicolinic Acid"

Rebekah A. Drezek, Rice University
"Immunotargeted Nanoshells for Imaging and Therapy of Cancer"

Dan Dubin, University of California at San Diego
Anti-Hydrogen "Formation rates of antihydrogen in a Penning trap: the long march to the ground state via three body collisions and radiation"

Sang-Kee Eah, RPI
"Modification of a single metal nanoparticle's light scattering rate by a remote mirror"

Alexei L. Efros, University of Utah
"Left-Handed Materials based upon Photonic Crystals"

Nader Engheta, University of Pennsylvania
"Metamaterials for nanoelements and nanodevices in optics"

Noam Erez, Texas A&M University
"Measuring the nonlocal phase of a single photon" (poster)

Edward Eyler, University of Connecticut
"Formation, Trapping, and State-Specific Detection of Ultracold Polar KRb Molecules"

Heidi Fearn, California State University at Fullerton
"No signals faster-than-c, or The Anti-Scharnhorst effect"

Jack Feinberg, University of Southern California

Marc J. Feldman, University of Rochester
"Superconducting Circuitry for Control of Quantum Systems"

Daniel Felinto, California Institute of Technology
"Measurement-Induced entanglement between remote atomic ensembles"

Daniel Felinto, California Institute of Technology
"Measurement-Induced entanglement between remote atomic ensembles" (poster)

Ofer Firstenberg, Technion, Israel

Nat Fisch, Princeton Plasma Physics
"Phase space control in plasmas"

Martin Fischer, Duke University
"Multiphoton Microscopy with Shaped Laser Pulses"

Jason Fleischer, Princeton University
"Random-phase solitons in nonlinear photonic lattices"

James Franson, Johns Hopkins Applied Physics Laboratory
"Entangled Photon Holes"

Hans Frauenfelder, Los Alamos National Laboratory
"Protein Physics-Concepts and Promises"

Verena Frauenfelder, Los Alamos National Laboratory

Edward S. Fry, Texas A&M University

Christopher A. Fuchs, Bell Labs, Lucent Technologies
"Why I Never Understood Bohr's Reply to EPR, But Still Liked It"

Ildar Gabitov, University of Arizona
"Double resonance in nonlinear nanostructured materials: negative refraction and solitary waves"

Elisabeth Giacobino, Ecole Normale Superieure and CNRS, Paris
"Quantum optics with continuous variables: from Glauber coherent states to non classical and entangled states"

Hyatt M. Gibbs, University of Arizona
"Excitonic photoliminescence in semiconductor quantum wells: Plasma versus excitons"

George Gibson, University of Connecticut
"Adiabatic passage and coherent interactions on high-order multiphoton transitions"

George Gibson, University of Connecticut
"High-order multiphoton processes in molecules" (poster)

Roy Glauber, Harvard University
"Foundations of Quantum Optics"

Claire Gmachl, Princeton University
"Multi-wavelength and nonlinear Quantum Cascade lasers"

Fritz Haake, Universitaet Duisburg-Essen
"Decoherence bypass of Schrödinger cat states in quantum measurement"

Peter Hamm, Universität Zürich
"Do nonlinear vibrational excitations exist in proteins?"

Dennis G. Harris, The Boeing Co.

Mark D. Havey, Old Dominion University
"Time dependent population and polarization dynamics in ultra cold atomic Rb"

Daniel J. Heinzen, The University of Texas at Austin
"Raman photoassociation of a Mott insulator"

Stefan W. Hell, Max Planck Institute for Biophysical Chemistry, Göttingen
"Breaking Abbe's barrier: Far-field fluorescence microscopy with diffraction-unlimited resolution"

Philip Hemmer, Texas A&M University
"Solving the time-bandwidth problem in slow light"

Josh Hendrickson, University of Arizona
"Quantum optics in photonic crystal cavities"

Leo Hollberg, NIST, Boulder
"Precisions Measurements with Femtosecond Optical Frequency Combs"

Onur Hosten, University of Illinois at Urbana-Champaign
"Counterfactual Quantum Computation via Quantum Interrogation"

John Howell, University of Rochester
"High Information Bandwidth Quantum Communication"

Paul Hsu, Texas A&M University

Yu Huang, Princeton University
"UV pulse shaping for CARS sensitivity improvement" (poster)

Erich P. Ippen, Massachusetts Institute of Technology
"Optical Clockworks and Arbitrary Electric Field Waveforms"

Gregg Jaeger, Boston University
"Exploring multipartite entangled states"

Stewart Jenkins, Georgia Institute of Technology

Andrew N. Jordan, University of Geneva and Texas A&M
"Continuous quantum measurement in the solid state"

Andrew N. Jordan, University of Geneva and Texas A&M
"Continuous quantum measurement in the solid state" (poster)

Franz Kaertner, Massachusetts Institute of Technology
"Octave-spanning lasers and optical phase control"

Sabre Kais, Purdue University
"Entanglement as a measure of electron-electron correlation"

Nikolai Kalugin, Texas A&M University
"Efficient generation of THz radiation in gases via quantum coherence"

Peter D. Keefe, Keefe & Associates
"Intellectual Property for Scientists"

Peter D. Keefe, University of Detroit Mercy
"The Absolute Status of the Second Law of Thermodynamics" (poster)

Paul Kelley, Tufts University
"Self-trapping and the Myriad of Other Self-Action Effects"

Brian Kennedy, Georgia Institute of Technology

Galina Khitrova, University of Arizona

Moochan Kim, Texas A&M University
"Approximate solution of the Condensate Master Equation in BEC"

Manfred Kleber, Technische Universität München
"On the interplay between waves and trajectories in quantum dynamics"

Olga Kocharovskaya, Texas A&M University
"Laser Manipulations of Mossbauer Spectra: from theory to experiment"

Vitaly Kocharovsky, Texas A&M University
"Nonequilibrium BEC"

Alexander Kolomenski, Texas A&M University
"Two-photon absorption of DPA observed via stimulated Raman scattering"

Victor Kozlov, Texas A&M University
"Efficient preparation of an optically thick phaseonium" (poster)

Norbert Kroó, Hungarian Academy of Sciences
"Surface Plasmons and Photon Statistics"

Atsushi Kubo, University of Pittsburg
"Femtosecond microscopy and coherent control of surface plasmons on a silver film"

Gershon Kurizki, Weizmann Institute of Science, Israel
"Was Zeno right after all?"

Elena Kuznetsova, Texas A&M University
"Coherent population trapping with a train of pulses and its application to excited-state absorption suppression"

Elena Kuznetsova, Texas A&M University
"Experimental observation of electromagnetically induced transparency in Pr3+:LaF3" (poster)

Paul Kwiat, University of Illinois at Urbana-Champaign
"Hyperentanglement: When One Degree of Freedom Isn't Enough"

Jochen Küpper, Fritz-Haber-Institut der MPG, Berlin
"Deceleration and trapping of neutral molecules for spectroscopic applications"

Jochen Küpper, Fritz-Haber-Institut der MPG, Berlin
"Applications of Stark-decelerated molecules" (poster)

Jochen Küpper, Fritz-Haber-Institut der MPG, Berlin
"Alternate Gradient Deceleration of large molecules" (poster)

Jaan Laane, Texas A&M University
"A Chemist's view of the vibrational spectra of DPA and its calcium salts"

Shau-Yu Lan, Georgia Institute of Technology

Kotik Lee, Booz Allen Hamilton

M. Howard Lee, University of Georgia
"Testing Boltzmann's ergodic hypothesis by electron gas models"

Wim Leemans, Lawrence Berkeley National Laboratory
"Intense beams produced by laser-plasma interactions"

Kevin Lehmann, University of Virginia
"Excitations of superfluid helium nanodroplets"

Alfred Leitenstorfer, University of Konstanz, Germany
"Ultrabroadband femtosecond fiber systems and applications"

Hebin Li, Texas A&M University
"Saturated Selective Reflection from a glass-Rb surface" (poster)

Alexander Litvak, Institute of Applied Physics, RAS
"Self-focusing of ultra-short laser pulses in a dispersive medium"

Pat Loughlin, University of Pittsburgh
"Wigner distribution approximation for filtered signals and waves"

Robert P. Lucht, Purdue University
"Electronic resonance CARS"

Lute Maleki, Jet Propulsion Laboratory
"Low contrast whispering gallery mode resonators and their applications"

Alexei N. Markevitch, Temple University
"Manipulating Hilbert Space for Fun and Profit"

Francesco De Martini, Università "La Sapienza", Rome
"Realization of a Decoherence-free, optimally distinguishable mesoscopic quantum superposition. A Schroedinger Cat."

Jörg Maser, Argonne National Laboratory
"High-resolution X-ray Optics - where is the limit?"

Dzmitry Matsukevich, Georgia Institute of Technology
"Entanglement of remote atomic qubits"

Eric Mazur, Harvard University
"Subcellular surgery and nanoneurosurgery"

Colin McCormick, NIST, Gaithersburg
"EIT enhancement of forward four-wave mixing in atomic vapor"

Wolfgang Merkel, Universität Ulm
"Factorization of numbers with chirped pulses"

Eugeniy Mikhailov, Massachusetts Institute of Technology
"EIT applications to GW detection"

Peter Milonni, Los Alamos National Laboratory
"Photon Momentum in Dielectrics"

Kaoru Minoshima, AIST, Japan
"Phase-locked widely tunable optical single-frequency generator based on a femtosecond comb"

Kazuhiko Misawa, Tokyo University of Agriculture and Technology
"Quantum wave-packet control on a two-dimensional potential energy surface"

Morgan Mitchell, ICFO, Barcelona
"Atom-ready photons for cold-atom light storage"

Mohammad Mojahedi, University of Toronto
"Dispersion Engineering: the Principles and Applications"

Charles Munnerlyn, Visx Inc.
"Characteristics of corneal ablations with the 193 nm excimer laser"

Robert Murawski, Texas A&M University
"First order corrections to quantum number dimensional scaling for the excited states of atoms"

Robert Murawski, Texas A&M University
"First order corrections to quantum number dimensional scaling for the excited states of atoms" (poster)

Ashok Muthukrishnan, Texas A&M University
"Quantum microscopy beyond the Rayleigh limit: Exponential resolution using N-photon correlation"

Ashok Muthukrishnan, Texas A&M University
"Quantum microscopy beyond the Rayleigh limit: Exponential resolution using N-photon correlation" (poster)

Frank A. Narducci, Naval Air Systems Command
"Effects of Frequency Chirping in Electro-magnetically induced transparency"

Evgenii E. Narimanov, Princeton University
"Surface states in non-magnetic materials with negative refractive index"

Mikhail Noginov, Norfolk State University
"Mutual enhancement of optical gain and surface plasmon in composite metal-dielectric media"

Mikhail Noginov, Norfolk State University
"GaAs random laser with anti-Stokes pumping" (poster)

Irina Novikova, Harvard Smithsonian Center for Astrophysics
"Optimization of slow and stored light efficiency in Rb vapor cells"

Jos Odeurs, Katholieke Universiteit Leuven
"Change of polarization and delayed gamma radiation using nuclear level mixing induced transparency"

Hiromi Okamoto, University of Hiroshima
"Crystal beams"

José Onuchic, University of California at San Diego
"The energy landscape for protein folding and function"

C. H. Raymond Ooi, Texas A&M University
"Physics of Excimer Cornea Ablation"

C. H. Raymond Ooi, Texas A&M University
"Quantum Properties of Macroscopic Raman Photon Pairs from Extended Medium" (poster)

David Ottaway, Massachusetts Institute of Technology
"Radiation-pressure induced optomechanical dynamics in suspended optical cavities"

Wounjhang Park, University of Colorado
"Photonic Crystal Approach for Tunable Negative Refraction"

Enrique Parra, Booz Allen Hamilton Inc.

Saverio Pascazio, Università di Bari, Italy
"Quantum Zeno dynamics and control of decoherence"

Anil Patnaik, Texas A&M University
"Coherence effects on the Raman two-photon correlation and applications"

Dmitry Pestov, Texas A&M University
"UV-probe Coherent Raman Spectroscopy of DPA and its salts"

Arkady Plotnitsky, Purdue University
"EPR: How subtle is the Lord and how is the Lord subtle?"

Viktor A. Podolskiy, Oregon State University
"Photonic funnels: Using anisotropy to compress and propagate light beyond diffraction limit"

Viktor A. Podolskiy, Oregon State University
"Limitations of light compression with anisotropy" (poster)

Brian Pogue, Dartmouth College
"Imaging human tissues with photons: Integration of near-infrared tomography with high field MRI"

John L. Porter, Sandia National Laboratory

Shahid Qamar, Texas A&M University
""Teleportation of an atomic momentum state" (poster)

Herschel A. Rabitz, Princeton University
"Exploring the Systematics of Controlling Quantum Systems with Photonic Reagents"

Mark Raizen, University of Texas at Austin
"Experimental study of quantum tunneling; from single-atom to many-body physics"

Luis G. C. Rego, Universidade Federal de Santa Catarina, Brazil
"Coherent quantum control of electronic states in functionalized semiconductors"

John Reintjes, Naval Research Laboratory
"Fs-CARS of Dipicolinic Acid: Effect of Two-Photon Absorption"

David Reis, University of Michigan
"Ultrafast X-ray Science"

David Reitze, University of Florida
"Superfluorescence from a quantized high density electron-hole system"

Maxime Richard, EPFL, Switzerland
"The trapped polaritons"

Martin Richardson, CREOL & FPCE, University of Central Florida
"High power EUV light sources and lithography - laser micro-plasmas"

Yuri Rostovtsev, Texas A&M University
"Nonlinear scattering in coherently prepared media: Manley-Rowe relations"

Farhan Saif, University of Arizona
"Quantum Revivals as Test of Coherence in Chaotic Atom Optical Systems"

Zoe-Elizabeth Sariyanni, Texas A&M University
"Femtosecond Spectroscopy on Molecular Solutions"

Anatoliy Savchenkov, Jet Propulsion Laboratory
"Raman lasing and four wave mixing in ultrahigh-Q fluorite whispering gallery mode resonators"

Giuliano Scarcelli, University of Maryland, Baltimore County
"Quantum magic mirror"

Norbert F. Scherer, University of Chicago
"Ultrafast Nonlinearities, Spatially Localized Responses and Optical Manipulation of Single Nanoparticles and Clusters"
Wolfgang Schleich, Universität Ulm
"The quantum Ulm sparrow"

Hans Schuessler, Texas A&M University
"Sympathetic cooling of molecular ions in rf-ion traps"

James Scully, American Airlines

Judy Scully, PQE

Marlan O. Scully, Texas A&M and Princeton University
"Quantum theory of the atom laser"

Tamar Seideman, Northwestern University
"Toward coherent control in the nanoscale"

Andrew Sessler, Lawrence Berkeley National Laboratory
"Transverse-Longitudinal Correlations: FEL Performance and Emittance Exchange"

Vladimir M. Shalaev, Purdue University
"Optical Metamaterials with Negative Refractive Index"

Lu J. Sham, University of California, San Diego
"Restoring coherence lost"

Moshe Shapiro, Weizmann Institute
"Quantum Control on the Nanoscale"

Yanhua Shih, University of Maryland, Baltimore County
"Can two-photon correlation of chaotic light be considered as correlation of intensity fluctuations?"

Akira Shimizu, University of Tokyo
"Quantum Zeno effect by general measurements"

Moshe Shuker, Technion, Israel

Gennady Shvets, University of Texas at Austin
"Optical Metamaterials: from Antireflective Coatings to Molecular Spectroscopy"

Igor Smolyaninov, University of Maryland
"Super-resolution microscopy using surface plasmon polaritons"

Peter So, Massachusetts Institute of Technology
"High Resolution Wide-Field Microscopy Based on Standing Evanescence Waves"

Alexei Sokolov, Texas A&M University
"Toward generation of isolated single-cycle optical pulses by parametric beating with Raman coherence"

Rogerio de Sousa, University of California at Berkeley
"Coherence control of solid state quantum bits"

Michael Spanner, University of Toronto
"The absence of coherent mechanisms in case studies of liquid phase adaptive feedback control"

Klaus Spohr, University of Paisley
"Laser Induced Nuclear Physics: The Quest for Isomer Population & Future Developments Towards Counter-propagating Beams"

Andrew J. Steckl, University of Cincinnati
"Rare Earth Doped Gallium Nitride - At Long Last Lasing"

Geoff Steeves, University of Victoria
"Ulltrafast Scanning Tunneling Microscopy in Quantum Electronic Systems"

Aephraim M. Steinberg, University of Toronto
"Quantum tomography of atoms, photons, biphotons, and triphotons"

Michael Stenner, University of Arizona
"Information and communication in fast and slow light"

Mark I. Stockman, Georgia State University
"Extreme Nanoplasmonics: Spatio-Temporal Limits of Optical Processes in Nanostructured Systems"

Dmitry V. Strekalov, Jet Propulsion Laboratory
"The progress of EIT-based clock and magnetometer at JPL".

Qingqing Sun, Texas A&M University
"All optical controlled steering of light" (poster)

Anatoly Svidzinsky, Texas A&M University
"D-scaling, Bohr model and Chemical Physics"

Frank K. Tittel, Rice University
"Semiconductor laser based trace gas sensor technology: advances and opportunities"

Charles Townes, University of California at Berkeley
"Early Non-linear Optics and Beyond"

Francis Townes, Berkeley

Mark A. Trainoff, Raytheon

Thomas Udem, Max-Planck Institut für Quantenoptik
"Spectroscopy with frequency combs and the possible variation of the fundamental constants"

Lorenza Viola, Dartmouth College
"Randomized Decoupling Techniques for Coherent Quantum Control"

David Voss, Science Magazine

Hailin Wang, University of Oregon
"Exciton coherence and EIT"

Lijun Wang, Max-Planck Research Group, Erlangen
"Gravity aberration and its precise measurement"

Thomas Weinacht, SUNY Stony Brook
"Understanding learning control of molecular dynamics: The importance of dynamic resonances"

George R. Welch, Texas A&M University
Welcoming Remarks

Roland Winston, University of California at Merced
"Paradigm for a wave description of optical measurements"

Jonathan Wurtele, University of California at Berkeley
"Phase Space Manipulation and Cooling in Beams and Plasmas"

John Rui-Hua Xie, Texas A&M University
"Simple three-parameter model potential for diatomic systems"

Han Xiong, Texas A&M University
"Coherence-induced entanglement" (poster)

Ping Xu, Nanjing University, China

Jie Yao, University of California at Berkeley

Jun Ye, JILA, NIST and University of Colorado
"Optical atomic clock based on ultracold fermionic strontium atoms"

Linda Young, Argonne National Laboratory
"Probing optical strong-field processes with x-rays"

Nan Yu, Jet Propulsion Laboratory
"Coupled optoelectronic oscillator: from ultra-low phase noise to ultra-high frequency stability"

Xiang Zhang, University of California at Berkeley
"Photonic metamaterials, nano-plasmonics, and superlens"

Nikolay Zheludev, University of Southampton, UK
"Planar, nano-structured photonics meta-materials"

Miaochan Zhi, Texas A&M University
"Application of ultra-short and super-intense laser field – molecular approach to fusion?"

Alexander Zholents, Lawrence Berkeley National Laboratory
"X-ray free electron lasers demystified"

Richard Ziolkowski, University of Arizona
"Subwavelength-thin optical sources"