Xiaoqin (Elaine) Li

Curriculum Vitae

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CONTACT INFORMATION

RLM 13.324 (office)
RLM 2.418 (lab)
Department of Physics
University of Texas at Austin
1 University Station C1600
Austin, TX, 78712-0264

Email: elaineli@physics.utexas.edu
Phone: 512-471-2063
Fax: 512-471-1005

EDUCATION

Ph.D., Physics, University of Michigan, Ann Arbor, Michigan. 1997 – 2003.

M.S., Electrical Engineering, University of Michigan, Ann Arbor, Michigan. 1997 – 2002. Major in optics and minor in solid state.

B.A., Physics and physics education, Beijing Normal University, Beijing, China . 1993 – 1997. Graduated with the highest honor.

APPOINTMENT

Assistant Professor: Physics department, University of Texas-Austin, 2007 –present

Postdoctoral Associate: JILA, University of Colorado, 2003-2006

CURRENT RESEARCH INTERESTS

Spintronics, light scattering and optical wave mixing techniques, semiconductor quantum dots, mesoscopic quantum systems, laser physics, optoelectronic devices, ultrafast lasers, quantum interference effects in semiconductors, femtosecond comb technology, multidimensional spectroscopy, quantum information science.

PROFESSIONAL ACTIVITIES

Reviewers: Physics Review Letter, Applied Physics Letter,

I have given 41 invited seminars and presentations since 2002

AWARDS/ HONORS

Presidential Early Career Award for Scientists and Engineers (PECASE), 2008

Alfred P. Sloan Research Fellowship 2008-2011

NSF CAREER AWARD 2008

AFOSR YIP AWARD 2008

ONR YIP AWARD 2008

Rackham Graduate School One Term Dissertation Fellowship, 2003,

Alfred P. Sloan Summer Research Fellowship, 1999

Academic Excellence Awards: 1993-1997

ShuPing Fellowship: 1992-1995

My work has been reported by various magazines including: Physics Today, Physics World, Science (News), Optics and Photonic News, New Scientists, etc.

COMPLETE PUBLICATIONS

Publication after 2007

Electronic Two-Dimensional Fourier Transform Spectroscopy in Semiconductors

1. **X. Li**, T. Zhang, R. P. Mirin, Shaul Mukamel, S. T. Cundiff "Investigation of Electronic Coupling in Semiconductor Double Quantum Wells using Coherent Optical Two-dimensional Fourier Transform Spectroscopy", solid state communications, 149, 361-366, 2009.

2. Katherine W Stone, Kenan Gundogdu, Daniel B Turner, **Xiaoqin Li**, Steven T Cundiff and Keith A Nelson, "Two-quantum 2D Fourier Transform electronic spectroscopy of biexcitons in GaAs Quantum wells", Science, 324, 1169, 2009.

Hybrid Nanostructures

3. Suenne Kim, Daniel Ratchford, **Xiaoqin Li,** "Atomic Force Microscope nanomanipulation with Simultaneous Visual Guidance", ACS Nano, 3, 2089, 2009.

4. Hong Wei, Daniel Ratchford, Xiaoqin Li, Hongxing Xu, and Chih-kang Shih, "Propagating Surface Plasmon Induced Photon Emission from Quantum Dots", Nano Lett. Published online.

Spin Dynamics in Magnetic Microstructures

5. Daniel R. Birt, Brian O'Gorman,Maxim Tsoi, **Xiaoqin Li**, Vladislav E. Demidov, and Sergej O. Demokritov, " Diffraction of spin waves from a submicrometer-size defect in a microwaveguide", Appl. Phys. Lett. 95, 122510, 2009.

6. Vladislav E. Demidov, and Sergej O. Demokritov, Daniel R. Birt, Brian O'Gorman,Maxim Tsoi, and **Xiaoqin Li**, " Radiation of spin waves from the open end of a microscopic magnetic-film waveguide", Phys. Rev. B., 80, 014429, 2009.

Nonlinear Processes in Materials

7. Shengyuan Yang, **Xiaoqin Li**, Alan Bristow, and J. E. Sipe, "Second Harmonic Generation from tetragonal centrosymmetric crystals", Phys. Rev. B., 80, 165306, 2009.

COMPLETE PUBLICATIONS

Publication prior to 2007

Optical coherent control and quantum computing in semiconductor quantum dots

1. T. H. Stievater, **Xiaoqin Li**, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, C. Piermarocchi and L. Sham, "Rabi Oscillations of Excitons in Single Quantum Dots", *Phys. Rev. Lett.* 87, 133603, 2001. (276 citations)

2. T. H. Stievater, **Xiaoqin Li**, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, "Wavelength Modulation Spectroscopy of Single Quantum Dots", *Appl. Phys. Lett.* 80, 1876, 2002. (11 citations)

3. T. H. Stievater, **Xiaoqin Li**, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, "Transient Nonlinear Spectroscopy of Excitons and Biexcitons in Single Quantum Dots", *Phys. Rev. B.* 65, 205319, 2002. (17 citations)

4. J. R. Guest, T. H. Stievater, **Xiaoqin Li**, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, C. Ell, A. Thränhardt, G. Khitrova, H. M. Gibbs, "Measurement of Optical Absorption by a Single Quantum Dot Exciton", *Phys. Rev. B.* 65, R241310, 2002. (67 citations)

5. J. R. Guest, **Xiaoqin Li**, T. H. Stievater, D. G. Steel, D. Gammon "Direct Probing of quantum dots through linear and nonlinear nano-optics", *Physica Status Solidi B-Basic Research* 234 (1) 435-442, 2002.

6. Gang Chen, T. H. Stievater, E. T. Batteh, **Xiaoqin Li**, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, L. J. Sham, "Biexciton Quantum Coherence in a Single Quantum Dot", *Phys. Rev. Lett.* 88, 117901, 2002. (62 citations)

7. T. H. Stievater, **Xiaoqin Li**, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, "Measurement of relaxation between polarization eigenstates in single quantum dots", *Appl. Phys. Lett.* 81, 4251, 2002. (15 citations)

8. **Xiaoqin Li**, Yanwen Wu, T. H. Stievater, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, C. Piermarocchi, L. Sham "An All-Optical Quantum Gate in a Semiconductor Quantum Dot", *Science* 301, 809, 2003. (*350* citations)

9. **Xiaoqin Li**, D. G. Steel, D. Gammon, L. Sham "Optically Driven Quantum Dots for Quantum Information Processing", Quantum Information Processing, 3, 147, 2004

10. **Xiaoqin Li**, Yanwen Wu, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, L. Sham "Raman coherence beats from the Entangled State Involving Polarized Excitons in Single Quantum Dots", *Phys. Rev. B.* 70, 195330, 2004. (5 citation)

11. Yanwen Wu, **Xiaoqin Li**, D. G. Steel, D. Gammon, L. J. Sham, "coherent optical control of semiconductor quantum dots for quantum information processing" *Physica E* 25, 242, 2004 (3 citation)

12. **Xiaoqin Li**, D. G. Steel, D. Gammon, L. Sham "Optical Excitation in Quantum Dots for Information Processing", Research article solicited by Optical Society of America's monthly magazine "Optics and Photonics News", September Issue, 2004.

13. MVG. Dutt, Yanwen Wu, **Xiaoqin Li**, D. G. Steel, D. Gammon, L. J. Sham, "Semiconductor quantum dots for quantum information processing : An optical approach", Physics of Semiconductor, Jose Menendez and Chris G. Van de Walle, eds, Proceedings of the 27th ICPS, Flagstaff, AZ, American Institute of Physics Vol 772, p32-37, (2005).

14. MVG. Dutt, J. Cheng, B. Li, XD Xu, **Xiaoqin Li,** P. R. Berman, D. G. Steel, A. S.

Bracker, D. Gammon, S. E. Economou, R. B. Liu, L. J. Sham "Stimulated and spontaneous optical generation of electron spin coherence in charged GaAs quantum dots", *Phys. Rev. Lett.* 94, 227403, 2005. (72 citations)

15. **Xiaoqin Li**, Yanwen Wu, XiaoDong Xu, D. G. Steel, D. Gammon, "Transient nonlinear optical spectroscopy studies involving biexciton coherence in single quantum dots" *Phys. Rev.B.*, 73, 153304, 2006. (2 citations)

16. Yanwen Wu, **Xiaoqin Li**, L. M. Duan, D. G. Steel, D. Gammon, "Density Matrix Tomography through Sequential Coherent Optical Rotations of an Exciton Qubit in a Single Quantum Dot" *Phys. Rev. Lett.*, 96, 087402, 2006. (13 citations)

Electronic two-dimensional Fourier-transform spectroscopy

1. C. N. Borca, Tianhao Zhang, **Xiaoqin Li**, S. T. Cundiff, "Optical two-dimensional Fourier transform spectroscopy of semiconductors", *Chem. Phys. Lett*, 416, 311, 2005. (18 citation)

2. Tianhao Zhang, C. N. Borca, **Xiaoqin Li**, S. T. Cundiff, "Optical two-dimensional Fourier transform spectroscopy with active interferometric stabilization", *Optics Express*, Vol 13, 7432, 2005. (22 citations)

3. **Xiaoqin Li**, C. N. Borca, Tianhao Zhang, S. T. Cundiff, "Many-body Interactions in Semiconductors Probed by Optical Two-dimensional Fourier Transform Spectroscopy", *Phys. Rev. Lett.*, 96, 057406, 2006. (44 citations)

4. I. Kuznetsova, P. Thomas, Y. Meier, T. Zhang, **X. Li**, R. P. Mirin, S. T. Cundiff "Singatures of many-particle correlations in two dimensional Fourier-transform spectra of semiconductor nanostructures", solid state communications, 142, 154, 2006. (8 citation)

5. T. Zhang, I. Kuznetsova, T. Meier, **X. Li**, R. P. Mirin, P. Thomas, S. T. Cundiff "Polarization-dependent optical two-dimensional Fourier transform spectroscopy of semiconductors", Proceeding of the National Academy of Science of the United States of America, 104,14227, 2007. (8 citation)

Second-harmonic generation from Si and high Tc superconductors

1. **Xiaoqin Li**, I. M. P. Aarts, A. A. E. Stevens, J. Willits, S. T. Cundiff, Dan Dessau, "Circular Dichroism in Second Harmonic Generation from Oxidized Si (001)", *Appl. Phys. Lett.* 89, 022102, 2006. (2 citation)

Quantum Interference Control Based on Femtosecond Comb Technique

1. Pete Roos, **Xiaoqin Li**, J. Pipis, S. T. Cundiff, "Solid-state carrier-envelope-phase noise measurements with intrinsically balanced detection", *Optics Express*, 12, 4255, 2004. (3 citations)

2. Pete Roos, **Xiaoqin Li**, R. P. Smith, J. Pipis, T. M. Fortier, S. T. Cundiff, "Solid-state carrier-envelope phase stabilization via quantum interference control of injected photocurrents", *Optics Lett*, 30, 735, 2005. (11 citations)

3. Pete Roos, **Xiaoqin Li**, J. Pipis, T. Fortier, S. T. Cundiff, RDR Bhat, J. E. Sipe, "Characterization of carrier-envelope phase-sensitive photocurrent injection in a

semiconductor", *JOSAB*, 22, 362, 2005. (5 citations)

Dynamics of Coherent Phonon

1. J. K. Wahlstrand, R. Merlin, **Xiaoqin Li**, S. T. Cundiff, O. E. Martinez, " Impulsive Stimulated Raman Scattering: Comparison between phase-sensitive and spectrally filtered techniques", *Optics Letters*, 30, 926, 2005. (2 citation)

INVITED PRESENTATION

44. **Xiaoqin Li**, "Interplay between Disorder and Coulomb Interaction in Quantum Confined Semiconductors"; SPIE-photonic west, San Jose, CA, Jan 20th, 2010.

43. **Xiaoqin Li**, "Interplay between Disorder and Coulomb Interaction in Quantum Confined Semiconductors", seminar at the center of Complex Quantum Systems at the University of Texas-Austin, Sept 10th, 2009

42. **Xiaoqin Li**, "Dancing Electrons in Nanostructures", seminar given to the undergraduate students in the Dean's Scholar program at the University of Texas-Austin, August 10th, 2008.

41. **Xiaoqin Li**, "Two dimensional Fourier Transform Spectroscopy: A New Tool for Studying Exciton Couplings and Correlations in Semiconductors"; seminar at University of Munster, Munster, Germany, June 12th, 2008.

40. **Xiaoqin Li**, "Two dimensional Fourier Transform Spectroscopy: A New Tool for Studying Exciton Couplings and Correlations in Semiconductors"; seminar at Institute Néel-CNRS/Univ.J. Fourier, Grenoble, France, Feb 12th, 2008.

39. **Xiaoqin Li**, "Two dimensional Fourier Transform Spectroscopy: A New Tool for Studying Exciton Couplings and Correlations in Semiconductors"; SPIE-photonic west, San Jose, CA, Jan 20th, 2008.

38. **Xiaoqin Li**, "Quantum Dynamics in Semiconductor Nanostructures", Seminar in the physics department of Beijing Normal University, Beijing, Dec 25th, 2007.

37. **Xiaoqin Li**, "Quantum Dynamics in Semiconductor Nanostructures", Seminar in the National Center of Nanoscience and Technology, Beijing, Dec 24th, 2007.

36. **Xiaoqin Li**, "Quantum Dynamics in Semiconductor Nanostructures", Seminar in the physics department at HongKong University, Dec 14th, 2007

35. **Xiaoqin Li** "Multidimensional Snapshots of Electronic Couplings in Semiconductors", Seminar in the physics department at Texas A&M, Oct 10th, 2007.

34. **Xiaoqin Li** "Ultrafast meets ultrasmall: Dancing electrons in nanostructures", Seminar at the Trinity University, San Antonio, TX, Sept 25th, 2007.

33. **Xiaoqin Li,** T. Zhang, S. T. Cundiff "Probing exciton couplings and correlations in semiconductors with optical two-dimensional Fourier transform spectroscopy", Nonlinear Optics Conference of Optical Society of America, Hawaii, July 30-Aug 3, 2007.

32. **Xiaoqin Li,** T. Zhang, A. D. Bristow, S. T. Cundiff, R. P. Mirin, "Probing exciton

couplings and correlations in semiconductors with optical two-dimensional Fourier transform spectroscopy", Fundamental Optical Properties of Semiconductors, Big Sky, Montana, July 23-July 27, 2007.

31. **Xiaoqin Li** "Multidimensional Snapshots of Electronic Couplings and Dynamics", Seminar in the physics department at the City College of New York, June 12th, 2007.

30. **Xiaoqin Li** "Probing coherent coupling between quantum dots with optical two-dimensional Fourier transform spectroscopy", Rank prize symposium on quantum dots for quantum information, UK, April 16-19, 2007.

29. **Xiaoqin Li** "Multidimensional Snapshots of Electronic Couplings and Dynamics", Seminar in the physics department at University of Arkansas, April 20, 2007.

28. **Xiaoqin Li** "Probing Many-body Correlations between Excitons in Semiconductors", colloquium in the physics department at Baylor University, April 13, 2007.

27. **Xiaoqin Li** "Multidimensional Snapshots of Electronic Couplings and Dynamics", Seminar in the physics department at Central Florida University, April 02, 2007.

26. **Xiaoqin Li** "Exciton Correlations in Semiconductors Probed by Optical Two-dimensional Fourier Transform Spectroscopy", Seminar in the physics department at University of Oregon, Nov 20th, 2006.

25. **Xiaoqin Li** "Life after graduate school", Seminar in the applied physics department at the University of Michigan, Oct 30th, 2006.

24. **Xiaoqin Li** "Manipulating Single Quantum Dots with Laser Pulses" Seminar in the Optical Science and Engineering program at the University of Colorado, Oct 23th, 2006.

23. **Xiaoqin Li** "Probing Electron Dynamics in Condensed Matter Systems using Ultrafast Spectroscopy", New Laser Scientists Conference, Rochester, NY, Oct 12th, 2006.

22. **Xiaoqin Li** "Optimize the job hunting process for a faculty position", Seminar for "women in JILA", JILA, Colorado, Sept, 27th, 2006.

21. **Xiaoqin Li** "Exciton Correlations in Semiconductors Probed by Optical Two-dimensional Fourier Transform Spectroscopy", Seminar in the physics department at University of Washington, April 11th, 2006.

20. **Xiaoqin Li** "Exciton Correlations in Semiconductors Probed by Optical Two-dimensional Fourier Transform Spectroscopy", colloquium in the physics department at University of Texas at Austin, March 6-7, 2006.

19. **Xiaoqin Li** " Ultrafast Meets Ultrasmall: Optically Driven Quantum Gates Based on Single Quantum Dots", seminar in the ECE department at University of Maryland, March 2-3, 2006

18. **Xiaoqin Li** " Ultrafast Meets Ultrasmall: Optically Driven Quantum Gates Based on Single Quantum Dots", Seminar in the physics department at University of Georgia, Feb 16th, 2006

17. **Xiaoqin Li** " Ultrafast Meets Ultrasmall: Optically Driven Quantum Gates Based on Single Quantum Dots", colloquium in the physics department at University of Utah, Feb

9th, 2006

16. **Xiaoqin Li** " Ultrafast Meets Ultrasmall: Optically Driven Quantum Gates Based on Single Quantum Dots", Seminar at Argonne National Lab, Feb 6th, 2006.

15. **Xiaoqin Li** " Ultrafast Meets Ultrasmall: Optically Driven Quantum Gates Based on Single Quantum Dots", colloquium in the physics department at Purdue University, Feb 3rd, 2006.

14. **Xiaoqin Li** " Ultrafast Meets Ultrasmall: Optically Driven Quantum Gates Based on Single Quantum Dots", colloquium in the physics department at College of William and Mary, Jan 30th, 2006.

13. **Xiaoqin Li** " Ultrafast Meets Ultrasmall: Optically Driven Quantum Gates Based on Single Quantum Dots", colloquium in the physics department at Brown University, Jan 27th, 2006.

12. **Xiaoqin Li** " Ultrafast Meets Ultrasmall: Optically Driven Quantum Gates Based on Single Quantum Dots", colloquium in the physics department at University of Pittsburgh, Jan 23th, 2006.

11. **Xiaoqin Li** " Exciton Correlations in Semiconductors Probed by Optical Two-dimensional Fourier Transform Spectroscopy", colloquium in the physics department at University of Arizona, Jan 13th, 2006.

10. **Xiaoqin Li** " Exciton Correlations in Semiconductors Probed by Optical Two-dimensional Fourier Transform Spectroscopy", Seminar in the physics department at University of California at San Diego, Jan 9th, 2006.

9. **Xiaoqin Li** " Ultrafast Meets Ultrasmall: Optically Driven Quantum Gates Based on Single Quantum Dots", colloquium at NanoCenter at West Virginia University, Jan 5th, 2006.

8. **Xiaoqin Li** "Exciton Correlations in Semiconductors Probed by Optical Two-dimensional Fourier Transform Spectroscopy", colloquium in the physics department at University of Delaware, Dec, 2nd, 2005.

7. **Xiaoqin Li** "Ultrafast Meets Ultrasmall: Optically Driven Quantum Gates Based on Single Quantum Dots", colloquium in the physics department at California State University at Northridge, Nov, 21, 2005.

6. **Xiaoqin Li**, "Optically driven quantum gates based on single semiconductor quantum dots" IBM Lecture Series, University of Notre Dame, Sept 22nd, 2003.

5. **Xiaoqin Li**, Yanwen Wu, M. V. Gurudev Dutt, Jun Cheng, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, L. J. Sham, "Quantum Dots as Artificial Atoms: Towards a Quantum Dot Quantum Computing", 2nd International Workshop on Quantum Dots for Quantum Computing and Classical Size Effect Circuit, University of Notre Dame, Aug 7-9, 2003.

4. **Xiaoqin Li**, T.H. Stievater, Gang Chen, Yanwen Wu, M. V. Gurudev Dutt, E. T. Batteh, Jun Cheng, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, L. J. Sham, "Coherent Nonlinear Optical Spectroscopy and Control of Single GaAs Quantum Dots: Towards Quantum Logic Gates", Material Research Society (MRS) Fall Meeting, Boston, MA, December 2-6, 2002.

3. **Xiaoqin Li**, T.H. Stievater, Gang Chen, Yanwen Wu, M. V. Gurudev Dutt, E. T. Batteh, Jun Cheng, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, L. J. Sham, "Coherent Control of Single Quantum Dots: From Excitons to Spins ", International Workshop on Spintronics, West Lafayette, IN. November 18-19, 2002.

2. **Xiaoqin Li**, T.H. Stievater, Gang Chen, Yanwen Wu, M. V. Gurudev Dutt, E. T. Batteh, Jun Cheng, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, L. J. Sham, "Coherent Nonlinear Optical Spectroscopy and Control of Single GaAs Quantum Dots", Condensed Matter Seminar, Physics Department, University of Texas at Austin. September 17, 2002

1. **Xiaoqin Li**, T. H. Stievater, Yanwen Wu, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, Pochung Chen, C. Piermarocchi, L. J. Sham, "Quantum-Bit Rotations in Single Quantum Dots: Rabi Oscillations of Excitons and Biexcitons", Quantum Electronics and Laser Science Conference (CLEO/QELS) 2002, Long Beach, CA, May 19-24, 2002.

CONTRIBUTED CONFERENCE PRESENTATION

Zheng Sun, Thomas Jarvis, Xiaoqin Li, Mikhail Erementchouk, Michael N. Leuenberger, "Interplay between disorder and coulomb correlations in semiconductors", Quantum Electronics and Laser Science Conference (CLEO/QELS) 2008, Baltimore, MD, June 1-5, 2009.

Kara Maller, Thomas Jarvis, **Xiaoqin Li**, Dmitriy Korobkin, Gennady Shvets, Marcelo Davanco, Xuhuai Zhang, Stephen R. Forrest, "Phase measurements on a subwavelength optical metamaterial based on metallic paired strips", APS March meeting, Pittsburgh, PA, March 16-20th, 2009

Suenne Kim, Daniel Ratchford, **Xiaoqin Li,** "A new method of nanomanipulation with AFM derived from nanotribology", APS March meeting, Pittsburgh, PA, March 16-20th, 2009

Zheng Sun, Thomas Jarvis, **Xiaoqin Li** "Interplay between disorder and coulomb correlations in semiconductors", The 4th international conference on Coherent Multidimensional Spectroscopy, Aug 27-30th, Kyoto, Japan, 2008

T. Zhang, **Xiaoqin Li**, A. D. Bristow, S. T. Cundiff, R. P. Mirin, "Polarization-dependent 2D Fourier transform spectroscopy of quantum wells", Fundamental Optical Properties of Semiconductors, Big Sky, Montana, July 23-July 27, 2007.

Tianhao Zhang, **Xiaoqin Li**, S. T. Cundiff , I. Kuznetsova, P. Thomas, Y. Meier, R. P. Mirin, "Experimental and theoretical studies of exciton correlations using optical two-dimensional Fourier transform spectroscopy", Quantum Electronics and Laser Science Conference, Baltimore, MD, 2007.

Tianhao Zhang, **Xiaoqin Li**, S. T. Cundiff , I. Kuznetsova, P. Thomas, Y. Meier, R. P. Mirin, "Experimental and theoretical studies of exciton correlations using optical two-dimensional Fourier transform spectroscopy", American Physical Society March Meeting, Denver, CO, 2007.

Tianhao Zhang, **Xiaoqin Li,** S. T. Cundiff, "Polarization Dependence of Optical Two-Dimensional Fourier Transfer Spectra in Semiconductor Quantum Wells", 15th International Conference on Ultrafast Phenomena, Pacific Grove, CA, Aug 3rd, 2006.

Xiaoqin Li, Tianhao Zhang, S. T. Cundiff, "Electronic Coupling in Double Quantum Wells Probed by Optical Two-Dimensional Fourier Transfer Spectroscopy", Quantum Electronics and Laser Science Conference, Long Beach, CA, May 25th, 2006.

Xiaoqin Li, Tianhao Zhang**,** Camelia N. Borca, S. T. Cundiff "Many-body Interactions in Semiconductors Probed by Optical Two Dimensional Fourier Transform Spectroscopy", 8th International Workshop on Nonlinear Optical Excitation Kinetics in Semiconductors, Muenster, Germany, Feb 18-25th, 2006.

Xiaoqin Li, S. T. Cundiff, Tianhao Zhang**,** Camelia N. Borca, "Many-body Interactions in Semiconductors Probed by Optical Two Dimensional Fourier Transform Spectroscopy", International Quantum Electronics Conference, Tokyo, Japan, July 11-15, 2005.

Tianhao Zhang, **Xiaoqin Li,** Camelia N. Borca, S. T. Cundiff, "Two Dimensional Fourier Transform Spectroscopy of Semiconductors", Quantum Electronics and Laser Science Conference, Baltimore, MD, 2005.

S. T. Cundiff, Tianhao Zhang, **Xiaoqin Li,** Camelia N. Borca, "Two Dimensional Fourier Transform Spectroscopy of Semiconductors", Meeting on Fundamental Optical Processes in Semiconductors, Estes Park, CO, 2004.

Pete Roos**,** Tara Fortier, David Jones, **Xiaoqin Li**, J. Pipis, S. T. Cundiff, Ravi D. R. Bhat, John E. Sipe "Quantum Interference in Semiconductors controlled by Carrier Envelope Phase" Quantum Electronics and Laser Science Conference, San Francisco, CA, 2004.

Yanwen Wu**, Xiaoqin Li**, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, L. J. Sham "A Complete mapping of the Density Matrix of a Qubit in a Single Quantum Dot" Quantum Electronics and Laser Science Conference, San Francisco, CA, 2004.

Xiaoqin Li, Yanwen Wu, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, L. J. Sham "An Optical Controlled-NOT in a Single Quantum Dot" Quantum Electronics and Laser Science Conference, San Francisco, CA, 2004.

Xiaoqin Li, Yanwen Wu, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, L. J. Sham "Raman Coherence Beats from the Entangled Exciton Zeeman Doublet in a Single Quantum Dot" Quantum Electronics and Laser Science Conference, Baltimore, MD, 2003.

Xiaoqin Li, Yanwen Wu, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, L. J. Sham "Rabi Oscillations of Excitons and Biexcitons in Single Semiconductor Quantum Dots" American Physics Society March Meeting, Indianapolis, IN, 2002.

Xiaoqin Li, T. H. Stievater, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, L. J. Sham "Optical Absorption Measurements from Single Semiconductor Quantum Dots," Quantum Electronics and Laser Science Conference, Baltimore, MD, 2001.

Yanwen Wu, **Xiaoqin Li**, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, L. J. Sham "qubit rotation with multiple phased-locked pulses in single quantum dots" Quantum Electronics and Laser Science Conference, Baltimore, MD, 2003.

T. H. Stievater, **Xiaoqin Li**, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, "Transient Nonlinear Spectroscopy of Biexcitons in Single Quantum Dots," Quantum Electronics and Laser Science Conference, Long Beach, CA, 2002.

Gang Chen, E. A. Tabak, **Xiaoqin Li**, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, "All Optically Induced and Detete Bell-Like State in a Single Quantum Dot," Quantum Electronics and Laser Science Conference, Long Beach, CA, 2002.

T. H. Stievater, **Xiaoqin Li**, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, "Transient

Nonlinear Spectroscopy and Rabi Oscillations of Single Quantum Dots," Quantum Electronics and Laser Science Conference, Baltimore, MD, 2001.

Gang Chen, T. H. Stievater, E. A. Tabak, **Xiaoqin Li**, D. G. Steel, D. Gammon, D. S. Katzer, D. Park, "Nondegenerate Two-Photon Absorption from Single Quantum Dot Biexcitons," Quantum Electronics and Laser Science Conference, Baltimore, MD, 2001.