Curriculum Vitae - Shanhui Fan

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Education

- Massachusetts Institute of Technology, Ph. D in Physics, 1997.
- University of Science and Technology of China, undergraduate, 1988-92.

Employment

- Stanford University, Associate Professor in Electrical Engineering, Sept. 2007-.
- Stanford University, Assistant Professor in Electrical Engineering, 2001-Sept. 2007
- Massachusetts Institute of Technology, Research Scientist, 1999-2001.
- Massachusetts Institute of Technology, Postdoctoral Research Associate, 1997-99.
- Massachusetts Institute of Technology, Research Assistant, 1994-97.
- Massachusetts Institute of Technology, Teaching Assistant, 1992-94.

Teaching Experience

- EE336, Nanophotonics
- EE235, Guided Wave Optical Devices
- EE232, Laser Dynamics
- EE228, Solid State Physics for Basic Electronics
- EE234, Photonics Laboratory

Industry Experience

- Clarendon Photonics, Member of the Technology Advisory Board, 2001-2004
- Clarendon Photonics, Consultant, 1999-2001

Honors and Awards

- Fellow, the American Physical Society, 2008. *For "contributions to the theory and applications of nanophotonic structures and devices, including photonic crystals, plasmonics and meta-materials*."
- Fellow, the Optical Society of America, 2007. *"For many deep and creative contributions to physics, analysis, and novel devices in semiconductor, dielectric and metallic optical nanostructures"*.

- The Adolph Lomb Medal from the Optical Society of America, 2007. *"For fundamental work in nano-photonic structures"*.
- The National Academy of Sciences Award for Initiative in Research, 2007. *"For innovative research on the theory and applications of photonic crystal devices"*.
- David and Lucile Packard Fellowship in Science and Engineering, 2003.
- National Science Foundation Faculty Early Career Development Award, 2002
- 3M Pre-tenured Faculty Award, 2002
- Robert N. Noyce Faculty Award, Stanford University, 2001

Professional Activities

- Senior Member, IEEE
- Fellow, Optical Society of America
- Member, American Physical Society
- Member, SPIE
- Reviewers for leading journals in the areas of physics, optics and photonics. A partial list includes Nature, Physical Review Letters, Physical Review A, Physical Review B, Physical Review E, Applied Physics Letters, Optics Letters, Optics Express, Journal of Optical Society of America B, IEEE Photonics Technology Letters, IEEE Journal of Quantum Electronics, and Journal of Lightwave Technology.
- Member, Program Committee, Slow and Fast Light (SL), OSA Topical Meeting, Salt Lake City, Utah, July 2007.
- Member, Organizing Committee, International Symposium on Photonic and Electromagnetic Crystal Structures (PECS VII), 2007.
- Member, Technical Program Committee, The 7th Pacific Rim Conference on Lasers and Electro-Optics, 2007.
- Member of the program subcommittee on fundamentals of meta-materials, periodic and random media, QELS, 2006.
- Member of the Editorial Advisor Board for the journal "Photonics and Nanostructures: Fundamentals and Applications", 2005-present.
- Co-organizer, MRS workshop on three-dimensional multifunctional ceramic composite 2005.
- Member of the Technical Committee, Symposium on photonic band gap materials in the SPIE photonics west conference, San Jose, 2003-2005.
- Member of the Technical Committee, SPIE Conference Nanophotonics for Communications, Optics East, 2004-2005.
- Member of the Technical Committee, SPIE Conference on Photonics: Design, Technology, and Packaging II (AU04), Brisbane, Australia, 2005.
- Member of review panels for the ECS division of the National Science Foundation, 2001-2003, 2005.
- Co-chairman, Symposium on plasmonics in the Material Research Society Fall Meeting, Boston, 2005.

- Co-chairman, nanophotonics symposium in the Material Research Society Fall Meeting, Boston, 2002.

Patents

1. S. Fan, P. R. Villeneuve, R. D. Meade, and J. D. Joannopoulos, "Three dimensional periodic dielectric structures having photonic bandgaps", U. S. Patent 5,440,421 (Issued on August 8, 1995).

2. S. Fan, P. R. Villeneuve, R. D. Meade, and J. D. Joannopoulos, "Three dimensional periodic dielectric structures having photonic bandgaps", U. S. Patent 5,600,483 (Issued on February 7, 1997).

3. J. D. Joannopoulos, S. Fan, P. R. Villeneuve, and R. D. Meade, "Resonant microcavities employing one-Dimensional periodic dielectric waveguides", U. S. Patent 5,682,401 (Issued on October 28, 1997).

4. J. D. Joannopoulos, S. Fan, P. R. Villeneuve and E. F. Schubert, "Light emitting device utilizing a periodic dielectric structure", U. S. Patent 5,995,749 (Issued on September 21, 1999).

5. E. R. Brown, O. B. McMahon, S. Fan, P. R. Villeneuve and J. D. Joannopoulos, "Metallodielectric photonic crystal", U. S. Patent 5,990,850 (Issued on November 23, 1999).

6. J. D. Joannopoulos, P. R. Villeneuve, D. S. Abrams and S. Fan, "Tunable microcavity and methods of using nonlinear materials in a photonic crystal", U. S. Patent 6,058,127 (Issued on May 02, 2000).

7. S. Fan, P. R. Villeneuve, J. D. Joannopoulos, H. A. Haus and B. E. Little, "High efficiency channel drop filter with absorption induced on/off switch and modulation", U. S. Patent 6,101,300 (Issued on August 8, 2000).

8. P. R. Villeneuve, S. Fan, J. D. Joannopoulos and H. A. Haus, "High efficiency channel drop filter", U. S. Patent 6,130,969 (Issued on October 10, 2000).

9. J. D. Joannopoulos, S. Fan, J. N. Winn and Y. Fink, "High omnidirectional reflector", U. S. Patent 6,130,780 (Issued on October 10, 2000).

10. S. G. Johnson, S. Fan, P. R. Villeneuve, L. Kolodziejski and J. D. Joannopoulos, "Composite photonic crystals" U. S. Patent 6,134,043 (Issued on October 17, 2000).

11. S. G. Johnson, S. Fan, P. R. Villeneuve, C. Manolatou, H. A. Haus and J. D. Joannopoulos, "Optical waveguide crossings" U. S. Patent 6,198,860 (Issued on March 6, 2001).

12. P. R Villeneuve, S. Fan, G. S. Petrich, L. A. Kolodziejski, and J. D. Joannopoulos, "Tunable add/drop filter using side-coupled resonant tunneling", U. S. Patent 6,424,763 (Issued on July 23, 2002).

13. Y. Fink, S. Fan, E. Thomas, C. Chen and J. D. Joannopoulos, "Omnidirectional multilayer device for enhanced optical waveguiding", U. S. Patent 6,463,200 (Issued on October 8, 2002).

14. S. Fan, P. R. Villeneuve, and J. D. Joannopoulos, "Resonant-tunneling electronic transportors", U. S. Patent 6,512,242 (Issued on January 28, 2003).

15. S. Fan, P. R. Villeneuve, J. D. Joannopoulos, B. E. Little, and H. A. Haus, "Absorption induced on/off switching and modulation", U. S. Patent 6,512,866 (Issued on January 28, 2003).

16. A. Erchak, S. Fan, E. P. Ippen, J. D. Joannopoulos, G. S. Petrich, and D. J. Ripin, "Input light coupler using a dielectric contrast distributed in at least two dimensions", U. S. Patent 6,574,383 (Issued on June 3, 2003).

17. Y. Fink, S. Fan, E. Thomas, C. Chen and J. D. Joannopoulos, "Omnidirectional multilayer device for enhanced optical waveguiding", U. S. Patent 6,603,911 (Issued on August 5, 2003).

18. S. Fan, J. D. Joannopoulos, G. B. Kenny, M. Lipson, K. M. Chen, and L. C. Kimerling, "Thin film filters using omndirectional reflectors", U. S. Patent 6,624,945 (Issued on September 23, 2003).

19. S. Fan, "Creating Sharp Asymmetric Lineshapes in Microcavity Structures," U. S. Patent 6,819,691 (Issued on November 16, 2004).

20. A. Mekis, S. Fan, J. D. Joannopoulos, and P. R. Villeneuve, "Low-loss resonator and method of making same," U. S. Patent 6,853,789 (Issued on February 8, 2005).

21. J. D. Joannopoulos, S. Fan, J. N. Winn, and Y. Fink, "High omnidirectional reflectors," U. S. Patent 6,903,873 (Issued on June 7, 2005).

22. M. Ibanescu, J. D. Joannopoulos, Y. Fink, S. G. Johnson, and S. Fan, "Dielectric waveguide with transverse index variation that support a zero group velocity mode at a non-zero longitudinal wavevector," U. S. Patent 6,909,729 (Issued on June 21, 2005).

23. M. Soljacic, S. Fan, M. Ibanescu, S. G. Johnson, and J. D. Joannopoulos, "Mach-Zehnder interferometer using photonic band gap crystals," U. S. Patent 6,917,431 (Issued on July 12, 2005).

24. W. Lau and S. Fan, "Creating Large Bandwidth Line Defects by Embedding Dielectric Waveguides Into Photonic Crystal Slabs," U. S. Patent 6,957,003 (Issued on October 18, 2005).

25. H. K. Kim, S. Fan, G. S. Kino, J. Shin and M. J. F. Digonnet, "Method For Configuring Air-Core Photonic Bandgap Fibers Free of Surface Modes", U. S. Patent 7,110,650 (Issued on September 19, 2006).

26. M. F. Yanik, W. Suh, Z. Wang, and S. Fan, "Stopping and time reversing light in a waveguide with an all-optical system", U. S. Patent 7,116,864 (Issued on October 3, 2006).

27. W. Suh, O. Solgaard and S. Fan, "Guided resonance dielectric filter system", U. S. Patent 7,142,364 (Issued on November 28, 2006).

28. W. Suh, M. F. Yanik, O. Solgaard and S. Fan, "Photonic crystal reflectors/filters and displacement sensing applications", U. S. Patent 7,155,087 (Issued on December 26, 2006).

29. J. D. Joannopoulos, S. Fan, M. Lipson, K. M. Chen, and L. C. Kimerling, "Tunable chromatic dispersion compensation", U. S. Patent 7,190,853 (Issued on March 13, 2007).

30. H. K. Kim, S. Fan, G. S. Kino, J. Shin, M. J. F. Digonnet, and V. Dangui, "Photonic bandgap fiber with a core ring", U. S. Patent 7,228,041 (Issued on June 5, 2007).

31. A. Solomon, R. E. Bryant, A. A. Erchak, S. Fan, E. P. Ippen, J. D. Joannopoulos, S. G. Johnson, L. A. Kolodziejski, E. Lidorikis, G. S. Petrich, and M. L. Povinelli, "Nano-electromechanical high-index contrast", U. S. Patent 7,260,287 (Issued on August 21, 2007).

32. M. F. Yanik and S. Fan, "Ultra-slow down and storage of light pulses, and altering of pulse spectrum", U. S. Patent 7,269,313 (Issued on September 11, 2007).

33. J. M. Kahn, M. A. Horowitz, O. Solgaard, and S. Fan, "Adaptive optical signal processing with multimode waveguides", U. S. Patent 7,327,914 (Issued on February 5, 2008).

34. H. K. Kim, S. Fan, G. S. Kino, J. Shin, M. J. F. Digonnet, V. Dangui, "Photonic-band gap fiber with a core ring", U. S. Patent 7,400,806 (Issued on July 15, 2008).

Invited Talks

1. S. Fan, P. R. Villeneuve, J. D. Joannopoulos and E. F. Schubert, "Photonic crystal light emitting diodes", SPIE Photonics West Conference on Light Emitting Diodes: Research, Manufacturing and Applications, San Jose, California, February, 1997.

2. S. Fan, and J. D. Joannopoulos, "Photonic crystals probed by near-field microscopy", Workshop on Electromagnetic Crystal Structures, Design, Synthesis, and Applications, Laguna Beach, California, January, 1999.

3. S. Fan, P. R. Villeneuve, and J. D. Joannopoulos, "Photonic crystals: challenges and expectations", International Topical Workshop on Contemporary Photonic Technologies, Sendai, Japan, January, 1999.

4. S. Fan, S. G. Johnson, A. Mekis, P. R. Villeneuve, J. D. Joannopoulos, C. Manolatou and H. A. Haus, "Photonic crystals and device applications", Progress in Electromagnetics Research Symposium, Taipei, Taiwan, March, 1999.

5. S. Fan, "Photonic crystals for precision control of photon propagation and storage", MIT Sixth Annual Research Directors Conference, Cambridge, Massachusetts, May 11, 1999.

6. S. Fan, P. R. Villeneuve, J. D. Joannopoulos, "Computational study of photonic crystal structures", International Microwave Symposium sponsored by IEEE microwave theory and techniques society, Anaheim, California, June, 1999.

7. S. Fan, "Photonic crystals: new opportunities for manipulating light", Gordon Research Conference on Nonlinear Optics and Lasers, New London, New Hamsphire, July 26, 1999.

8. S. Fan, P. R. Villeneuve, J. D. Joannopoulos, "VLSI photonics", General Assembly of International Union of Radio Science, Toronto, Canada, August, 1999.

9. S. Fan, "Photonic bandgap devices: a status report", tutorial lecture in the Annual Meeting of the Optical Society of America, Santa Clara, California, September, 1999.

10. S. Fan, "Functional optical circuits in photonic crystals", International Workshop on Photonic and Electromagnetic Crystal Structures, Sendai, Japan, March, 2000.

11. S. Fan, S. G. Johnson, A. Mekis, Y. Fink, and J. D. Joannopoulos, "Designing photonic crystal structures for the control of light", 2000 Spring Meeting of the Material Research Society, San Francisco, California, April, 2000.

12. S. Fan, S. G. Johnson, P. R. Villeneuve, and J. D. Joannopoulos, "Manipulating light with photonic crystals", plenary talk, The 7th International Workshop on Femtosecond Technology, Tsukuba, Japan, June, 2000.

13. S. Fan, S. G. Johnson, A. Mekis, and J. D. Joannopoulos, "Replacing Electrons with Photons", Condensed Matter and Maerials Physics Conference, Bristol, United Kingdom, December, 2000.

14. S. Fan, "Optical components and circuits in photonic crystals", OSA Nonlinear Guided Waves and Their Applications, Clearwater, Florida, March, 2001.

15. S. Fan, "Photonic crystals, new opportunities for manipulating light", MRSEC workshop on self assembly, Chicago, Illinois, April 2001.

16. S. Fan and J. D. Joannopoulos, "Guided resonances in two-dimensional photonic crystals", PECS III: Electromagnetic Crystal Structures, From Basic Research to the Market Place, St. Andrews, UK, June, 2001.

17. S. Fan, "Overview of Photonic Crystal Structures", Chinese Academy of Sciences

Workshops on Photonic Crystals, Beijing, August, 2001.

18. S. Fan, "New directions for photonic band gap structures", Stanford Photonics Research Center Annual Meeting, Stanford, California, September, 2001.

19. S. Fan and J. D. Joannopoulos, "Two-dimenionsional photonic crystal modes and resonances in three-dimensional structures", Annual Meeting of the Optical Society of America, Long Beach, California, October, 2001.

20. S. Fan, "Designing crystal structures for the manipulation of light", in the workshop on photonic nanostructures organized by the Knowledge Foundation, San Diego, October, 2001.

21. S. Fan and J. D. Joannopoulos, "Two-dimensional photonic crystal modes and resonances in three-dimensional structures", Material Research Society Fall Meeting, Boston, Masschusetts, November 2001.

22. S. Fan, "Computational design leading to novel photonic behavior", American Association for the Advancement of Sciences Annual Meeting, Boston, Massachusetts, February, 2002.

23. S. Fan and Z. Wang, "Dispersion and dispersion control in photonic crystals", the 44th Electronic Material Conference, Santa Barbara, California, June, 2002.

24. S. Fan, Z. Wang, D. A. B. Miller, P. R. Villeneuve, H. A. Haus, and J. D. Joannopoulos, "Photonic crystals for optical communications", in the SPIE conference on Active and Passive Optical Components for WDM Communications, Boston, July, 2002.

25. S. Fan, "Two dimensional photonic crystals and photonic crystal slabs", in the Sir Mark Olipant Conference "Photonic Crystal Down Under", Canberra, Australia, August, 2002.

26. S. Fan, "Computing photonic crystals, band structures, time evolutions, and optical computing", in EOS topical meeting on two dimensional photonic crystals, Monte Verita, Ascona, Switzerland, August, 2002.

27. S. Fan, 'Three-dimensional guiding of light in photonic crystal slabs", Plenary Talk in European Optical Society Topical Meeting on Two Dimensional Photonic Crystals, Monte Verita, Ascona, Switzerland, August, 2002.

28. S. Fan, (W. J. Suh, M. F. Yanik, W. T. Lau and O. Solgaard), "Photonic crystal slabs and sensor applications", The Knowledge Foundation's 2nd Annual International Conference on Photonic Nanostructures, San Diego, California, October 24, 2002.

29. S. Fan, "Two-dimensional photonic crystals: waveguides and guided resonances", IEEE LEOS Summer Topical Meeting on Holey Fibers and Photonic Crystals, Vancouver, Canada, July 15, 2003.

30. S. Fan, "Photonic Crystals: A Tutorial", Invited Short Course, The International Symposium on Optical Science and Technology, SPIE's 48th Annual Meeting, San Diego, California, August 5, 2003.

31. P. Catrysse, H. Shin, W. J. Suh, M. Brongersma, and S. Fan, "CMOS Compatible plasmonic structures" Surface Plasmon Photonics, Europe Conference on Nanophotonics, Granada, Spain, September, 2003.

32. S. Fan, "Fundamentals and Applications of Photonics Crystal", Invited Tutorial, Frontiers in Optics, the 87th OSA Annual Meeting, Tucson, Arizona, October 7, 2003.

33. S. Fan, M. F. Yanik, W. J. Suh, "Mechanically and optically switchable photonic crystals", SPIE Asia-Pacific Optical Communication Conference, Wuhan, China, November 4, 2003.

34. S. Fan, W. J. Suh, M. F. Yanik, X. Yu, "Photonic crystals: controlling and sensing light for both evanescent and propagating fields", 2004 Nano Materials for Defense Applications Symposium, Maui, Hawaii, February 25, 2004.

35. S. Fan, "Photonic crystals and nanophotonics", Science Colloquium, IBM Almaden Research Center, San Jose, CA, March 12, 2004.

36. P. Catrysse, M. Brongersma, and S. Fan, "Subwavelength optics with materials and material structures manufactured in a deep submicron CMOS technology", Material Research Society Spring Meeting, San Francisco, April 14, 2004.

37. S. Fan, "Photonic crystals and nanophotonics", HP Advanced Technology Lecture Series, Corvallis, Oregon, April 23, 2004.

38. S. Fan and M. F. Yanik, "All optical coherent stopping and storage of light", Special joint symposia on nonlinear photonics in optical lattices, CLEO/QELS, San Francisco, May 19, 2004.

39. S. Fan, M. F. Yanik, W. J. Suh and Z. Wang, "Fundamental considerations of stopping light and the all-optical on-chip scheme for doing it", 2004 Inaugural CRI Conference on Slow Light, Charlotte, North Carolina, July 12, 2004.

40. W. J. Suh and S. Fan, "Optical filters and sensors using photonic crystal slabs", ICO International Conference, Optics and Photonics in Technology Frontier, Tokyo, Japan, July 15, 2004,

41. S. Fan, "Photonic crystals: controlling the flow of light at micro and nano length scales", Invited short course, Stanford Nanoscience and Nanotechology Institute, Stanford, California, July 30, 2004.

42. S. Fan, "Photonic crystals, a tutorial", Invited short course, SPIE Annual Meeting, Denver, Colorado, August 3, 2004.

43. S. Fan, "Tunable photonic crystals enable new optical device and physics",

Symposium on tuning the optical response of photonic band gap structures, SPIE Annual meeting, Denver, Colorado, August 4, 2004.

44. S. Fan, "Photonic crystals: temporal and spatial control of light", 2004 Packard Fellows Meeting, Monterey, California, September 1, 2004.

45. S. Fan and M. F. Yanik, "Nonlinear optics and slow light in photonic crystal microcavities", SIAM Conference on Nonlinear Waves and Coherent Structures, University of Central Florida, Orlando, Florida, October 5, 2004.

46. M. F. Yanik and S. Fan, "All optical coherent stopping, storage and time-reversla of light", Symposium on nanophotonics for communications: materials and devices, Philadelphia, Pennsylvania, October 28, 2004.

47. S. Fan, "Optical resonances: Fano interference, stopping light, and meta-materials", Optics and Electronics Seminars, Stanford University, Stanford, California, November 1, 2004.

48. S. Fan and Z. Wang, "Magneto-optical photonic crystals", Conference on Optical Components and Materials II, SPIE Photonic West, San Jose, California, January 25, 2005.

49. M. F. Yanik, H. Altug, J. Vuckovic, and S. Fan, "Micron-scale high-speed all-optical digital memory and integration of nano-scale photonic devices without isolators", Conference on Advanced Optical and Quantum Memories and Computing II, SPIE Photonic West, January 25, 2005.

50. S. Fan, "Photonic crystal and nanophotonics", Optics Seminar, Columbia University, March 14, 2005.

51. S. Fan, "Photonic crystals: controlling spatial, spectral and temporal properties of light", Nanoelectronics, Electromagnetics and Photonics Seminar, University of Delaware, March 15, 2005.

52. S. Fan, "Resonances in photonic crystals and nanophotonics", Physics Colloquium, University of Arizona, March 25, 2005.

53. S. Fan, M. F. Yanik, X. Yu, J. Shin and Z. Wang, "Photonic crystals, controlling spectral, spatial, and recirprocal properties of light", OSA Integrated Photonics Research and Application Topical Meeting, San Diego, California, April 12, 2005.

54. S. Fan, M. F. Yanik, W. Suh, P. Catrysse, J. T. Shen, and Z. Wang, "Exploiting wavelength-scale and sub-wavelength scale optical resonances in nanophotonics", 2nd Annual Conference on Foundations of Nanoscience: Self-Assembled Architectures and Devices, Snowbird, Utah, April 24, 2005.

55. S. Fan, Z. Wang, M. F. Yanik, J. T. Shen, and P. Catrysse, "Resonance and Dynamic Photonic Crystals", International Symposium on Photonic and Electromagnetic Crystal Structures (PECS VI), Crete, Greece, June 22, 2005.

56. S. Fan, M. F. Yanik, X. Yu, J. Shin, J. T. Shen, and P. Catrysse, "Resonance and dynamics leading to new information processing capabilities in photonic crystals", Photonic crystals and holey fiber workshops, Sydney, Australia, July 8, 2005.

57. S. Fan, Z. Wang, M. F. Yanik, J. T. Shen, and P. Catrysse, "Nanophotonics: Stopping light, nonreciprocity, and metamaterials", International Quantum Electronics Conference and Conference on Lasers and Electro-Optics, Pacific Rim, Tokyo, Japan, July 13, 2005.

58. S. Fan, "Resonances in photonic crystals and nanophotonic structures", Seminar series in the Center for Nanoscale Systems, Cornell University, Ithaca, New York, September 15, 2005.

59. S. Fan and M. F. Yanik, "Dynamic photonic crystals: stopping light and time reversal", The 31th European Conference on Optical Communications (ECOC), Glasgow, United Kingdom, September 26, 2005.

60. S. Fan, "Photonic crystals, an introduction", Tutorial Talk in MRS Workshop On Three-Dimensional Multi-Functional Ceramics Composite, University of Illinois at Urbana-Champaign, Urbana, Illinois, October 2, 2005.

61. S. Fan, J. Shin, V. Lousse, X. Yu, "New opportunities for device applications in photonic crystals", MRS Workshop in Three-dimensional Multi-Functional Ceramics Composites, University of Illinois at Urbana-Champaign, Urbana, Illinois, October 3, 2005.

62. M. F. Yanik and S. Fan, "Dynamic photonic bandgap nanostructures for coherent information processing", The 18th Annual Meeting of the IEEE Lasers and Electro-Optics Society, Sydney, Australia, October 25, 2005.

63. S. Fan, H. Shin, M. Brongersma, G. Veronis, J. –T. Shen, and P. B. Catrysse, "Sub-wavelength resonances in metal-dielectric-metal plasmonic structures", The 18th Annual Meeting of the IEEE Lasers and Electro-Optics Society, Sydney, Australia, October 26, 2005.

64. S. Fan, M. F. Yanik, "Optical resonances in photonic crystals: Fano resonances and stopping light", the 11th Micro-optics Conference, Tokyo, Japan, October 31, 2005.

65. Z. Wang and S. Fan, "Non-reciprocal photonic crystal circuits", The Knowledge Foundation Conference on Photonic Nanosystems, San Francisco, California, November 7, 2005.

66. S. Fan, "Manipulating Light with Photonic Crystals and Plasmonics", Stanford Electrical Engineering Public Lecture, November 17, 2005.

67. S. Fan, G. Veronis, H. Shin and P. Catrysse, "Sub-wavelength Modes in Metallic Nanostructures", National Science Foundation Workshop on Emerging Opportunities of Nanoscience to Energy Conversion and Storage, Arlington,

Virginia, November 21, 2005.

68. S. Fan, "New properties of light in photonic crystals and plasmonics", Optics and Electronics Seminars, Stanford University, November 28, 2005.

69. G. Veronis and S. Fan, "Frequency domain modeling of nanophotonic devices", SPIE Conference on Photonics: Design, Technology, and Packaging II, Brisbane, Australia, December 14, 2005.

70. S. Fan, "Manipulating light with photonic crystals and plasmonic devices", Physics Seminar, Ecole Polytechnique Montreal, January 12, 2006.

71. S. Sandhu, M. L. Povinelli, M. F. Yanik, and S. Fan, "Dynamically-tuned resonator delay lines can be nearly dispersion free", Advanced Optical and Quantum Memories and Computing III, Photonics West, San Jose, California, January 24, 2006.

72. S. Fan, X. Yu, J. Shin, W. T. Lau, "Controlling diffraction and waveguide modes by exploiting spatial dispersions in photonic crystals", Photonic Crystals, Materials, Devices and Devices IV, Photonics West, San Jose, California, January 25, 2006.

73. S. Fan, "Manipulating light with resonances in photonic crystals and plasmonics", Berkeley Optoelectronics Seminar Series, University of California, Berkeley, California, February 10, 2006.

74. S. Fan, "Photonic crystals and nanophotonic structures simulations", MITRE Workshop on nanophotonics, McLean, VA, February 14, 2006.

75. S. Fan, M. F. Yanik, Z. Wang, M. Povinelli, and S. Sandhu, "Photonic crystals for communications: stopping light and miniaturized non-reciprocal devices", Optical Fiber Communication Conference, Anaheim, CA, March 9, 2006.

76. S. Fan, "Manipulating light with resonances in photonic crystals and plasmonic devices", Research Seminar in Electrical Engineering, University of California, Santa Cruz, April 14, 2006.

77. G. Veronis and S. Fan, "Frequency-Domain Approach for Photonic Crystals and Plasmonics," International Workshop on Optical Waveguide Theory and Numerical Modeling, Varese, Italy, April 2006.

78. S. Fan, H. Shin, X. Yu, W. Lau and Z. Wang, "In-Plane Photonic Crystal and Nano-photonic Devices," Conference on Lasers and Electro-Optics (CLEO), Long Beach, CA, May 2006.

79. S. Fan and Z. Wang, "Wavelength-Scale Non-Reciprocal Devices in Two-Dimensional Magneto-Optical Photonic Crystals," MORIS Workshop on Thermal and Optical Magnetic Materials and Devices, Chiba, Japan, June 2006.

80. S. Fan, M. F. Yanik, S. Sandhu, M. Povinelli, Z. Wang, and H. Shin, "Photonic

Crystals and Plasmonic Devices," The 7th International Conference on the Electrical Transport and Optical Properties of Inhomogeneous Media (ETOPIM 7), Sydney, Australia, July 2006.

81. S. Fan, "Photonic Crystals", Short Course on Principles of Advanced Electromagnetic Materials, the MITRE Corporation, McLean, Virginia, July 2006.

82. S. Fan, M. F. Yanik, S. Sandhu, M. Povinelli, "Slow Light in Photonic Crystals," OSA Topical Meeting on Slow and Fast Light, Washington, DC, July 2006.

83. S. Fan, M. F. Yanik, S. Sandhu, M. Povinelli, H. Shin, Z. Wang, "Manipulating Light with Photonic Crystals and Plasmonic Devices," SPIE Annual Meeting, San Diego, California, August 2006.

84. S. Fan, "Introduction to Photonic Crystals", CFN Summer School on Nanophotonics, Bad Herrenalb, Germany, August 2006.

85. S. Fan, S. Sandhu, M. Povinelli, M. F. Yanik, Z. Wang, and G. Veronis, "Device Applications of Photonic Crystals and Plasmonics," Asia-Pacific Optical Communications (APOC), Kwangju, Korea, September 2006.

86. S. Fan and G. Veronis, "Broadband Nanoscale Light Propagation in Plasmonic Structures", Workshop on Nanoscale Energy Conversion and Information Processing Devices, Nice, France, September 2006.

87. S. Fan, "Photonic Bands, Non-reciprocity, and Plasmons", Frontiers in Optics 2006, the 90th OSA Annual Meeting, Rochester, New York, October 2006.

88. S. Fan, "Nanophotonics Circuits", IEEE GlobeComm 2006, San Francisco, November 2006.

89. J. T. Shen and S. Fan, "Coherent few-photon quantum transport in one-dimensional systems", Advanced Optical and Quantum Memories and Computing IV, Photonics West, San Jose, California, January, 2007.

90. M. L. Povinelli, S. Sandhu, J. –T. Shen, M. F. Yanik, and S. Fan, "Dynamically-tuned microresonator complexes", Laser Resonators and Beam Control IX, Photonics West, San Jose, California, January 2007.

91. S. Fan, "New properties of light at wavelength and sub-wavelength scales", DARPA Advanced Material Research Institute (AMRI) University of New Orleans (UNO) Review and Symposium, New Orleans, Louisiana, February 2007.

92. S. Fan, "Stopping and storage of light in photonic crystals", Slow Light Workshop, Optical Fiber Communication Conference (OFC), Anaheim, California, March 2007.

93. S. Fan, "Stopping light and photon-photon interaction in photonic crystals",

French-California Nanophotonics Workshop, Stanford, California, March 2007.

94. S. Fan and J. T. Shen, "Strongly correlated multi-photon transport in photonic crystal waveguide coupled to two-level system", International Symposium on Photonic and Electromagnetic Crystal Structures (PECS VII), Monterey, California, April 2007.

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109. S. Fan, "Nanoscale waveguides, metal slots, and switches", Computing of the Future Workshop, San Francisco, February 2008.

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