

Alvin Katz

Education

B.S. Physics City College of New York 1980
Ph.D. Physics City University of New York 1988

Employment History

1988 – 1991 Research Associate – Research Foundation of the City University of New York
1991 – 1994 Research Scientist – SCS Telecom, Port Washington, NY
1994 – 2001 Research Associate – Research Foundation of the City University of New York
2001 – Research Associate – The City College of New York

Publications

1. M. Xu and A. Katz, “Statistical interpretation of light anomalous diffraction by small particles and its applications in bio-agent detection and monitoring,” in **Light Scattering Reviews 3**, Alexander Kokhanovsky ed. (Springer, Chichester, UK, 2008), pp. 27-68.
2. A. Alimova, A. Katz, V. Sriramoju, Y. Budansky, A. A. Bykov, R. Zeylikovich and R. R. Alfano, “Hybrid phosphorescence and fluorescence native spectroscopy for breast cancer detection,” *Journal of Biomedical Optics* **12**(1), 014004-014006 (2007).
3. A. Alimova, A. Katz, P. Gottlieb and R. R. Alfano, “Proteins and dipicolinic acid released during heat shock activation of *Bacillus subtilis* spores probed by optical spectroscopy,” *Appl Opt* **45**(3), 445-450 (2006).
4. A. Alimova, M. Roberts, A. Katz, E. Rudolph, J. C. Steiner, R. R. Alfano, and P. Gottlieb, “Effects of Smectite Clay on Biofilm Formation by Microorganisms,” *Biofilms* **3**, 47-54 (2006).
5. L. Wang, G. Zhang, J. C. Luo, F. Zeng, Q. Z. Wang, S. A. Alfano, A. Katz, M. Zevallos and R. R. Alfano, “Wireless spectroscopic compact photonic explorer for diagnostic optical imaging,” *Biomed Microdevices* **7**(2), 111-115 (2005).
6. A. Katz, A. Alimova, M. Xu, P. Gottlieb, E. Rudolph, J. C. Steiner and R. R. Alfano, “In situ determination of refractive index and size of *Bacillus* spores by light transmission,” *Opt Lett* **30**(6), 589-591 (2005).
7. A. Alimova, A. Katz, M. Siddique, G. Minko, H. E. Savage, M. K. Shah, R. B. Rosen and R. R. Alfano, “Native fluorescence changes induced by bactericidal agents,” *Sensors Journal, IEEE* **5**(4), 704-711 (2005).
8. A. Alimova, A. Katz, R. Podder, G. Minko, H. Wei, J. Berriman, R. R. Alfano and P. Gottlieb, “Virus particles and receptor interaction monitored by fluorescence spectroscopy,” *Photochem Photobiol* **81**(4), 879-883 (2005).
9. H. E. Savage, R. K. Halder, U. Kartazayeu, R. B. Rosen, T. Gayen, S. A. McCormick, N. S. Patel, A. Katz, H. D. Perry, M. Paul and R. R. Alfano, “NIR laser tissue welding of in vitro porcine cornea and sclera tissue,” *Lasers Surg Med* **35**(4), 293-303 (2004).
10. M. J. Pitman, J. M. Rosenthal, H. E. Savage, G. Yu, S. A. McCormick, A. Katz, R. R. Alfano and S. P. Schantz, “The fluorescence of thyroid tissue,” *Otolaryngol Head Neck Surg* **131**(5), 623-627 (2004).
11. A. Alimova, A. Katz, R. Podder, G. Minko, H. Wei, R. R. Alfano and P. Gottlieb, “Virus particles monitored by fluorescence spectroscopy: a potential detection assay for macromolecular assembly,” *Photochem Photobiol* **80**, 41-46 (2004).
12. A. Katz, E. F. Kruger, G. Minko, C. H. Liu, R. B. Rosen and R. R. Alfano, “Detection of Glutamate in the Eye by Raman Spectroscopy,” *Journal of Biomedical Optics* **8**(2), 167-172 (2003).
13. A. Katz, A. Alimova, M. Xu, E. Rudolph, M. Shah, H. Savage, R. Rosen, S. A. McCormick and R. R. Alfano, “Bacteria Size Determination by Elastic Light Scattering,” *IEEE Journal of Selected Topics in Quantum Electronics* **9**(2), 277-287 (2003).

14. T. K. Gayen, A. Katz, H. E. Savage, S. A. McCormick, M. Al-Rubaiee, Y. Budansky, J. Lee and R. R. Alfano, "Aorta and Skin Tissues Welded By Near-Infrared Cr^{4+} :YAG Laser," *Journal of Clinical Laser Medicine & Surgery* **21**(5), 259-269, (2003).
15. A. Alimova, A. Katz, H. E. Savage, M. Shah, G. Minko, D. V. Will, R. B. Rosen, S. A. McCormick and R. R. Alfano, "Native Fluorescence and Excitation Spectroscopic Changes in *Bacillus subtilis* and *Staphylococcus aureus* Bacteria Subjected to Conditions of Starvation," *Applied Optics* **42**(19), 4090-4087 (2003).
16. G. Zhang, A. Katz, R. R. Alfano, A. D. Kofinas, D. A. Kofinas, P. G. Stubblefield, W. Rosenfeld, D. Beyer, D. Maulik and M. R. Stankovic, "Brain perfusion monitoring with frequency-domain and continuous-wave near-infrared spectroscopy: a cross-correlation study in newborn piglets," *Phys Med Biol* **45**(11), 3143-3158. (2000).
17. G. C. Tang, J. T. Chen, A. Katz, E. J. Celmer, R. W. Krumm and R. R. Alfano, "Ultraviolet-visible acousto-optic tunable spectroscopic imager for medical diagnosis," *Journal of Biomedical Optics* **3**(1), 80-84 (1998).
18. S. P. Schantz, V. Kolli, H. E. Savage, G. Yu, J. P. Shah, D. Harris, A. Katz, R. R. Alfano and A. G. Huvos, "In Vivo Native Cellular Fluorescence and Histological Characteristics of Head and Neck Cancer," *Clinical Cancer Research* **4**, 1177-1182 (1998).
19. S. Ganesan, P. G. Sacks, Y. Yang, A. Katz, M. Al-Rawi, H. E. Savage, S. P. Schantz and R. R. Alfano, "Native fluorescence spectroscopy of normal and malignant epithelial cells," *Cancer Biochem Biophys* **16**(4), 365-373 (1998).
20. J. C. Zhang, H. E. Savage, P. G. Sacks, T. Delohery, R. R. Alfano, A. Katz and S. P. Schantz, "Innate cellular fluorescence reflects alterations in cellular proliferation," *Lasers Surg Med* **20**(3), 319-331 (1997).
21. Y. Yang, A. Katz, E. J. Celmer, M. Zurawska-Szczepaniak and R. R. Alfano, "Fundamental differences of excitation spectrum between malignant and benign breast tissues," *Photochem Photobiol* **66**(4), 518-522 (1997).
22. Y. Guo, Q. Z. Wang, N. Zhadin, F. Liu, S. Demos, D. Calistru, A. Tirkslionas, A. Katz, Y. Budansky, P. P. Ho and R. R. Alfano, "Two-photon excitation of fluorescence from chicken tissue," *Applied Optics* **36**(4), 968-970 (1997).
23. Y. Yang, A. Katz, E. J. Celmer, M. Zurawska-Szczepaniak and R. R. Alfano, "Optical spectroscopy of benign and malignant breast tissues," *Lasers in the Life Sciences* **7**(2), 115-127 (1996).
24. Y. Zhang, E. Kanterakis, A. Katz and J.-M. Wang, "Optoelectronic wavelet processors based on Smartt interferometry," *Applied Optics* **33**(23), 5279-5286 (1994).
25. J.-M. Wang, E. Kanterakis, A. Katz, Y. Zhang, L. Yao and N. Murray, "High-speed free-space interconnect based on optical ring topology: experimental demonstration," *Applied Optics* **33**(26), 6181-6187 (1994).
26. Y. Zhang, L. Yao, E. G. Kanterakis, A. Katz, X. J. Lu, R. Tolimieri and N. P. Caviris, "Optical realization of wavelet transform for a one-dimensional signal," *Optics Letters* **17**(3), 210-212 (1992).
27. L. Yao, B. Ha, T. Wang, S. Wang, A. Katz, X. J. Lu and E. Kanterakis, "Ring-array processor distribution topology for optical interconnects," *Applied Optics* **31**(26), 5548-5558 (1992).
28. X. J. Lu, A. Katz, E. G. Kanterakis, Yao Li, Y. Zhang and N. P. Caviris, "Image analysis via optical wavelet transform," *Optics Communications* **92**(4-6), 337-345 (1992).
29. A. Katz and R. R. Alfano, "Intervalley scattering rates in GaAs measured by time-resolved four-wave mixing spectroscopy," *Applied Physics Letters* **53**(12), 1065-1067 (1988).
30. P.-P. Ho, W. Lam, A. Katz, Y. Shing-Shwang and R. Alfano, "Temperature dependence of the ultrafast photoluminescence kinetics from the magnetic semiconductors $CdCr_2Se_4$ excited by femtosecond laser pulse," *Quantum Electronics, IEEE Journal of* **22**(1), 205 (1986).
31. P. P. Ho, A. Katz, R. R. Alfano and N. Schiller, "Time Response of Ultrafast Streak Camera System using Femtosecond Laser Pulses," *Optics Communications* **54**(1), 57-62 (1985).
32. P. P. Ho, R. R. Alfano, T. Yang, A. Katz and R. Ferrante, "Femtosecond Laser Pulse Compression using Volume Phase Transmission Holograms," *Applied Optics* **24**(13), 2021-2023 (1985).

33. D. Rosen, A. Doukas, A. Katz, Y. Budansky and R. R. Alfano, "Techniques in Time Resolved Luminescence Spectroscopy," in **Semiconductors Probed by Ultrafast Laser Spectroscopy** R. R. Alfano, Ed., p. 393, Academic Press, New York (1985).
34. J. T. Manassah, P. P. Ho, A. Katz, and R. R. Alfano, "Ultrafast Supercontinuum Laser Source," *Photonics*, 53-59 (1984).
35. J. Buchert, A. Katz and R. Alfano, "Laser action in emerald," *Quantum Electronics, IEEE Journal of* **19**(10), 1477 (1983).
36. A. Katz and R. R. Alfano, "Pulse Propagation in an Absorbing Medium," *Phys Rev Lett* **49**(17), 1292 (1982).
37. A. Kalpaxis, A. G. Doukas, Y. Budansky, D. L. Rosen, A. Katz and R. R. Alfano, "Description of an Electronic Controller used with an Autocorrelator to Measure a Femtosecond Pulse Duration in Real Time," *Rev Sci Instr* **53**(7), 960 (1982).
38. D. L. Rosen, A. G. Doukas, Y. Budansky, A. Katz and R. R. Alfano, "Time-Resolved Luminescence of Photoexcited p-type Gallium Arsenide by Population Mixing," *Appl Phys Lett* **39**(12), 935-937 (1981).
39. D. L. Rosen, A. G. Doukas, Y. Budansky, A. Katz and R. R. Alfano, "A Subpicosecond Tunable Ring Dye Laser and its Applications to Time Resolved Spectroscopy," *IEEE J. Quant Electron* **QE17**(12), 2264-2266 (1981).
40. D. Rosen, A. G. Doukas, Y. Budansky, A. Katz and R. R. Alfano, "Time resolved luminescence of photoexcited p-type gallium arsenide by population mixing," *Applied Physics Letters* **39**(12), 935 (1981).

Conference Proceedings

1. V. Sriramoju, H. E. Savage, A. Katz, R. Chakraverty, Y. Budansky, R. Podder, N. Davatgarzadeh, U. Kartazayev, R. B. Rosen, and R. R. Alfano, "NIR-laser tissue welding in an in vivo guinea pig animal model," in *Optical Interaction with Tissues and Cells XIX*, (SPIE Proceedings, 2008), 685401-685405.
2. V. Sriramoju, A. Alimova, R. Chakraverty, A. Katz, S. K. Gayen, L. Larsson, H. E. Savage, and R. R. Alfano, "Raman spectroscopic study of acute oxidative stress induced changes in mice skeletal muscles," in *Biomedical Optical Spectroscopy*, (SPIE Proceedings, 2008), 685311-685315.
3. J. C. Steiner, A. Alimova, A. Katz, N. Steiner, E. Rudolph, and P. Gottlieb, "Clay-Bacteria Systems and Biofilm Production," in *AGU Annual Meeting*, (San Francisco, 2007).
4. Zeylikovich, G. C. Tang, A. Katz, Y. Budansky and R. R. Alfano, "Fluorescence-based micro-endoscopes for breast cancer ductoscopy," in *Optical Biopsy VI* A. K. a. R. R. Alfano, Ed., pp. 1-4, SPIE Proceedings, San Jose, CA (2006).
5. V. Sriramoju, H. E. Savage, R. Halder, R. B. Rosen, A. Katz and R. R. Alfano, "Heat management prevents tissue buckling and collateral damage in NIR-laser welding," in *Photonic Therapeutics and Diagnostics II* H. Z. Nikiforos Kollias M.D., Bernard Choi, Reza S. Malek M.D., Brian J. Wong M.D., Justus F. Ilgner M.D., Eugene A. Trowers M.D., Werner T. de Riese, Kenton W. Gregory M.D., Guillermo J. Tearney M.D., Laura Marcu, Henry Hirschberg M.D., Steen J. Madsen, Michael D. Lucroy D.V.M., Lloyd P. Tate V.D.M., Ed., pp. 168-171, SPIE Proc., San Jose, CA (2006).
6. A. Alimova, A. Katz, V. Sriramoju, Y. Budansky, A. A. Bykov, R. Zeylikovich and A. R. R., "Hybrid native phosphorescence and fluorescence spectroscopy for cancer detection," in *Optical Biopsy VI* A. Katz and R. R. Alfano, Eds., pp. 22-25, SPIE Proc., San Jose, CA (2006).
7. A. Alimova, K. Block, E. Rudolph, A. Katz, J. C. Steiner, P. Gottlieb and R. R. Alfano, "Bacteria-clay interactions investigated by light scattering and phase contrast microscopy " in *Optical Diagnostics and Sensing VI* G. L. Coté and A. V. Priezhev, Eds., pp. 76-79, SPIE Proc., San Jose, CA (2006).
8. B. Yu, A. Alimova, A. Katz and R. R. Alfano, "THz absorption spectrum of Bacillus subtilis spores," in *Terahertz and Gigahertz Electronics and Photonics IV* R. J. Hwu and K. J. Linden, Eds., pp. 20-23, SPIE Proceedings, San Jose, CA (2005).
9. R. B. Rosen, H. E. Savage, R. K. Halder, U. Kartazayev, S. A. McCormick, A. Katz, H. D. Perry and R. R. Alfano, "In vitro NIR laser tissue welding of porcine ocular tissues," in *Photonic Therapeutics and Diagnostics L* S. B. Kenneth E. Bartels, Werner T. de Riese, Kenton W. Gregory, Henry Hirschberg, Abraham Katzir, Nikiforos Kollias, Steen J. Madsen, Reza S. Malek, Karen M. McNally-Heintzelman,

- Lloyd P. Tate, Jr., Eugene A. Trowers, Brian Jet-Fei Wong; Eds., Ed., pp. 248-252, SPIE Proceedings, San Jose, CA (2005).
10. R. B. Rosen, H. E. Savage, R. K. Halder, U. Kartazayeu, S. A. McCormick, A. Katz, H. D. Perry and R. R. Alfano, "In vitro NIR laser tissue welding of porcine ocular tissues," in *Photonic Therapeutics and Diagnostics*, p. 248, SPIE, San Jose, CA, USA (2005).
 11. N. S. Patel, H. E. Savage, R. B. Rosen, R. K. Halder, U. Kartazayeu, S. A. McCormick, A. Katz, H. D. Perry and R. R. Alfano, "Optimization of near-infrared laser tissue welding of porcine cornea: a Monte Carlo-aided dosimetry study," in *Photonic Therapeutics and Diagnostics*, p. 256, SPIE, San Jose, CA, USA (2005).
 12. M. Niebauer, A. Alimova, A. Katz, M. Xu, E. Rudolph, J. C. Steiner and R. R. Alfano, "Detection of Biomass in New York City Aerosols: Light Scattering and Optical Fluorescence Techniques," in *EOS Trans Fall Meeting Suppl. B53B-03*, AGU (2005).
 13. A. Katz, A. Alimova, M. Xu, E. Rudolph, P. Gottlieb, J. C. Steiner and R. R. Alfano, "Refractive index changes during germination of bacillus subtilis spores," in *Advanced Biomedical and Clinical Diagnostic Systems III* T. Vo-Dinh, W. S. Grundfest, D. A. Benaron and G. E. Cohn, Eds., pp. 326-329, SPIE Proceedings, San Jose, CA (2005).
 14. R. K. Halder, A. Katz, H. E. Savage, V. Kartazayev, S. A. McCormick, Y. Budansky, M. Paul, R. B. Rosen and R. R. Alfano, "Laser skin welding using water absorption and heat management," in *Photonic Therapeutics and Diagnostics*, p. 253, SPIE, San Jose, CA, USA (2005).
 15. R. K. Halder, A. Katz, H. E. Savage, U. Kartazayev, S. A. McCormick, Y. Budansky, M. Paul, R. B. Rosen and R. R. Alfano, "Laser skin welding using water absorption and heat management," in *Photonic Therapeutics and Diagnostics* L. S. B. Kenneth E. Bartels, Werner T. de Riese, Kenton W. Gregory, Henry Hirschberg, Abraham Katzir, Nikiforos Kollias, Steen J. Madsen, Reza S. Malek, Karen M. McNally-Heintzelman, Lloyd P. Tate, Jr., Eugene A. Trowers, Brian Jet-Fei Wong; Eds., Ed., pp. 253-255, SPIE Proceedings, San Jose, CA (2005).
 16. A. Alimova, A. Katz, M. Paul, E. Rudolph, P. Gottlieb, J. C. Steiner and R. R. Alfano, "Fluorescence detection of proteins released by Bacillus subtilis spores during heat shock germination," in *Advanced Biomedical and Clinical Diagnostic Systems III* T. Vo-Dinh, W. S. Grundfest, D. A. Benaron and G. E. Cohn, Eds., pp. 337-340, SPIE Proceedings, San Jose, CA (2005).
 17. G. Zhang, L. Wnag, Q. Z. Wang, M. Zwvallos, Y. Budansky, S. Alfano, A. Katz and R. R. Alfano, "Technical feasibility evaluation of fluorescence signal detection by compact photonic explorer for better health," in *Novel Optical Systems Design and Optimization VII* R. J. K. Jose M. Sasian, Paul K. Manhart, Richard C. Juergens; Eds., Ed., pp. 405-408, SPIE Proceedings, San Diego, CA (2004).
 18. G. Zhang, L. Wang, Q. Z. Wang, J. C. Luo, F. Zeng, M. Zevallos, Y. Budansky, S. Alfano, A. Katz and R. R. Alfano, "Technical feasibility evaluation of fluorescence signal detection by compact photonic explorer for better health," in *Novel Optical Systems Design and Optimization VII*, p. 405, SPIE, Denver, CO, USA (2004).
 19. R. B. Rosen, H. E. Savage, R. K. Halder, U. Kartazayeu, T. K. Gayen, S. A. McCormick, A. Katz, H. D. Perry and R. R. Alfano, "NIR laser tissue welding of in vitro porcine of cornea and sclera tissue," in *Lasers in Surgery: Advanced Characterization, Therapeutics, and Systems XIV*, p. 186, SPIE, San Jose, CA, USA (2004).
 20. A. Katz, A. Alimova, M. Siddique, H. E. Savage, M. Shah, R. Rosen and R. Alfano, "Time-resolved and steady-state fluorescence spectroscopy from bacteria subjected to bactericidal agents," in *Chemical and Biological Point Sensors for Homeland Defense*, p. 217, SPIE, Providence, RI, USA (2004).
 21. A. Katz, A. Alimova, P. Gottlieb, R. Podder, G. Minko, H. Wei and R. R. Alfano, "Virus-host interaction probed by native Stokes shift fluorescence," in *Biomedical Vibrational Spectroscopy and Biohazard Detection Technologies* M. G. S. Anita Mahadevan-Jansen, Gerwin J. Puppels, Zygmunt Gryczynski, Tuan Vo-Dinh, Joseph R. Lakowicz; Eds., Ed., pp. 289-292, SPIE Proceedings, San Jose, CA (2004).
 22. A. Katz and R. R. Alfano, "Stokes shift spectroscopy for biomedical applications and bio-agent sensing," in *IEEE LEOS Summer Topicals*, p. 2 pp., San Diego, CA (2004).

23. A. Katz, A. Alimova, M. Xu, H. E. Savage, M. Shah, R. B. Rosen and R. R. Alfano, "In situ Identification of bacteria by light scattering," in Optical Diagnostics and Sensing III A. V. Priezzhev and G. L. Cote, Eds., Vol 4965, p. 73-76, SPIE Proceedings, San Jose, CA (2003).
24. A. Katz, A. Alimova, M. Xu, E. Rudolph, H. E. Savage, M. Shah, S. A. McCormick, R. B. Rosen and R. R. Alfano, "In situ identification of bacteria size by light scattering," in Optical Diagnostics and Sensing in Biomedicine III, pp. 73-76, SPIE, San Jose, CA, USA (2003).
25. A. Katz, A. Alimova, M. Siddique, H. E. Savage, M. Shah, R. Rosen and R. Alfano, "Time-resolved and steady-state fluorescence spectroscopy from bacteria subjected to bactericidal agents," in Chemical and Biological Point Sensors for Homeland Defense, pp. 217-220, SPIE, Providence, RI, USA (2003).
26. A. Katz, A. Alimova, G. Minko, H. E. Savage, D. V. Will, M. Shah, R. B. Rosen and R. R. Alfano, "In situ changes in native fluorescence from *Bacillus subtilis* during endospore formation," in Optical Diagnostics and Sensing in Biomedicine III A. V. Priezzhev and G. L. Cote, Eds., pp. 134-137, SPIE Proceedings, San Jose, CA (2003).
27. A. Katz, A. Alimova, G. Minko, C. H. Liu, T. K. Gayen, H. E. Savage, R. K. Halder, S. A. McCormick and R. R. Alfano, "Raman and fluorescence spectroscopic evaluation of NIR laser welded human and porcine aorta tissues," in Lasers in Surgery: Advanced Characterization, Therapeutics, and Systems XIII, p. 150, SPIE, San Jose, CA, USA (2003).
28. T. K. Gayen, A. Katz, H. E. Savage, J. Lee, M. Paul, R. K. Halder, S. A. McCormick and R. R. Alfano, "Near-infrared laser welding of aortic and skin tissues and microscopic investigation of welding efficacy," in Lasers in Surgery: Advanced Characterization, Therapeutics, and Systems XIII, p. 182, SPIE, San Jose, CA, USA (2003).
29. A. Katz, H. E. Savage, S. P. Schantz, S. A. McCormick and R. R. Alfano, "Noninvasive Native Fluorescence Imaging of Head and Neck Tumors," Technology in Cancer Research and Treatment 1(1), 9-16 (2002).
30. A. Katz, T. K. Gayen, G. Minko, A. Alimova, H. E. Savage, S. A. McCormick and R. R. Alfano, "Noninvasive fluorescence and Raman spectroscopic analysis of laser welded aorta and skin tissue," in Optical Biopsy IV R. R. Alfano, Ed., pp. 48-50, SPIE Proceedings, San Jose, CA (2002).
31. T. K. Gayen, A. Katz, Y. Budansky, J. M. Evans, H. E. Savage, S. A. McCormick and R. R. Alfano, "Near- Infrared Welding of Aorta and Skin Tissues Using a Cr⁴⁺: YAG Laser," in Lasers in Surgery: Advanced Characterization, Therapeutics, and Systems XII A. Katzir, Ed., p. 212, SPIE Proceedings, San Jose, CA (2002).
32. G. C. Tang, A. Katz, Y. Budansky and R. R. Alfano, "Optic fiber needle to probe inside the body using fluorescence ratio method," in Optical Sensing, Imaging, and Manipulation for Biological and Biomedical Applications R. R. Alfano, P.-P. Ho and A. E. T. Chiou, Eds., pp. 140-143, SPIE Proceedings (2000).
33. A. Katz, H. E. Savage, F. Zeng, J. Rome, S. P. Schantz, S. A. McCormick, R. S. Cocker and R. R. Alfano, "Ultraviolet 2D fluorescence mapping system for the imaging of head and neck tumors," in Optical Biopsy III, p. 146, SPIE, San Jose, CA, USA (2000).
34. A. Katz, H. E. Savage, Y. Yang, F. Zeng, J. Rome, S. A. McCormick, R. S. Cocker, Y. Yu and R. R. Alfano, "Ultraviolet and blue 2-D fluorescence mapping of gynecological tissues," in Optical Biopsy III R. R. Alfano, Ed., SPIE Proceedings, San Jose, CA (2000).
35. A. Katz, H. E. Savage, Y. Yang, F. Zeng, J. Rome, S. A. McCormick, R. S. Cocker, Y. Yu and R. R. Alfano, "Ultraviolet and blue 2D fluorescence mapping of gynecological tissues," in Optical Biopsy III, p. 200, SPIE, San Jose, CA, USA (2000).
36. A. Katz, E. F. Kruger, G. Minko, C. H. Liu, R. B. Rosen and R. R. Alfano, "Detection of glutamate in the eye by Raman spectroscopy," in Optical Devices and Diagnostics in Materials Science D. L. Andrews and T. Asakura, Eds., pp. 169-171, SPIE, San Diego, CA (2000).
37. A. Katz and R. R. Alfano, "Fluorescence-based instrumentation for cancer detection," in In-Vitro Diagnostic Instrumentation R. R. Alfano, Ed., SPIE Proceedings, San Jose, CA (2000).
38. R. R. Alfano and A. Katz, "Noninvasive fluorescence-based instrumentation for cancer and precancer detection and screening," in In-Vitro Diagnostic Instrumentation, p. 223, SPIE, San Jose, CA, USA (2000).

39. A. Katz, H. E. Savage, M. Chu, P. M. Basuk, N. Altorki, T. Godwin, S. A. McCormick and R. R. Alfano, "Investigation of Barrett's esophagus by ultraviolet and visible fluorescence emission and excitation spectroscopy," in *Optical Tomography and Spectroscopy of Tissue III* B. Chance, R. R. Alfano and B. J. Tromberg, Eds., SPIE Proceedings, San Jose (1999).
40. Y. Yang, A. Katz, E. J. Celmer, J. A. Koutcher and R. R. Alfano, "Excitation Spectroscopy of Proteins in Malignant and Benign Tissues," in *Biomedical Optical Spectroscopy and Diagnostics / Therapeutic Laser Applications* E. M. Sevick-Muraca, J. A. Izatt and M. N. Ediger, Eds., Orlando, Florida (1998).
41. G. C. Tang, A. Katz, Y. Budansky and R. R. Alfano, "Optic fiber needle endoscope based ratiometer for tumor targeting," in *TOPS Vol. 22, Biomedical Optical Spectroscopy and Diagnostics (1998) / Therapeutic Laser Applications* E. Sevick-Muraca, J. Izatt, A. and M. N. Ediger, Eds., p. 176, OSA TOPS, Orlando, FL (1998).
42. A. Katz, H. E. Savage, F. Zeng, J. Rone, G. C. Tang, D. Harris, J. A. Koutcher, S. P. Schantz and R. R. Alfano, "Fluorescence ratio mapping system for tissue diagnosis," in *Optical Biopsy II*, p. 64, SPIE, San Jose, CA, USA (1998).
43. G. C. Tang, A. Katz, Y. Budansky, R. Krumm and R. R. Alfano, "Fluorescence Optic Fiber Stereotactic Needle Ratiometer for Breast Tumor Diagnosis," in *DoD Breast Cancer Research Program Meeting*, Washington D.C. (1997).
44. Y.-L. Yang, A. Katz, E. J. Celmer, M. Zurawska-Szczepaniak and R. R. Alfano, "Optical spectroscopy of benign and malignant breast tissues," in *Advances in Laser and Light Spectroscopy to Diagnose Cancer and Other Diseases III: Optical Biopsy* R. R. Alfano, Ed., pp. 51-54, SPIE Proceedings, San Jose, CA (1996).
45. G. C. Tang, J. T. Chen, A. Katz and R. R. Alfano, "Spectral Image using Acousto-Optic Tunable Filter," in *OSA Annual Meeting/ILS-XII/Optics & Imaging in the Information Age*, Rochester, NY (1996).
46. H. E. Savage, A. Katz, D. Harris, S. Ganesan, R. R. Alfano and S. P. Schantz, "The hamster skin and DMBA-treated cheek pouch as in vivo models to study native cellular and tissue fluorescence," in *4th International Conference on Head and Neck Cancer*, p. 177, Toronto (1996).
47. A. Katz, Y. Yang, E. J. Celmer, M. Zurawska-Szczepaniak and R. R. Alfano, "Fourier Diagnostic Analysis of Fluorescence Spectra from Normal and Malignant Breast Tissues," in *OSA TOPS on Biomedical Optical Spectroscopy and Diagnostics* D. Benaron, A. and E. M. Sevick-Muraca, Eds., p. 136, Orlando, Florida (1996).
48. A. Katz, S. Ganesan, Y. Yang, G. C. Tang, Y. Budansky, E. J. Celmer, H. E. Savage, S. P. Schantz and R. R. Alfano, "Optical biopsy fiber-based fluorescence spectroscopy instrumentation," in *Advances in Laser and Light Spectroscopy to Diagnose Cancer and Other Diseases III: Optical Biopsy*, p. 118, SPIE, San Jose, CA, USA (1996).
49. A. Katz and R. R. Alfano, "Optical Biopsy-Detecting Cancer with Light," in *OSA TOPS on Biomedical Optical Spectroscopy and Diagnostics* D. A. Benaron and E. M. Sevick-Muraca, Eds., p. 132, Orlando, Florida (1996).
50. A. Katz and R. R. Alfano, "Photonic Pathology - Fluorescence and Raman Spectroscopy for Tissue Diagnosis and Characterization," in *Analytical Use of Fluorescent Probes in Oncology* Kohen and Hirschberg, Eds., Plenum Press, New York (1996).
51. A. Katz and R. R. Alfano, "Advances in Optical Biopsy Diagnostic Instrumentation (Invited)," in *OSA Annual Meeting/ILS-XII/Optics & Imaging in the Information Age*, Rochester, NY (1996).
52. J.-M. Wang, E. Kanterakis, A. Katz, Y. Zhang and L. Yao, "Design and implementation of a ring array optical interconnect for SIMD machines," in *Optical Computing. Proceedings of the International Conference* B. S. C. Wherrett, P., Ed., pp. 173-176, Edinburgh, UK (1995).
53. J.-M. Wang, E. Kanterakis, A. Katz, Y. Zhang, L. Yao and N. Murray, "Experimental demonstration of a high speed free space interconnect based on optical ring topology," in *Advances in Optical Information*, pp. 180-191, Proceedings of the SPIE - The International Society for Optical Engineering, Orlando, FL, USA (1994).

54. Y. Zhang, E. G. Kanterakis, A. Katz and J.-M. Wang, "Optical wavelet processor for wavelets defined in the time domain," in *Photonics for Processors, Neural Networks, and Memories*, pp. 371-378, Proceedings of the SPIE - The International Society for Optical Engineering, San Diego, CA (1993).
55. Y. Zhang, E. Kanterakis, G., A. Katz and J. Wang, M., "Smartt interferometry-based optical wavelet transform and reconstruction," in *Visual Information Processing II* O. H. Friedrich and D. J. Richard, Eds., pp. 344-353, SPIE Proc., San Jose, CA (1993).
56. Y. Zhang, Yao Li, R. Tolimieri, E. G. Kanterakis, A. Katz, X. J. Lu and N. P. Caviris, "Opto-electronic Gabor detector for transient signals," in *Signal and Data Processing of Small*, SPIE, Orlando, FL, USA (1991).
57. A. Katz and R. R. Alfano, "L to Γ Intervalley Scattering Time in GaAs measured by Time Resolved FourWave Mixing," in *Annual Meeting of the American Physical Society*, p. 833, AIP (1989).
58. A. Katz, P. Ryerson and R. R. Alfano, "Carrier Relaxation Dynamics in GaAs Heterostructures measured by Femtosecond Four-Wave Mixing Transient Gratings," in *Annual Meeting of the American Physical Society, Las Vegas, NV* (1986).
59. J. T. Manassah, P. P. Ho, A. Katz and R. R. Alfano, "Ultrafast Supercontinuum Laser Source," *Photonics* 53-59 (1984).
60. J. Buchert, A. Katz and R. R. Alfano, "Emerald - A New Gem Laser Material Laser Focus/Electro-Optics, 117 (1983)." *Laser Focus/Electro-Optics* 117((1983).
61. D. L. Rosen, A. G. Doukas, Y. Budansky, A. Katz and R. R. Alfano, "Recent Developments in Subpicosecond Fluorescence Spectroscopy," in *SPIE 25th Anniversary Meeting SPIE, Ed., Los Angeles, CA* (1982).
62. J. Buchert, A. Katz and R. R. Alfano, "Laser Action in Emerald," in *International Conference on Lasers '82*, p. 791 (1982).
63. D. L. Rosen, A. G. Doukas, Y. Budansky, A. Katz and R. R. Alfano, "Subpicosecond Tunable Laser Fluorescence Spectroscopy," in *Annual Meeting of the American Physical Society, New York, NY* (1981).