

Curriculum Vitae of Chandra S Yelleswarapu

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EDUCATION

B.Sc., Mathematics, Physics, Electronics, Osmania University, India, 1990

M.Sc., Electronics, Nagarjuna University, India, 1993

M.Phil., Physics; University of Hyderabad, India, 1994

Ph.D., Physics/Optics; Alabama A&M University, USA, May 2001

PROFESSIONAL POSITIONS (Postdoctoral)

Postdoctoral Research Associate, University of New Mexico, Albuquerque, NM, 2001-2002.

Senior Research Scientist, University of Massachusetts Boston, Boston, MA, 2002-2009.

Assistant Professor of Physics, University of Massachusetts at Boston, September 2009 – Present.

Visiting Assistant Professor, Molecular Imaging Program at Stanford, Department of Radiology, Stanford University. June 2012 – July 2012.

GRANTS

Design and development of a compact and rugged phase and fluorescence microscope for space utilization

Role: PI (Subcontract from EWE Inc, Huntsville, AL)

Type: NASA SBIR Select Phase I Period, \$200,000 (UMB share - \$62,700), June 2013 – November 2013

Design and Optimization of Molecular Photoacoustic Contrast Agents (MPACs) for In Vivo Imaging of Breast Cancer Tumors

Role: PI; Other PI's – Jonathan Rochford - Chemistry Department, Andrew Kung – Dana Farber Cancer Institute)

UMB-DFCI U54 Partnership Grant Pilot Proposal, \$134,000, September 1, 2012 – August 31, 2014.

Nonlinear photoacoustics for analysis of oxygen saturation in blood samples of anxious rats (Role: Co-PI)

Joseph P. Healey Research Grant, \$12,000, July 1, 2012 – June 30, 2013.

Fourier phase contrast microscopy for biomedical research (Role: Co-Investigator)

NCRR-NIH R21, \$380,000, September 2009 – August 2012.

Nano Porous Azobenzene Dendron Films for Laser Eye & Sensor Protection (Role: Co-PI)

US Army SBIR Phase II (with Ocean Nanotech, Fayetteville, AR) grant, \$384,000, January 2006 – December 2008.

All-optical Fourier Phase Contrast Microscope (Role: Co-PI)

UMASS CVIP Technology Award, \$30,000, May 2008 – April 2009.

Holographic Datastorage in Nano and MesoPAD Films (Role: PI)

University of Massachusetts Boston Proposal Development grant, \$7,000

RESEARCH INTERESTS

Biomedical Imaging and Sensing - applications of fiber Bragg gratings for optical biosensing and biomedical imaging, development of advanced optical microscopes/nanosopes for investigating live cell dynamics, Nonlinear photoacoustics, Medical imaging and image processing; Slow light, fast light and their applications; Nonlinear organic materials- characterization and applications; Holographic data storage; Laser eye and sensor protection; and Fiber optics – high power fiber lasers.

PATENTS

1. *Systems and methods of all-optical Fourier phase contrast imaging using dye doped liquid crystals*
Chandra S. Yelleswarapu, Sri-Rajasekhar Kothapalli, and D. V. G. L. N. Rao
US 7,738,047 B2, June 15, 2010
EP 2,275,851 A1 January 19, 2011
2. *Systems and methods of all-optical Fourier phase contrast imaging using dye doped liquid crystals – accessory*
Chandra S. Yelleswarapu, Sri-Rajasekhar Kothapalli, and D. V. G. L. N. Rao
US 7,880,820 B2, February 1, 2011.
EP 2,118,699 AO
3. *Phase based digital imaging*
Sri-Rajasekhar Kothapalli, Chandra S. Yelleswarapu, Pengfei Wu, and D. V. G. L. N. Rao
US 7,653,232 B2, January 2010.
4. *Systems and methods of dual plane digital holographic microscopy*
Bhargab Das, Chandra S. Yelleswarapu and D. V. G. L. N. Rao, United States Provisional Patent, Filed in September 2011.

CONSULTANT

East West Enterprise, Huntsville, AL.
Pressure BioSciences Inc., Boston, MA.

PROFESSIONAL ACTIVITIES

Refereed several articles for Applied Physics Letters, Optica Letters, Optics Express, Current Applied Physics, Material Chemistry and Physics, Current Applied Physics, Journal of Physical Chemistry, Journal of Selected Topics in Quantum Electronics, Optics Communications, IET Circuits and Devices, Photonics Technology Letters, Materials Research Bulletin.

Reviewed PhD thesis of Mr. Sharafudeen K.N., National Institute of Technology, Calicut, India.

Reviewed PhD thesis of Mr. Prasad Rao Talakonda, National Institute of Technology, Tiruchirappalli, India.

Review board member, "International Symposium on Optical Engineering and Photonic Technology."

Reviewed proposals for Natural Sciences and Engineering Research Council of Canada.

BOOK CHAPTERS

Holography in Bacteriorhodopsin Films for Medical Applications, Chandra S Yelleswarapu, Francisco J Aranda and D. V. G. L. N. Rao. Book chapter for "New Directions in Holography and Speckles" American Scientific Publishers (www.aspbs.com), Edited by H. John Caulfield and Chandra S. Vikram.

STUDENT ACTIVITIES

Graduate Students Master's Thesis/Internship Advising:

Current graduate students:

1. Mr. Samir Laoui (PhD student, enrolled at UMass Lowell)
2. Mr. Olivier Dantiste
3. Mr. Albert Kamanzi
4. Mr. Yuyu Li

Current undergraduate students:

1. Mr. Jeffrey La

Past graduate students:

5. Punitha Rajahram, "Photoacoustic studies of glucose – towards development of noninvasive glucose sensor," December 2011.
6. Long Tan, "Linear and Nonlinear Optical Properties of Mythlene Blue using Photoacoustic Z-scan Technique," July 14, 2011.
7. Rajendra Dulal, "Photoacoustic Z-scan in reflection mode," July 2010.

Undergraduate Student (*) Presentation at Research conferences:

1. Olivier A. Dantiste*, Punitha Rajahram, and Chandra S. Yelleswarapu, "Linear and nonlinear photoacoustic studies of glucose solution," Massachusetts Statewide Undergraduate Research Conference, UMass Amherst, April 27, 2012.
2. Andrew Caide*, Lawrence Rooney* and Chandra S Yelleswarapu, "Simultaneous recording of Photoacoustic Z-scan and optical Z-scan for the measurement of third-order nonlinear absorption coefficient," Massachusetts Statewide Undergraduate Research Conference, UMass Amherst, April 27, 2012.
3. Frank Kettering*, Bhargab Das, and Chandra S Yelleswarapu, "Dual-plane in-line holographic microscopy – simultaneous recording of in-line holograms to study fast dynamical processes," Massachusetts Statewide Undergraduate Research Conference, UMass Amherst, April 27, 2012.
4. Olivier A. Dantiste*, Punitha Rajahram, and Chandra S. Yelleswarapu, "Linear and nonlinear photoacoustic studies of glucose solution," New England Science Symposium, The Joseph B. Martin Conference Center at Harvard Medical School, Sunday, April 1, 2012
5. Olivier A. Dantiste*, Punitha Rajahram, and Chandra S. Yelleswarapu, "Linear and nonlinear photoacoustic studies of glucose solution," 4th Annual Northeast Undergraduate Research Development Symposium (NURDS 2012), at the University of New England, Biddeford, Maine, on March 10 and 11, 2012
6. Michael Boehm* presented his work "Nonlinear optical characteristic of clay nanomaterials," at the Massachusetts Statewide Undergraduate Research Conference, UMass Amherst, April 23, 2010.

INVITED TALKS

1. "Dual-plane in line digital holographic microscopy and its applications," Dalhousie University, March 21, 2013.
2. "Dual-plane in line digital holographic microscopy," 2012 Workshop on Information Optics, Quebec City, Canada, August 20 – 24, 2012.
3. "Third-order nonlinear optical studies using nonlinear Photoacoustics," 15th International Conference of Laser Optics 2012, St. Petersburg, Russia, June 24 – June 30, 2012.

4. "Measurement of third-order nonlinear absorption coefficient using photoacoustic Z-scan", Brookhaven National Laboratory, December 20, 2011.
5. "Nonlinear photoacoustics to measure third order nonlinear absorption coefficient", EPS Montreal International Forum Emerging Trends in Higher Education, Montreal, Quebec, Canada, November, 19-20, 2011. (did not attend due to lack of funds).
6. Seminar/Presentation, Photoacoustic Z-scan for nonlinear optical material characterization, National Institute of Technology Tiruchirappalli, India, Department of Physics, (August 18, 2011).
7. Colloquium presentation, Fourier phase contrast and multimodal optical microscopy, Sri Sathya Sai Institute of Higher Learning, Puttaparthi, India, Department of Physics, (August 11, 2011).
8. Colloquium presentation, Nonlinear Optical Studies using Nonlinear Photoacoustics, University of Hyderabad, Hyderabad, India, Advanced Center of Research in High Energy Materials, (August 8, 2011).
9. Colloquium presentation, Biomedical optical microscopy, McGill University, Montreal, Canada, Center for Applied Mathematics in Bioscience and Medicine, (May 17, 2011).
10. APS March Annual Meeting, March 10-14, 2008, New Orleans, Louisiana.

LIST OF PUBLICATIONS

Peer-Reviewed Journals

1. Ivan M. Kislyakov and Chandra S Yelleswarapu, "Nonlinear Scattering Studies of Carbon Black Suspensions using Photoacoustic Z-scan Technique," *Applied Physics Letters* (In press).
2. Bhargab Das, and Chandra S. Yelleswarapu, and D. V. G. L. N. Rao, "Parallel-quadrature phase-shifting digital holographic microscopy using polarization beam splitter," *Optics Communications* **285**, 4954–4960 (2012).
3. Bhargab Das, Chandra S. Yelleswarapu, and D. V. G. L. N. Rao, "Dual-channel in-line digital holographic double random phase encryption". *Optics Communications* **285**, 4262–4267 (2012).
4. Bhargab Das, Chandra S. Yelleswarapu, and D. V. G. L. N. Rao, "Quantitative phase microscopy using dual plane in-line digital holography." *Applied Optics* **51**, 1387-1395 (2012).
5. Chandra S. Yelleswarapu, and D. V. G. L. N. Rao, "Simple solutions to advance microscopy imaging. *International Innovation, Research Media Limited*," 89, (2011).
6. Chandra S. Yelleswarapu and D. V. G. L. N. Rao, "Photonic applications with photoanisotropic nanomaterials," *Optics and Spectroscopy* **11**, 238-244 (2011).
7. Bhargab Das and Chandra S. Yelleswarapu, "Dual plane in-line digital holographic microscopy," *Optics Letters* **35**, 3426-3428 (2010).
8. Chandra S. Yelleswarapu and Sri-Rajasekhar Kothapalli, "Nonlinear photoacoustics for measuring the nonlinear optical absorption coefficient," *Optics Express* **18**, 9020–9025 (2010).
9. Chandra S. Yelleswarapu, Guiru Gu, Elshad Abdullayev, Yuri Lvov and D.V.G.L.N.Rao, "Nonlinear optics of nontoxic nanomaterials," *Optics Communications* **283**, 438-441 (2010).
10. Chandra S Yelleswarapu, Marla Tipping, Alexey Veraksa, Sri-Rajasekhar Kothapalli and D.V.G.L.N. Rao, "Common Path Multi-modal Optical Microscopy," *Optics Letters*, **34**, 1243-1245 (2009).

11. Chandra S Yelleswarapu, Yuanliang Chu, Brian Kimball and D.V.G.L.N. Rao, "Enhancement of Photoinduced Polarization Rotation in Azobenzene Polymer Films," *Optics Communications* **282**, 2259-2262 (2009).
12. Chandra S Yelleswarapu, Samir Laoui, Reji Philip and D.V.G.L.N. Rao, "Coherent population oscillations and superluminal light in a protein complex," *Optics Express* **16**, 3844-3852 (2008).
13. Chandra S. Yelleswarapu, Sri-Rajasekhar Kothapalli, and D.V.G.L.N. Rao, "Optical Fourier techniques for medical image processing and phase contrast imaging," *Review Article, Optics Communications* **281**, 1876-1888 (2008).
14. Reji Philip, M. Anija, Chandra S. Yelleswarapu, and D.V.G.L.N. Rao, "Passive all-optical diode using asymmetric nonlinear absorption," *Applied Physics Letters* **91**, 1411181-141183 (2007).
15. Chandra S. Yelleswarapu, Reji Philip, Francisco J. Aranda, Brian R. Kimball, and D.V.G.L.N. Rao, "Slow light in bacteriorhodopsin solution using coherent population oscillations," *Optics Letters* **32**, 1788-1790 (2007).
Selected for the January 15, 2008 issue of Virtual Journal of Biological Physics Research
16. Chandra S. Yelleswarapu, Sri-Rajasekhar Kothapalli, Yvonne Vaillancourt, Francisco J. Aranda, Brian R. Kimball and D.V.G.L.N. Rao, "Phase contrast imaging using photo-thermally induced phase transitions in liquid crystals," *Applied Physics Letters* **89**, 2111161-2111163 (2006).
Selected for "Optics 2007" by Optics & Photonics News.
17. Chandra S. Yelleswarapu, Pengfei Wu, Sri-Rajasekhar Kothapalli, D.V.G.L.N. Rao, Brian R. Kimball, S. Sivasankara Sai, R. Gowrishankar, and S. Sivaramakrishnan, "All-optical spatial filtering with power limiting materials," *Optics Express* **14**, 1451-1457 (2006).
Picked up by Virtual Journal of Biomedical Optics, Vol. 1, Iss. 3 -- March 7, 2006
18. Chandra S. Yelleswarapu, Pengfei Wu, Sri-Rajasekhar Kothapalli and D.V.G.L.N. Rao, "Nonlinear optical image processing with bacteriorhodopsin polymer films," *Molecular Crystals & Liquid Crystals* **446**, 273-294 (2006).
19. Sri-Rajasekhar Kothapalli, Pengfei Wu, Chandra S. Yelleswarapu and D.V.G.L.N. Rao, "Nonlinear optical Fourier filtering for medical image processing," *Journal of Biomedical Optics* **10**, 0440281-0440287 (2005).
20. Sri-Rajasekhar Kothapalli, Chandra S. Yelleswarapu, Sriram G Naraharisetty, Pengfei Wu, and D.V.G.L.N. Rao, "Spectral phase based medical image processing", *Academic Radiology* **12**, 708-721 (2005).
Quoted by (i) Breast Cancer Research Today – online magazine
(ii) Biohealthmatics.com under "Medical Decision Making Journals and Clinical Decision Making Journals" section
(iii) NewRX – one of the world's largest weekly health information providers
21. Sri-Rajasekhar Kothapalli, Pengfei Wu, Chandra S. Yelleswarapu and D.V.G.L.N. Rao, "Medical image processing using transient Fourier holography in bacteriorhodopsin films", *Applied Physics Letters* **85**, 5836-5838 (2004).
Reviewed in Biophotonics International (A Laurin Publication) January 2005, page 28-30.
22. D. Narayana Rao, Chandra S. Yelleswarapu, Sri-Rajasekhar Kothapalli, D.V.G.L.N. Rao, and B. Kimball, "Self-diffraction in bacteriorhodopsin films for low power optical limiting", *Optics Express* **11**, 2848-2853 (2003).
23. Ning Ma, Chandra S Yelleswarapu, N.J. Libatique, and Ravi K. Jain, "A narrow linewidth (< 1 GHz), > 35nm wavelength-tunable mid-IR fiber laser for spectroscopic sensing applications",

Conference on Lasers and Electro-Optics Proceedings (CLEO), 1533-35 (2003).

24. Chandra S Yelleswarapu and A. Sharma, "A simple technique for indirect measurement of absorption line widths in Voigt profile regime," *Journal of Quantitative Spectroscopy and Radiative Transfer* **72**, 733-740 (2002).
25. Chandra S Yelleswarapu and A. Sharma, "Pressure-induced self-broadening and frequency shift measurements of absorption lines of Acetylene using Tunable Diode Laser Absorption Spectroscopy," *Journal of Quantitative Spectroscopy and Radiative Transfer* **69**, 151-158 (2001).
26. Y. Wang, L. Phillips, Chandra S Yelleswarapu, T. George, A. Sharma, S. Burgett and P. Ruffin, "Enhanced growth rate for Bragg grating fabrication in optical fibers with titania-doped cladding," *Optics Communications* **163**, 185-188 (1999).
27. M.V. Sailaja, Chandra S Yelleswarapu, D. Narayana Rao and V.S. Rama Das, "Laser-induced chlorophyll fluorescence ratio in certain plants exhibiting leaf heliotropism," *Australian Journal of Plant Physiology* **24**, 159-164 (1997).
28. V. Nirmal Kumar, Chandra S Yelleswarapu and D. Narayana Rao, "Measurements of Optical constants of thin polymer films using white light interferometry," *Pramana* **47**, 163-170 (1996).

Conference Proceedings:

29. Ivan M. Kislyakov, Arutyunyan, N. R., Obraztsova, E. D., Sheiko, I. S., Povarov, S. A., Venediktova, A. V., and Chandra S. Yelleswarapu, "Nonlinear optical studies of SWCNT+Coproporphyrin III hybrid systems," *Advanced Materials Research* **818**, 132-136 (2013).
30. Chandra S Yelleswarapu, Rao, D. V., Kothapalli, S. -R., and Wu, P. "Transient Fourier holography with Bacteriorhodopsin films for breast cancer diagnostics," *Proceedings of SPIE* **8598**, 8598K1 (2013).
31. Yelleswarapu, C. S., Kothapalli, S., Rao, D. V. G. L. N., "Photoacoustic Z-scan for the measurement of third-order nonlinear absorption coefficient," *Proceedings of SPIE* **7917**, 79171I (2011).
32. Das, B., Yelleswarapu, C. S., Rao, D. V. G. L. N., "In-line digital holographic microscopy based on intensity measurements at two planes," *Proceedings of SPIE* **7904**, 790403 (2011).
33. Chandra S. Yelleswarapu, Bhargab Das, Alexey Veraksa and D. V. G. L. N. Rao, "Fourier phase contrast multimodal optical microscopy for real time display of phase and fluorescence at the same time", *Proc. SPIE* **8090**, 809006 (2011).
34. Chandra S Yelleswarapu, Brian R Kimball, and D.V.G.L.N. Rao, "Completely Passive Nonlinear Transmission System using Nonlinear Absorbing Medium and Azobenzene Films," *SPIE* **6653**, 42 (2007).
35. K. Gregorczyk, B. Kimball, J. Carlson, A. Pembroke, K. Kempa, Z. Ren, Chandra Yelleswarapu, D.V.G.L.N. Rao, T. Kempa, G. Benham, Y. Wang, Wenzhi Li, A. Herczynski, J. Rybczynski, "The complex optical response of arrays of aligned, multi-walled carbon nanotubes," *Society of Photo-Optical Instrumentation Engineers Proceedings (SPIE)* **6321**, 18-26 (2006).
36. Brian R. Kimball, Joel B. Carlson, Asher Pembroke, Krzysztof Kempa, Z.F. Ren, Pengfei Wu, Chandra Yelleswarapu, Thomas Kempa, Glynda Benham, Y. Wang, A. Herczynski, Jakub Rybczynski, Z.P. Huang, and D.V.G.L.N. Rao, "Spectroscopic studies of arrays of multiwalled carbon nanotubes," *SPIE* **5931**, 242-249 (2005).

LIST OF CONFERENCE/MEETING PRESENTATIONS

1. Kislyakov, I. M., Arutyunyan, N. R., Obraztsova, E. D., Sheiko, I. S., Povarov, S. A., Venediktova, A. V., Yelleswarapu, C., "Nonlinear optical studies of SWCNT+Coproporphyrin III hybrid systems," 2nd International Conference on Nanotechnology Technology and

Advanced Materials (ICNTAM 2013), Los Angeles, CA, USA, (August 4, 2013 - August 5, 2013).

2. Stephanie, B.-B., Seema, B., Laoui, S., Jen-Chieh, T., Nancy, K., Yelleswarapu, C., and Rochford, J., "Molecular engineering of curcumin and BODIPY inspired photoacoustic contrast agents," Photochemistry Gordon Research Conference, Stonehill College, Massachusetts, (July 14, 2013 - July 19, 2013).
3. Rao, D. V., Kothapalli, S.-R., Wu, P. F., Yelleswarapu, C., "Transient Fourier holography with Bacteriorhodopsin films for breast cancer diagnostics," Photonics West 2013, SPIE, San Francisco, CA, (February 2, 2013 - February 7, 2013).
4. Ivan M. Kislyakov , I.M. Belousova, S.K. Evstrop'ev, T.D. Muravyeva T.D., D.V.G.L.N. Rao, and C.S. Yelleswarapu, "Nonlinear Optical Properties Of Carbon Nanoparticles In Sol-Gel Composites Studied by Z-Scan Techniques," The Twenty-first Annual International Conference on Composites/nano Engineering (ICCE-21), Tenerife, Spain, July 21-27, 2013.
5. I. M. Belousova, I. M. Kislyakov, T. D. Murav'eva, C. S. Yelleswarapu, and D. V. G. L. N. Rao, "Z-scan study of nonlinear properties of carbon nanostructures," International Conference on Advanced Carbon Nanostructures 2011, St. Petersburg, Russia, July 4-8, 2011.
6. Chandra S. Yelleswarapu, Bhargab Das, Alexey Veraksa and D. V. G. L. N. Rao, "Fourier phase contrast multimodal optical microscopy for real time display of phase and fluorescence at the same time," SPIE European Biomedical Conference 2011, Munich, Germany, May 22-26, 2011.
7. Chandra S. Yelleswarapu, Bhargab Das, Alexey Veraksa and D. V. G. L. N. Rao, "Optical Fourier phase contrast microscopy technique for real time imaging of phase and fluorescence features simultaneously," APS Annual Meeting, Dallas, TX, March 21-25, 2011.
8. Bhargab Das, Chandra S. Yelleswarapu, and D. V. G. L. N. Rao, "In-line digital holographic microscopy based on intensity measurements at two planes," SPIE Photonic West 2011, San Francisco, CA, January 22-27, 2010.
9. Chandra S. Yelleswarapu, Sri-Rajasekhar Kothapalli and D. V. G. L. N. Rao, "Photoacoustic Z-scan for the measurement of third-order nonlinear absorption coefficient," SPIE Photonic West 2011, San Francisco, CA, January 22-27, 2010.
10. Chandra S. Yelleswarapu and D. V. G. L. N. Rao, "Nanophotonics and Biophotonics of photoanisotropic materials," Laser Optics International Conference, St. Petersburg, Russia, June 26 – July 2, 2010.
11. Chandra S. Yelleswarapu and D. V. G. L. N. Rao, "Real time imaging of phase and fluorescence features at the same time using optical Fourier phase contrast microscope" for the Annual Conference of Cell Biology, Philadelphia, PA, December 11-15, 2010.
12. Chandra S Yelleswarapu and D.V.G.L.N. Rao, "Fourier phase contrast microscope and Multimodal optical microscope," 3rd Massachusetts Life Sciences Innovation Day, Westin Hotel, Boston, June 2, 2010.
13. Chandra S Yelleswarapu, "Multimodal optical microscope," Dana-Farber cancer biology retreat, UMass Boston, August 2009.
14. Chandra S Yelleswarapu, Alexey Veraksa and D.V.G.L.N. Rao, "Trimodal optical microscopy," Optical Society of America Annual Meeting, October 11-15, 2009, San Jose, CA.
15. D.V.G.L.N. Rao and Chandra S Yelleswarapu, "Enhancement of polarization rotation in azobenzene films," Optical Society of America Annual Meeting, October 11-15, 2009, San Jose, CA.
16. Chandra S Yelleswarapu and D.V.G.L.N. Rao, "Control of slow light with in a protein complex", Controlling light with light, October 14-16, 2007, Olympic Valley, CA.

17. Chandra S Yelleswarapu and D.V.G.L.N. Rao, "Fourier Phase Contrast Microscopy", Optical Society of America Annual Meeting, September 16-20, 2007, San Jose, CA.
18. Chandra S Yelleswarapu, Francisco J Aranda, Reji Philip, and D.V.G.L.N. Rao, "Slow light with bacteriorhodopsin solutions," American Physical Society Annual Meeting, March, 2007, Denver, CO.
19. Chandra S Yelleswarapu, Andrew Wang and D.V.G.L.N. Rao, "Holographic data storage in nanoporous azobenzene films," Photonics, December 13-16, 2006, Hyderabad, India.
20. Chandra S Yelleswarapu and D.V.G.L.N. Rao, "Photo-controlled absorption in bacteriorhodopsin films for medical image processing," Conference on Lasers and Electro-Optics, May 21-26, 2006, Long Beach, CA, paper CTuO5.
21. Chandra S. Yelleswarapu and D.V.G.L.N. Rao, "Optical power limiting mechanism for image processing," Optical Society of America Annual Meeting, October 8-12, 2006, Rochester, NY.
22. Chandra S Yelleswarapu and D.V.G.L.N. Rao, "Optical Fourier techniques for medical image processing," Biomedical Optics Conference, March 19-22, 2006, Fort Lauderdale, FL, paper SH21.
23. Chandra S Yelleswarapu and D.V.G.L.N. Rao, "Optical Fourier Techniques for Early Detection of Breast Cancer," International Workshop on Emerging Trends in Biological Sciences, Sri Satya Sai University, August 8-10, 2006, India.
24. Sri-Rajasekhar Kothapalli, Pengfei Wu, Chandra S. Yelleswarapu, and D.V.G.L.N. Rao, "Medical Image Processing using Transient Fourier Holography in Bacteriorhodopsin Films," American Physical Society Annual Meeting, March 2005, San Diego, CA..
25. D.V.G.L.N. Rao, Chandra S. Yelleswarapu, Sri-Rajasekhar Kothapalli and Pengfei Wu, "Real-time identification of micro-calcifications in mammograms," High Speed Photography and Photonics Conference, September 2004, Alexandria, VA.
26. Chandra S. Yelleswarapu, Sri-Rajasekhar Kothapalli, Pengfei Wu, D.V.G.L.N. Rao, "Medical image processing using nonlinear optical properties in bacteriorhodopsin films," Optical Society of America Annual Meeting, October 10-14, 2004, Rochester, NY,.
27. Chandra S. Yelleswarapu, Sriram Gopal Naraharisetty, Sri-Rajasekhar Kothapalli, Pengfei Wu, Bin Wang, "Optical power limiting with azobenzene doped twisted nematic liquid crystals," Optical Society of America Annual Meeting, October 10-14, 2004, Rochester, NY,.
28. Sri-Rajasekhar Kothapalli, Chandra S. Yelleswarapu, Pengfei Wu, and D.V.G.L.N. Rao, "Image processing using real-time Fourier hologram in bacteriorhodopsin film," Optical Society of America Annual Meeting, October 5-9, 2003, Tucson, AZ,.
29. Sri-Rajasekhar Kothapalli, Chandra S. Yelleswarapu, Pengfei Wu, and D.V.G.L.N. Rao, "Novel opto-electronic image processing techniques," Optical Society of America Annual Meeting, October 5-9, 2003, Tucson, AZ,.
30. Chandra S. Yelleswarapu and A. Sharma, "Pressure-Induced Line Widths and Frequency Shift Measurements For Acetylene using Diode Laser", Optical Society of America Annual Meeting, October 22-25, 2000, Providence, RI.
31. C. Banks, Chandra S. Yelleswarapu, A. Sharma, D. Frazier, B. Penn and H. Abdeldayem, "Characterization of a Fabry-Perot based electrooptic modulator", Optical Society of America Annual Meeting, October 22-25, 2000, Providence, RI.
32. Presentations at Massachusetts General Hospital (November 2, 2006), UMASS Medical School (March 28, 2006), and University of South Florida (March 23, 2006) for possible collaboration.

COLLABORATIONS:

- Dr. Ivan Dr. Ivan Kislyakov, SIC Vavilov State Optical Institute, St. Petersburg, Russia.
- Dr. Alexander Lazarev, Pressure Biosciences Inc.

- Dr. Niyom Lue, East West Enterprise Inc.
- Dr. Jonathan Celli, Physics Department, UMass Boston
- Dr. Alexey Veraksa, Biology Department, UMass Boston
- Dr. Jonathan Rockford, Chemistry Department, UMass Boston
- Prof. Tiffany Donaldson, Psychology Department