

Publications

1. Synthesis and Characterization of Ar-Doped Zinc Oxide Nanoparticles, Narayanan Kuthirummal, Gregory Smith, Ramakrishna Podila, Leisha Lopez, Marco Rodriguez, Jason Howell, and Apparao Rao, (Manuscript in preparation, 2016)
2. Optical and Elastic properties of Er^{3+} -LiNbO₃ for Photonic Applications, N. Kuthirummal, A. Teklu, D. Morrall, and J. Dandrea, *Appl. Phys. Lett.* (Manuscript in preparation, 2016).
3. Structural and Mechanical Characterization of Bioresorbable Elastomeric Nanocomposites from poly(glycerol sebacate)/nano-hydroxyapatite for Tissue Transport Applications, Tabitha Rosenbalm, Maria Teruel, Cynthia Day, George Donati, Michael Morykwas, Louis Argenta, Narayanan Kuthirummal, and Nicole Levi-Polyachenko, *Journal of Biomedical Materials Research B: Applied Biomaterials*, (accepted, 2016).
4. Chitosan wound dressing with hexagonal silver nanoparticles for hyperthermia and enhanced delivery of small molecules, N. Levi-Polyachenko, Reuben Jacob, Cynthia Day, and Narayanan Kuthirummal, *Colloids and Surfaces B: Biointerfaces*, **142**, 315-324 (2016).
5. Photoacoustic and Femtosecond Nonlinear Optical Studies on Chitosan-Boron Nitride Nanotube Composite Materials, Narayanan Kuthirummal, Cassidy Jenks, Reji Philip, Athira Mohan, and Nicole Levi-Polyachenko, *Optics Communications*, **371**, 47-50 (2016).
6. A Novel Cost-Effective Route to Prepare Nanofibrillated Cellulose from Coir Fibers, Bipinbal P. Kanoth, Teena Thomas, Joseph M. Joseph, Narayanan Kuthirummal and Sunil K. Narayanankutty, *Adv. Sci. Eng. Med.*, **7**, 1-6 (2015).
7. Preparation Characterization of flexible ferromagnetic nanocomposites for microwave applications, Teena Thomas, Bipinbal P.Kanoth, Joy P.A., Joseph M. Joseph, Narayanan Kuthirummal, and Eby T. Thachil, *Materials Science and Engineering B*, **200**, 40-49 (2015).
8. Development and Characterization of Elastic Nanocomposites for Craniofacial Distraction Osteogenesis, Levi-Polyachenko, N.; Rosenbalm, T.; Kuthirummal, N.; Day, C.; Shelton, J.; Hardin, W.; Teruel, M.; Hogley, E.; Wang, R.; Day, C.; Narayanan, V.; David, L.; Wagner, W. D.. *Journal of Biomedical Materials Research B: Applied Biomaterials*, **103**, 407-416 (2015).
9. *Reexamination of Infrared Spectra of Bi Nanorods: L-T Transition or Extrinsic Phases*, K. lingam, J. Reppert, D. Dickel, R. Podila, P. Puneet, E. Sheftic, N. Kuthirummal, M. Skove, J. He, and A. M. Rao, *NANO: Brief Reports and Reviews*, **7**, 1230003-1 – 1230003-10 (2012).
10. Optical limiting properties of CdS nanowires, Muthukumar Sai, J. Reppert, C.S. Sandeep, S. Sivaramakrishnan, R. Podila, N. Kuthirummal, S. Siva Sankara Sai, K. Venkataramaniah, R. Philip, A.M. Rao, *Opt. Commun.*, **283**, 4104 – 4107 (2010)
11. *Synthesis and optical spectroscopic studies of semiconducting cadmium sulfide nanowires*, Narayanan Kuthirummal, Jason Reppert, Brian Diehl, and Apparao Rao, *Appl. Opt.*, **48**, 2842-2846 (2009).

12. Listening to Nanomaterials: Photoacoustic Spectroscopy, Narayanan Kuthirummal, *J. Chem. Educ.*, **86**, 1238-1240 (2009).
13. Photo-formation of gold nanoparticles: Photoacoustic studies on solid monoliths of Au(III)-chitosan-silica aerogels, Narayanan Kuthirummal, Adam Dean, Chunhua Yao, and William Risen Jr., *Spectrochim. Acta A*, **70**, 700-703 (2008).
14. Nonlinear optical scattering and absorption in bismuth nanorod suspensions, S. Sivaramakrishnan, V.S.Muthukumar, S.Sivasankara Sai, K. Venkataramaniah, J. Reppert, Apparao Rao, M. Anija, Reji Philip, and Narayanan Kuthirummal, *Appl. Phys. Lett.*, **91**, 93104-93106 (2007).
15. Spectroscopy and femtosecond dynamics of the ring-opening reaction of 1,3-cyclohexadiene, Narayanan Kuthirummal, Fedor M. Rudakov, Conor Evans, and Peter M. Weber, *J. Chem. Phys.*, **125**, 133307/1-133307/8 (2006).
16. Structure Sensitive photoionization via Rydberg levels, Narayanan Kuthirummal and Peter Weber, *J. Mol. Struct.*, **787**, 163-166 (2006).
17. Control of local ionization and charge transfer in the bifunctional molecule 2-phenyl-N,N-dimethylamine using Rydberg Fingerprint Spectroscopy, Wei Cheng, Narayanan Kuthirummal, Jaimie Gosselin, Thies Solling, R. Weikauff, and Peter Weber, *J. Phys. Chem. A*, **109**, 1920-1925 (2005).
18. Probing reaction dynamics with Rydberg states: The ring-opening reaction of 1,3-cyclohexadiene, Narayanan Kuthirummal and Peter M. Weber, *Femtochemistry and Femtobiology* (eds.M.M.Martin and J.T.Hynes), Elsevier Publishers, **27** (2004).
19. Rydberg states: sensitive probes of molecular structure, Narayanan Kuthirummal and Peter M. Weber, *Chem. Phys. Lett.*, **378**, 647-653 (2003).
20. A 9eV superexcited state revealed by femtosecond photoelectron spectroscopy, Femtosecond studies on 1,3-cyclohexadiene Wei-Cheng, Conor Evans, Narayanan Kuthirummal, and Peter M. Weber, *Chem. Phys. Lett.*, **349**, 405-410 (2001).
21. Carotenoids of an Antarctic psychrotolerant bacterium, *Sphingobacterium antarcticus*, and a mesophilic bacterium, *Sphingobacterium multivorum*. M.V.Jagannadham, M.K.Chattopadhyay, C.Subbalakshmi, M.Vairamani, K.Narayanan, Ch.Mohan Rao and S.Shivaji, *Arch. Microbiol.*, **173**, 418-424 (2000).
22. Vibronic features of p-ethylaniline, p-ethylaniline-NHD and p-ethylaniline-ND₂ by resonant two-photon ionization spectrometry W.B.Tzeng and K.Narayanan, *J. Mol. Struct.*, **482-483**, 315 (1999).
23. Detection of styrene impurity in phenylacetylene by resonance enhanced multiphoton Ionization Time-of-flight mass spectrometry W.B.Tzeng, K.Narayanan, and J.L. Lin, *Appl. Spectrosc.*, **53**, 731-734 (1999)
24. Structures and vibrations of o-methylaniline in the S₀ and S₁ states studied by ab initio calculations and resonant two-photon ionization spectroscopy W.B.Tzeng, K.Narayanan and J.L. Lin, *Spectrochim.Acta.*, **53A**, 153-162 (1999).
25. Vibronic features of 2,6-dimethylaniline, 2,6-dimethylaniline-NHD and 2,6-dimethylaniline-ND₂ by resonant two-photon ionization spectrometry W.B.Tzeng, J.L. Lin and K.Narayanan, *J.Chem.Soc.Faraday Trans.*, **94**, 2913-2917 (1998).

26. Simultaneous detection of C_6H_5NHD , $C_6H_5ND_2$, $C_6D_5NH_2$, C_6D_5NHD and $C_6D_5ND_2$ by resonant two-photon ionization mass spectrometry. W.B.Tzeng, K.Narayanan, and G.C.Chang, *Appl.Spectrosc.* **52**, 890-893 (1998).
27. Excited state structure and vibrations of p-diaminobenzene studied by ab initio calculations. W.B.Tzeng and K.Narayanan, *J.Mol.Struct.(THEOCHEM)*, **434**, 247-253 (1998).
28. A study of the structures and vibrations of $C_6H_5NH_2$, C_6H_5NHD , $C_6H_5ND_2$, $C_6D_5NH_2$, C_6D_5NHD and $C_6D_5ND_2$ in the S_1 state by ab initio calculations W.B.Tzeng and K.Narayanan, *J.Mol.Struct.(THEOCHEM)*, **428**, 231-240 (1998).
29. Structures and vibrations of p-methylaniline in the S_0 and S_1 states studied by ab initio calculations and resonant two-photon ionization spectroscopy. W.B.Tzeng and K.Narayanan, *J.Mol.Struct.* **446**, 93-102 (1998).
30. Structures and vibrations of p-dimethoxybenzene conformers in the S_0 and S_1 states studied by ab initio calculations and resonant two-photon ionization spectroscopy, W.B.Tzeng, K.Narayanan, C.Y. Hsieh, and C.C. Tung, *J.Mol.Struct.* **448**, 91-100 (1998).
31. A study of the excited state structure and vibrations of hydroquinone by ab initio calculations and resonant two-photon ionization spectroscopy W.B.Tzeng, K.Narayanan, C.Y.Hsieh and C.C.Tung, *Spectrochim.Acta.*, **53A**, 2595-2604 (1997).
32. $S_1 \leftarrow S_0$ transition of para-fluoroaniline studied by ab initio calculations and resonant two-photon ionization spectroscopy, W.B.Tzeng, K.Narayanan, C.Y.Hsieh, and C.C.Tung, *Asian J. Spectrosc.*, **1**, 45-56 (1997).
33. Structures and Vibrations of *ortho*- *meta*- and *para*-fluoroanilines in the S_0 and S_1 states by ab initio calculations and resonant two-photon ionization spectroscopy, W.B.Tzeng, K.Narayanan, C.Y.Hsieh, and C.C.Tung, *J.Chem.Soc. Faraday Trans.*, **93**, 2981-2987 (1997).
34. Depth profiling of mammalian cells by photoacoustic spectroscopy: localization of ligands K.Narayanan, S.Chandani, T.Ramakrishna and Ch.Mohan Rao, *Biophysical Journal*, **72**, 2365-2368 (1997).
35. In Vivo characteristics and localization of carotenoid pigments in psychrotrophic and mesophilic micrococcus roseus using photoacoustic spectroscopy: M.V.Jagannadham, K.Narayanan, Ch.Mohan Rao and S.Shivaji, *Biochem. Biophys. Res. Commun.*, **227**, 221-226 (1996).
36. Intracuster reaction, Fragmentation, and Structure of Monomethylamine, Dimethylamine, and Trimethylamine W.B.Tzeng, K.Narayanan, G.C.Chang, W.B.Tsai, and J. J. Ho, *J.Phys.Chem.*, **100**, 15340-15345 (1996).
37. $S_1 \leftarrow S_0$ transition of phenylacetylene : ab initio and resonant two-photon ionization studies, K.Narayanan, G.C.Chang, K.C.Shieh, C.C.Tung and W.B.Tzeng, *Spectrochim. Acta*, **52A**, 1703-1716 (1996).
38. Rydberg series in the visible two-photon optogalvanic spectrum of neon: S.N.Thakur and K.Narayanan, *Opt.Commun.*, **94**, 59-65 (1992).
39. Origin of photoacoustic signals in the laser photoacoustic spectrum of I_2 vapour: K.Narayanan and S.N.Thakur, *Photoacoustic and Photothermal Phenomena* (Ed.Bicanic), Springer Verlag, Berlin, **69**, 147-149 (1992).

40. Effect of external constraint on the photoacoustic spectrum of Nd₂O₃ powders: K.Narayanan and S.N.Thakur, *Appl.Opt.*, **31**, 5785-5787 (1992).
41. Nonradiative deexcitation mechanisms in the visible spectrum of I₂ vapour: K.Narayanan and S.N.Thakur, *Spectrochim. Acta*, **48A**, 1573-1581 (1992).
42. Laser photoacoustic spectrum of I₂ vapour in the 490-680 nm region: K.Narayanan and S.N.Thakur, *Appl.Opt.*, **31**, 4987-4993 (1992).
43. Photoacoustic effect: Listening to interaction between light and matter: A demonstration kit, K.Narayanan and S.N.Thakur, *Bulletin of IAPT*, **1**, 167-171 (1991).
44. High resolution photoacoustic spectra of Ho³⁺ and Er³⁺ in chloride hexahydrate matrix: K.Narayanan and S.N.Thakur, *Appl. Opt.*, **30**, 1175-1177 (1991).
45. High resolution photoacoustic spectroscopy of Ho₂O₃ and Nd₂O₃ powders with a piezoelectric detector, K.Narayanan and S.N.Thakur, *Photoacoustic and Photothermal Phenomena II* (Ed.Murphy), Springer Verlag, Berlin, **62**, 214-217 (1990).
46. High resolution photoacoustic spectra of Ho₂O₃ and Nd₂O₃: K.Narayanan and S.N.Thakur, *Appl.Opt.*, **29**, 2478-2484 (1990).
47. One- and two-photon optogalvanic spectrum of neon: 610-710 nm: K.Narayanan, G.Ullas, and S.B.Rai, *Chem. Phys. Lett.*, **156**, 55-60 (1989).
48. X-ray diffraction effects from 2H crystals undergoing transition to the 3C structure by the layer displacement mechanism: M.T.Sebastian, K.Narayanan and P.Krishna, *Phys.Stat.Solidi(a)*, **102**, 241-249 (1987).

Conference Abstracts/Proceedings

1. American Physical Society, March 14 – 18 (2016), Baltimore: Nanoindentation of Chitosan Doped with Silver Nanoparticles, Matt Pulambo, Alem Teklu, Narayanan Kuthirummal, and Nicole Levi-Polyachenko.
2. 28th SSM Annual Poster Session, College of Charleston, April 14, 2016, Spectroscopic Investigation of MoS₂ Nanoplatelets, Gervais Baker, Jason Harvey, Narayanan Kuthirummal, Chaochao Dun, and Gregory M. Smith.
3. 28th SSM Annual Poster Session, College of Charleston, April 14, 2016, Spectroscopic characterization of two-dimensional topological insulators, Jason Harvey, Gervais Baker, Narayanan Kuthirummal, Chaochao Dun, and Gregory M. Smith.
4. 28th SSM Annual Poster Session, College of Charleston, April 14, 2016, Crystallization Study of P3HT in Binary Solvent Systems, James Claire, David Boucher, and Narayanan Kuthirummal.
5. Materials Research Society (MRS), Nov 30 – Dec 3, 2014, Boston: Synthesis, Characterization and Medical Applications of Polymer Dynamic Organic Theranostic Spheres (PolyDOTS), Elizabeth Graham, Christopher MacNeill, Sneha Kelkar, Narayanan Kuthirummal, Aaron Mohs, and Nicole Levi-Polyachenko.
6. Society for Thermal Medicine, 23rd Annual Meeting (April 14-17, 2014, Orlando), Polymer Dynamic Organic Theranostic Spheres (PolyDOTS) for Detection and Photothermal Ablation of Breast Cancer, Nicole Levi_Polyachenko, Elizabeth Graham, Christopher MacNeil, Sneha Kelkar, and Narayanan Kuthirummal.

7. SSM Poster: Optical Properties of Zinc Oxide Doped with Argon and Oxygen, Leisha Lopez, Narayanan Kuthirummal, Ramakrishna Podila, and Apparao Rao.
8. American Physical Society, spring'14 meeting: Asymmetry in Optical Absorption in 2D Dichalcogenides, D. Saini, M. Karakaya, R. Podila, N. Kuthirummal, and A. Rao.
9. SSM Poster: Spectral, Theoretical, and SEM studies on Chitosan-Ag films, Sean Flanagan, Narayanan Kuthirummal, and Nicole Levi-Polyachenko.
10. SSM Poster: Urbach Tail Studies of Argon-Doped Zinc Oxide Nanostructures, Shea McSween, NK, Marco Rodriguez, Ramakrishna Podila, and Apparao Rao.
11. 25th SSM Annual Poster Session, College of Charleston, April 18, 2013. "Advanced Materials for Biomedical Applications: Chitosan-Ag Films "Sean Flanagan, Narayanan Kuthirummal, and Nicole Levi-Polyachenko.
12. 25th SSM Annual Poster Session, College of Charleston, April 18, 2013. "Silver Nanoparticles: Morphology and Localized Surface Plasmon Resonance" Benjamin Rickman, Narayanan Kuthirummal, and Nicole Levi-Polyachenko.
13. 25th SSM Annual Poster Session, College of Charleston, April 18, 2013. "Advanced Semiconducting Materials: Cobalt-doped Nanostructures of Zinc Oxide Tetrapods" Marco Rodriguez-Cote and Narayanan Kuthirummal.
14. 24th SSM Annual Poster Session, College of Charleston, April 19, 2012. "Exploring the Radiochemistry of Th-232" Noah Bullock, Frank Kinard, and Narayanan Kuthirummal.
15. 23rd SSM Annual Poster Session, College of Charleston, April 21, 2011. "Photoluminescence and photoacoustic characterization of doped zinc oxide tetrapods", Philip Meyer, Jr., Narayanan Kuthirummal, Ramakrishna Podula, and Apparao Rao.
16. 23rd SSM Annual Poster Session, College of Charleston, April 21, 2011. "Wind Turbine and Solar Tracking Energy Plant" Conor Smith, Philip Meyer, Jr., David Seamans, Cathleen Wise, Kyle Clayton, Marco Rodriguez, and Narayanan Kuthirummal.
17. American Physical Society Meeting, Anaheim, USA, April 30 – May 3, 2011. "Biopolymers for medical applications: Polyglycerol Sebacate (PGS) doped Hydroxyapatite (HA)", Maria Teruel, Narayanan Kuthirummal and Nicole Polyachenko.
18. SACS-AAPT Meeting, Charleston, USA, October, 2010. "Biopolymers for Medical Applications: Polyglycerol Sebacate (PGS) Doped Hydroxyapatite (HA)" Maria Teruel, Narayanan Kuthirummal, and Nicole Levi-Polyachenko.
19. URCA/HHMI Summer Poster Session, Charleston, USA, August 2010. "Synthesis, Characterization, and Analysis of Luminescent Lanthanide Phosphoric Nanoparticles" Chelsea Rudd, Narayanan Kuthirummal, Ho and Xuejun Wen.
20. 22nd SM Annual Poster Session, College of Charleston, April 21, 2010. "Thermal Properties of Bismuth Powder Samples" Matthew Fitzgerald and Narayanan Kuthirummal.
21. American Physical Society Meeting, Pittsburgh, USA, March 16-20, 2009. "*Synthesis and spectroscopic characterization of cadmium sulfide nanowires*", Narayanan Kuthirummal, Jason Reppert, Brian Diehl, and Apparao Rao.

22. The South Carolina Academy of Science (SCAS) Meeting, April 15, 2009. "Visible and FTIR photoacoustic spectroscopic characterization of bismuth nanorods", Erica Sheftic and Narayanan Kuthirummal.
23. The South Carolina Academy of Science (SCAS) Meeting, April 15, 2009. "Fourier transform infrared spectroscopy of hydroxyapatite-doped POC/PEG", Damien Howard and Narayanan Kuthirummal.
24. 20th SSM Annual Scientific Research Poster Session, College of Charleston, April 17, 2009. "Effects of the Bismuth Oxide Layer on the Spectroscopic Properties of Bismuth Nanorods", Erica Sheftic and Narayanan Kuthirummal.
25. 20th SSM Annual Scientific Research Poster Session, College of Charleston, April 17, 2009. "Fourier Transform Infrared Spectroscopy of Hydroxyapatite Nanoparticle-doped POC/PEG", Damien Howard and Narayanan Kuthirummal.
26. The South Carolina Academy of Science (SCAS) Meeting, March 20, 2008. "Optical Characterization of a New Sunscreen", Emily Tavriles, Narayanan Kuthirummal, and Linda Jones.
27. American Physical Society Meeting, New Orleans, USA, March 10-14, 2008. "Acoustic and Optical Properties of Er³⁺-doped LiNbO₃", Alem Teklu, Narayanan Kuthirummal, Daniel Morral, and Jay Dandrea.
28. American Physical Society Meeting, New Orleans, USA, March 10-14, 2008. "Photo-formation of Gold Nanoparticles in Au(III)-chitosan-silica Aerogels: Dependence on Wavelength and Duration of Exposure", Narayanan Kuthirummal, Adam Dean, Richard Smith and Alem Teklu.
29. 20th SSM Annual Scientific Research Poster Session, College of Charleston, April 11, 2008. "Absorption Spectroscopic Studies on the Photostability of a New Sunscreen", Emily Tavriles, Narayanan Kuthirummal, and Linda Jones.
30. NSF-Engineering Education Awardees conference, September 26-28, 2007, Arlington, Virginia. "Implementation of Research Based Experiments Into Upper Division Physics Undergraduate Courses: Studies on the Photo-formation of Gold Nanoparticles in Au(III)-chitosan-silica aerogels" Narayanan Kuthirummal and Adam Dean.
31. 19th SSM Annual Scientific Research Poster Session, College of Charleston, April 13, 2007. "Preparation and Characterization of Neodymium-doped Borophosphate glasses", Richard Smith and Narayanan Kuthirummal.
32. 19th SSM Annual Scientific Research Poster Session, College of Charleston, April 13, 2007. "Dating of Thorium Consumer Products by High Resolution Gamma Spectroscopy", Damon Hansen, Frank Kinard, and Narayanan Kuthirummal.
33. 19th SSM Annual Scientific Research Poster Session, College of Charleston, April 13, 2007. "Characterization of Single-Walled Carbon Nanotubes Using Visible and Fourier Transform Infrared Photoacoustic Spectroscopy", Jason Duty and Narayanan Kuthirummal.
34. Optics in the South East (OISE) meeting, University of North Carolina, Charlotte, North Carolina, September 6-8, 2006. "Photoacoustic Studies on Er-Doped Glass and Polymer Samples" N. Kuthirummal, J. Hansen, and D. Pang.

35. Frontiers in Optics 2006/Laser Science XXII conferences, Rochester, New York, October 8-12, 2006. "Ring-Opening Reaction of 1,3-Cyclohexadiene: Ultrafast Laser Spectroscopy of 1B_2 Excited State" Narayanan Kuthirummal and Peter Weber.
36. 18th SSM Annual Scientific Research Poster Session, College of Charleston, April 15, 2006. "Spectroscopic Characterization of Erbium-Doped Silicate and Polymer Optical Fibers", Jon Hansen and Narayanan Kuthirummal.
37. 18th SSM Annual Scientific Research Poster Session, College of Charleston, April 15, 2006. "Spectroscopic and elastic properties of Er^{3+} ions doped lithium niobate ($LiNbO_3$) crystals", Daniel Morrall, Narayanan Kuthirummal, and Alem Teklu.
38. Optics in the South East (OISE) meeting, Georgia Tech., Atlanta, Georgia, October 6-8, 2005. "UV-generation of nanoparticles: Photoacoustic studies on gold-chitosan-silica aerogel", N. Kuthirummal, A. Dean, C. Yao, and W. Risen Jr.
39. 17th SSM Annual Scientific Research Poster Session, College of Charleston, April 15, 2005. "Determination of Absorption of Individual Layers of Esophageal Tissue via Photoacoustic Spectroscopy", Jacqueline Maurer, Narayanan Kuthirummal and Linda Jones (poster).
40. 17th SSM Annual Scientific Research Poster Session, College of Charleston, April 15, 2005. "Photoacoustic Investigations of the Reactions Between Eye Lens Proteins and Cobalt (II) Chloride", John Eley and Narayanan Kuthirummal (poster).
41. American Physical Society Meeting, Tampa, Florida, USA., April 16-19, 2005. "Structure sensitive photoionization via Rydberg levels", Narayanan Kuthirummal and Peter Weber.
42. 227th American Chemical Society National Meeting, Anaheim, California, USA., March 28-April 1, 2004, "Intermediate State Dynamics Spectroscopy of 1,3-cyclohexadiene", Narayanan Kuthirummal and P.M.Weber.
43. 227th American Chemical Society National Meeting, Anaheim, California, USA., March 28-April 1, 2004, "Ultrafast Ionization Induced Charge Transfer in 2-Phenyl-N,N-dimethylamine (PENNA)", Wei Cheng, Narayanan Kuthirummal, Jaimie Gosselin, Weiyang Nie and P.M.Weber.
44. 227th American Chemical Society National Meeting, Anaheim, California, USA., March 28-April 1, 2004, "Ultrafast Ionization Induced Charge Transfer in 2-Phenyl-N,N-dimethylamine (PENNA)", Wei Cheng, Narayanan Kuthirummal, Jaimie Gosselin, Weiyang Nie and P.M.Weber.
45. Femtochemistry VI, Paris, France, July 6-10, 2003, "Dynamics of the intermediate 1B_2 state of 1,3-Cyclohexadiene probed through the Rydberg states", Narayanan Kuthirummal and Peter M. Weber.
46. 225th American Chemical Society National Meeting, New Orleans, USA., March 23-27, 2003, "Dynamics of Rydberg-excited 1,3-cyclohexadiene", Narayanan Kuthirummal, N.Kuthirummal, J.L.Gosselin, and P.M.Weber.
47. 225th American Chemical Society National Meeting, New Orleans, USA., March 23-27, 2003, "Rydberg fingerprint spectra of monocyclic and bicyclic molecules", N. Kuthirummal, J.L.Gosselin, and P.M.Weber.

48. 57th International Symposium on Molecular Spectroscopy, Columbus, Ohio, USA., June 17-21, 2002. "Photoelectron spectra of 1,3-cyclohexadiene", Narayanan Kuthirummal, Conor Evans, Wei Cheng, Jaimie Gosselin and Peter Weber.
49. 223rd American Chemical Society National Meeting, Orlando, USA., April 7-11, 2002, "Electron diffraction and photoelectron studies of the electrocyclic ring opening reaction of 1,3-cyclohexadiene", Peter Weber, Narayanan Kuthirummal, Ray Dudek, Conor Evans, Wei Cheng, Job Cardoza, and Jaimie Gosselin.
50. New England Regional Meeting of the American Chemical Society, June 2001, New Hampshire, USA., "The ring Opening reaction of 1,3-cyclohexadiene:Photoelectron and electron diffraction studies on femtosecond and picosecond time scales", Narayanan Kuthirummal, Ray Deudek, Conor Evans, Wei Cheng, Job Cardoza, Jaimie Gosselin, and Peter Weber (Invited talk).
51. Gordon Research Conference 'Photoions, Photoionization and Photodetachment', USA., July 2001: "Probing the electrocyclic ring opening reaction of 1,3-cyclohexadiene", Peter M. Weber, Narayanan Kuthirummal, Ray Deudek, Wei Cheng and Conor Evans.
52. The 4th Asian International seminar on Atomic and Molecular Physics, Taipei, October 13-18, 2000. "High-Resolution 1+1' photoionization spectroscopy of Autoionizing Rydberg states of C₂H₂", Narayanan Kuthirummal, Sheunn-Jiun Tang, Chi-Kung Ni, Yen-Chu Hsu, and Andy H. Kung.
53. The 4th Asian International seminar on Atomic and Molecular Physics, Taipei, October 13-18, 2000. "Ab initio calculation of I-C₃H radical", Narayanan Kuthirummal, Alexander M. Mebel, and Yen-Chu Hsu.
54. The Department of Physics, Banaras Hindu University, Varanasi, India, March 1999, "Laser spectroscopy of aromatic molecules and van der Waals clusters", Narayanan Kuthirummal (invited talk).
55. 7th International topical meeting on photoacoustic and photothermal phenomena, The Netherlands, August 26-30 (1991), "High resolution photoacoustic spectroscopy of Ho₂O₃ and Nd₂O₃ powders with a piezoelectric detector", Narayanan Kuthirummal and S.N.Thakur.