

BIODATA

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Academic career

- PhD Degree on thesis entitled “**Growth of metal and semiconductor nanostructures for linear and nonlinear optical applications**” under the guidance of Dr. M. K. Jayaraj, Professor, Department of Physics, CUSAT, Cochin, Kerala
- M.Sc. Physics (2006), Department of Physics, Cochin University of Science and Technology, Cochin, Kerala, India
- B.Sc. Physics (2004), University of Kerala, Thiruvananthapuram, Kerala, India
- Pre-degree (2001), University of Kerala, Thiruvananthapuram, Kerala, India
- SSLC (1999), Kerala state Board of public examinations, India

Honours and awards

- National merit scholar ship for SSLC in 1999
- Second Rank in MSc Physics from Cochin University of Science and Technology 2006
- KSCSTE State Research Fellowship winner of 2006 in Physical Science
- SPIE Travel Grant winner to attend SPIE Ninth International Symposium on Laser Metrology at NUS, Singapore in 2008
- INSA NASI Sumer fellowship 2015
- Represented St John’s College for the DBT STAR scheme in 2015
- Guide ship from University of Kerala in Physics in 2015

Professional experience and positions held

- Secretary of SPIE CUSAT Student Chapter, Cochin University of Science and Technology, Cochin, Kerala, India
- Research associate at NCESS Trivandrum from 13/05/2012 to 25/02/2013

- Assistant professor, Department of Physics, Bishop Moore College, Mavelikara from 27/02/2013 and relieved on 11/07/2013 to join St John's College, Anchal
- Assistant professor, Department of Physics, St John's College, Anchal 12/07/2013 to 18/03/2021FN
- Transferred to Mar Ivanios college, Thiruvananthapuram on 18/03/2021 and still continuing

Research experience

- Fabrication of completely automated Z-scan setup for nonlinear optical studies using the nanosecond pulsed Nd: YAG laser
- Nonlinear Optical studies using pulsed lasers
- Expertise in LABVIEW Programming and virtual instrumentation
- Growth of nanostructures using pulsed laser ablation deposition and wet chemical methods
- Materials characterization by powder X-ray diffraction technique, Photoluminescence Studies, Scanning electron Microscopy, UV Visible Spectrophotometer, Raman micro spectroscopy, Atomic force microscopy

Journal Publications

1. Size dependent optical nonlinearity of Au nanocrystals, R. Sreeja, P. M. Aneesh, Arun Aravind, R. Reshmi, Reji Philip and M. K. Jayaraj, Journal of Electrochemical society, 156 (10), K167 (2009)
2. Linear and nonlinear optical properties of luminescent ZnO nanoparticles embedded in PMMA matrix, R. Sreeja, Jobina John, P. M. Aneesh and M. K. Jayaraj, Optics Communications 283 (2010) 2908–2913
3. Linear and Nonlinear Optical Properties of Gold Nanoparticle Attached MWCNTs, R. Sreeja, P. M. Aneesh , K.Hasna and M. K. Jayaraj, Journal of The Electrochemical Society, 158 (10) K187-K191 (2011)
4. Liquid phase pulsed laser ablation of metal nanoparticles for nonlinear optical applications, R. Sreeja, R. Reshmi, P. M. Aneesh and Dr. M. K. Jayaraj, Science of Advanced Materials, Vol. 4, pp. 1–10, 2012
5. Linear and nonlinear optical properties of rare earth doped of BST thin films, R. Reshmi, R. Sreeja, M. K. Jayaraj, J. James and M. T. Sebastian, Applied Physics B: Lasers and Optics, 96, 433 (2009)
6. Determination of third-order optical absorptive nonlinearity of ZnO nanoparticles by Z-scan technique, R. Sreeja, R. Reshmi, Manu George and M. K. Jayaraj, Proceedings of SPIE – The International Society for Optical Engineering 7155, art. no. 715521 (2008)
7. Growth of silver nanoparticles in SiO₂ matrix by co-sputtering technique, K. C. Sanal, R. Sreeja, K. Anlin Lazar and M. K. Jayaraj, Proc. of SPIE, 7393, 73930J (2009)

8. Electrical and optical characteristics of surface treated ZnO nanotubes, R. Renjusha, R. Sreeja, A. M. Anu, K. R. V. Subramanian, Santhikumar V. Nair and A. Balakrishnan, Materials research Bulletin 47, 1887-1891 (2012)
9. Impurity mediated large three photon absorption in ZnS: Cu nanophosphors R Sreeja, K Sridharan, R Philip, MK Jayaraj Optical Materials 36 (5), 861-866, 2014
10. Arun U, R sreeja and Annie Abraham, Evaluation of Apoptotic potential of ZIF -8 nanoparticles , AIP Conference proceedings 2082, 080001, 2019

Conference Publications

1. Determination of third-order optical absorptive nonlinearity of ZnO nano particles by Zscan technique, Sreeja.R, Reshmi.R, Manu George, M.K.Jayaraj (Presented at LM2008 – 9th International Symposium on Laser Metrology – 30 June – 2 July 2008, SMU Conference Centre, Singapore)
2. Size dependent optical absorptive nonlinearity of Au nano clusters in water, R.Sreeja, P.M.Aneesh, Arun Aravind, R.Reshmi, M.K.Jayaraj (Presented in Photonics 2008 Fiber Optics and Photonics 9-11 Dec.2008, New Delhi, India)
3. Gold nanoparticles by liquid phase pulsed laser ablation for biological and optical limiting applications P.M.Aneesh, R.Sreeja, Arun Aravind, R.Reshmi, M.K.Jayaraj (Presented at 2nd BANGALORE NANO 11th to 13th December 2008, at Bangalore)
4. Fabrication of an automized Z-scan setup for nonlinear optical studies, R.Sreeja, Jobina John, V.L.Anuraj, K.Saritha, M.K.Jayaraj (Presented in International Seminar at PSGRKC on Mathematical & Experimental Physics” is on 18th & 19th Dec 2008)
5. Synthesis of gold nanoparticles by laser ablation in liquid media, P. M. Aneesh, Arun Aravind, R. Sreeja, R. Reshmi and M. K. Jayaraj, Second International Conference on Frontiers in Nanoscience and Technology (Cochin Nano – 2009), Kochi, India
6. Growth of ZnO nanostructures by pulsed laser ablation, M. K. Jayaraj, R. S. Ajimsha, R. Reshmi, R. Sreeja, P. M. Aneesh, National Conference, Pondicherry University, Pondicherry, India (Invited Talk)
7. Linear and nonlinear optical properties of pulsed laser deposited Zn(1-x)MnxO thin films, R.Sreeja, Arun Aravind, E.K.Ragitha, M.K.Jayaraj Presented at ICE 2009, Delhi , India
8. Synthesis and characterization of ZnO nanotubes, K Hasna, R Sreeja, P P Subha, K Rajeev Kumar and M K Jayaraj, NSNT 2011

9.SERS studies of carbon nanotubes with attached gold Nanoparticles, K Hasna, R Sreeja, P P Subha, K Rajeev Kumar and M K Jayaraj, Proc. of Cochin Nano 2011, Cochin,India

10. Synthesis and characterisation of ZIF-8 nanocrystals Sreeja.R and A Thirumurugan Recent Biochemical Approaches in Therapeutics: RBAT-III (2017)” 15-17th February 2017.

11. Synthesis and characterization of Gallic acid reduced gold nanoparticles and its cytotoxicity in A375 cells Arun.U, Sreeja.R, Annie Abraham Recent Biochemical Approaches in Therapeutics: RBAT-III (2017)” 15-17th February 2017.

13. R sreeja, U Arun, N N Adarsh, Doxorubicin encapsulated ZIF 8 nanoparticles for anti-cancer application, ICON 25th-28th 2019.