

ST. THOMAS COLLEGE, KOZHENCHERRY

DEPARTMENT OF PHYSICS

FACULTY BIOSKETCH



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➤ **Brief Overview**

Dr. Prathibha Vasudevan completed her M.Sc. degree from St. Thomas College, Kozhencherry and M.Phil. from School of Pure and Applied Physics, Mahatma Gandhi University, Kottayam. She was ranked **second** in both M.Sc and M.Phil. degrees in Mahatma Gandhi University. She completed her B.Ed. degree in 2007 from Mahatma Gandhi University, Kottayam. Her subject of specialization for the M.Phil. course was 'Applied Photonics'. She is an awardee of scholarship from the Kerala state Government to pursue her Ph.D. She was awarded the Ph.D. degree in September 2013. She has published around 9 papers in internationally referred scientific journals and has presented more than 12 papers in various international and national conferences. She is a senior member of Applied Physics Society of International Association of Computer Science and Information Technology (IACSIT). She joined St. Thomas College, Kozhencherry, on 4th November 2014 as Assistant Professor.

➤ **Area of Specilization/Research Interests :**

- Nanophotonics
- Hybrid materials
- Nanocomposites
- Optical and spectroscopic properties of nanostructured materials
- Metallic nanostructures
- Synthesis of rare-earth incorporated titanosilicates and polymer matrices.
- Design and engineering of organic–inorganic composite nanomaterials which could be of potential application in optoelectronics and biological sensing.
- Investigation of the guest-host optical interaction in design and development of multicomponent nanomaterials.
- Dielectric properties in hybrids.
- Design and development of ORMOSILs and ORMOCERs for specific applications in optoelectronics.

➤ Publications

- **Prathibha Vasudevan**, Sunil Thomas, Biju P.R, Sudarsanakumar C and Unnikrishnan N.V, Synthesis and structural characterizations of sol gel derived titania/ poly(vinyl pyrrolidone) hybrids, **J Sol-Gel Sci Technol (2012) 62:41-46**
- **Prathibha Vasudevan**, Sunil Thomas, Karthika.S, Biju P.R, Cyriac Joseph & Unnikrishnan N.V, Fluorescence enhancement in Sm³⁺/TiO₂ nanocrystallites doped PVP matrix, **J Opt (July-September 2011) 40(3):96–100.**
- **Prathibha Vasudevan**, S. Karthika, Joseph Cyriac, C. Sudarasanakumar and N.V. Unnikrishnan, Synthesis of pure anatase TiO₂ nanocrystals in SiO₂ host and the determination of crystal planes by ImageJ , **Mater. Letts 65 (2011) 664-666.**
- **Prathibha Vasudevan**, Arun Kumar K.V, Sunil Thomas, Biju P.R and Unnikrishnan N.V, RGB Emission From RE Ions Doped Titania /PVP Hybrid Matrix. **AIP Conf. Proc. 1391(2012)661-663.**
- **Prathibha Vasudevan**, Sunil Thomas, Arumkumar K V, Karthika S and Unnikrishnan N V, Synthesis and dielectric studies of poly (vinyl pyrrolidone) / titanium dioxide nanocomposites, **Institute of Physics Journal IOP Conference Series: Materials Science and Engineering (accepted, In press 2014).**
- RejiKumar P.R., **Prathibha Vasudevan**, Karthika S., George J., N.V.Unnikrishnan Structural and Spectroscopic Characterization of Ho³⁺ in Sol-Gel Silica, **Journal of optoelectronics and advanced materials 12 (2010) 1065 .**
- K R Bindu , Arturo I. Martinez, **Prathibha Vasudevan**, Unnikrishnan N.V and E I Anila , Physical properties of nanostructured ZnS powder with strong confinement Effects, **Physica E 46 (2012) 21–24.**
- K V Arun Kumar, K P Revathy, **Prathibha Vasudevan**, Sunil Thomas, P R Biju, N V Unnikrishnan, Structural and luminescence enhancement properties of Eu³⁺/Ag nanocrystallites doped SiO₂-TiO₂ matrices, **Journal of rare earths 31(2013)441-448.**
- Karthika S, **Prathibha Vasudevan**, Ann Mary K A, Viji Vidyadharan, Biju P R, Unnikrishnan N V*, Structural and spectroscopic studies of Sm³⁺/CdS nanocrystallites in sol-gel TiO₂ –ZrO₂ matrix, **Journal of Elec Materi 43 (2014):447-451.**
- **Prathibha Vasudevan**, Sunil Thomas , Siby Mathew and N.V Unnikrishnan , Synthesis and characterizations of anatase TiO₂ nanocrystals by simple polymer gel technique. International Conference on Composites and Nanocomposites, Kottayam, India. **Composites and Nanocomposites (Advances in Materials Science, volume 4, 2013) Apple academic press, Canada.**

- **Prathibha Vasudevan**, Sunil Thomas , Siby Mathew and N.V Unnikrishnan, Synthesis and characterizations of anatase TiO₂ nanocrystals by simple polymer gel technique. **International Conference on Composites and Nanocomposites, Kottayam, India, Jan 2011.**
- **Prathibha Vasudevan**, Sunil Thomas, Karthika. S, Biju P.R, Cyriac Joseph & Unnikrishnan N.V, Fluorescence enhancement in Sm³⁺/ TiO₂ nanocrystallites doped PVP matrix. . **XXXV Optical Society of India Symposium, International Conference on Contemporary trends in optics and Optoelectronics, IIST, Trivandrum, Jan 2011.**
- **Prathibha Vasudevan**, Sunil Thomas , Siby Mathew and N.V Unnikrishnan, Synthesis and characterizations of anatase TiO₂ nanocrystals by simple polymer gel technique. **National Seminar on Recent trends in nonlinear optical materials and characterization, Sacred Heart College, Chalakudy, Kerala, March 2011.**
- **Prathibha Vasudevan**, Sunil Thomas, Karthika. S, Biju P.R, Cyriac Joseph & Unnikrishnan N.V. Fluorescence enhancement in Sm³⁺/ TiO₂ nanocrystallites doped PVP matrix. **National Seminar on Recent trends in nonlinear optical materials and characterization, Sacred Heart College, Chalakudy, Kerala, March 2011.**
- **Prathibha Vasudevan**, Arun Kumar K.V, Sunil Thomas, Biju P.R and Unnikrishnan N.V, RGB Emission From RE Ions Doped Titania /PVP Hybrid Matrix. International conference on light: **OPTICS'11: NIT CALICUT, KERALA, INDIA, May 23-25, 2011.**
- **Prathibha Vasudevan**, Karthika S, Sunil Thomas, Biju P R & N V Unnikrishnan, White light emission from Tb³⁺, Eu³⁺/PVA film under Single UV Excitation. **National Workshop on Mesmerisms in Opto-electronics, July 2011, Baselius college, Kottayam.**
- **Prathibha Vasudevan**, Arun Kumar K V, Karthika S ,Sunil Thomas & N.V.Unnikrishnan, Nanocrystallization of TiO₂ in PVP matrix and its structural characterizations, Third International Conference on Frontiers in Nanoscience and Technology, **Cochin Nano-2011, August 14- 17, 2011.**
- **Prathibha Vasudevan**, Sunil Thomas, Arunkumar K V, Karthika S, and Unnikrishnan N V, Synthesis and dielectric studies of Poly (vinyl pyrrolidone)/ Titanium dioxide nanocomposites, **International conference on Materials Science and Technology, ICMST 2012, Kottayam, June 2012.**
- **Prathibha Vasudevan**, Arun Kumar K V, Sunil Thomas, Cyriac Joseph, P R Biju & N V Unnikrishnan, Synthesis and Characterization of Tb³⁺:Eu³⁺:TiO₂ / PVP Nanocomposites, **National Conference on Advances in Chemical Sciences 1-2 March 2013, Maharshi Dayanand University, Rohtak, India**

- Rejikumar P R , **Prathibha Vasudevan**, Karthika S & N V Unnikrishnan, Effect of Triangular and spherical silver nanoparticles on the dielectric properties of Holmium doped silica glass. **National seminar on Recent advances in nano science & Technology (NS NANO- 2009), S.N College, Kollam, October 2009.**
- Siby Mathew, Karthika S, **Prathibha Vasudevan**, K.T Mathew and N V Unnikrishnan, Dielectric studies of ZnSe / Eu^{3+} ions in Sol Gel Glasses. **National workshop on Quantum confined systems and nanoscale devices, St.Thomas College, Palai, Dec 2009.**
- Xavier Joseph, Arun Kumar K V, **Prathibha Vasudevan**, Gijo Jose, and N V Unnikrishnan, Optical and Z-Scan studies of CdS/Tb³⁺/Eu³⁺ doped silica matrix., **National Laser Symposium (NLS-9) Baba Atomic research Center (BARC), Mumbai, Jan 2010.**

➤ **Career Profile:**

- Senior member of Applied Physics Society of **International Association of Computer Science and Information Technology (IACSIT).**
- **Reviewer** of journals in Materials Science.
- Department coordinator, College Website Committee.