

Staff Profile Format:

Name	Dr. Priyanka K P
Qualification	<ul style="list-style-type: none">• Ph.D. in Physics - 2018 Mangalore University, Mangalore, Karnataka, India.• M. Sc in Physics - 2011 Mahatma Gandhi University, Kottayam, Kerala, India• B. Sc in Physics - 2009 Kannur University, Kannur, Kerala, India
Awards	<ul style="list-style-type: none">• Best Paper Award : International Conference on Nanomaterials-NANO-15, 7-10 December (2015), KSRCT Campus, Thiruchengode, Tamilnadu, India.• Best Oral Presentation Award : National conference on Nanotechnology's invisible threat: Small science, big consequences, Mahatma Gandhi National Institute of Research and Social Action (MGNIRSA), Hyderabad, India, 26-27 September, 2013.• Best Paper Award : National conference on Emerging Vistas of Engineering and Management (NCEVEM'14), Centre for Research & Development, Viswajyothi College of Engineering and Technology, Vazhakulam, Ernakulam, Kerala, 24-25 November, 2014.
Experience	<ul style="list-style-type: none">• 2018-Present : Assistant Professor, Dept. of Physics, MSRUAS, Bangalore• 2017-2018 : Assistant Professor (On Contract), Dept. of Physics, Sree Narayana College, Kannur, Kerala• 2012-2015 : Research Fellow, Nanoscience Research Centre, Nirmala College, Muvattupuzha, Kerala• 2018-Present : Residential Hostel Warden, MSRUAS Campus Hostel, Bangalore
Research	<ul style="list-style-type: none">• Interest : Materials Science-Nanomaterials• Expertise : Nanocomposites-Metal Oxide nanoparticles-Synthesis-Characterization-Applications
Publications	<ul style="list-style-type: none">• Ph.D. Dissertation: Synthesis, Properties and Applications of Pristine and Doped Nanotitania

(Detailed list of Publications)

- **Research Publications : 36** (14 journal articles as first author and 22 as second/third author publications in peer reviewed journals)
- **International Journal Papers: 30**
 1. Toxicological impact of TiO₂ nanoparticles on *Eudrilus euginiae*, ***IET Nanobiotechnology***, Institution of Engineering and Technology 11 (1) (2018) 66-70.
 2. High Performance Ethanol Gas Sensor Using TiO₂ Nanostructures, ***European Physical Journal Plus***, 132 Springer (2017) 306-312.
 3. Enhanced Visible Light Photocatalysis Using TiO₂/phthalocyanine Nanocomposites for the Degradation of Selected Industrial Dyes, 720 Elsevier (2017) 541-549.
 4. Inhibitory Effect of TiO₂ Nanoparticles on Symbiotic Arbuscular Mycorrhizal Fungi in Plant Roots, ***IET Nanobiotechnology***, Institution of Engineering and Technology 11 (1) (2017) 66-70.
 5. Influence of La Doping on Structural and Optical Properties of TiO₂ Nanocrystals, ***Materials Characterization***, 113 Elsevier (2016) 144-151.
 6. Microbicidal Activity of TiO₂ Nanoparticles Synthesized By Sol-Gel Method, ***IET Nanobiotechnology***, 10 (2) Institution of Engineering and Technology (2016) 81-6.
 7. Cerium Doped Nanotitania-Extended Spectral Response For Enhanced Photocatalysis, ***Materials Research Express***, 1(1) IOP Publisher (2014).
 8. Sol-Gel Synthesis and Characterization of TiO₂ Nanoparticles, ***Advanced Science Engineering And Medicine***, 6 (3) American Scientific Publishers (2014) 257-262.
 9. Dielectric Properties and A.C. Conductivity of Nanocrystalline Titania, ***Journal of Basic and Applied Physics***, 2 (1), World Academic Publishing Co., Limited (2013) 105-108.
 10. Effect of High Energy Electron Beam Irradiation on the Optical Properties of Nanocrystalline TiO₂, ***Nanosystems: Physics, Chemistry and Mathematics***, 4 (2), Mechanics and Optics Pub. (2013) 218-224.
 11. Surface Modification of Nanotitania Using High Energy Electron Beam Irradiation, ***International Journal Of Emerging Technology And Advanced Engineering***. 2(11), (2012) 130-134.
 12. Structural, Optical and Magnetic Properties of Nanophase NiWO₄ for Potential Applications, ***European Physical Journal B***, 91, Springer. (2019) 287-292.
 13. Silver Tungstate Nanoparticles for the Detection of Ethanol, Ammonia and Acetone gases, ***Journal of Electronic Materials***, 47 (2018) 6328-6333.
 14. Characterization of NiO/CoPc Nanocomposite Material Synthesized by Solvent Evaporation Route, ***Journal of Nanostructure in Chemistry***,

Springer, 8 (2018) 207–215.

15. 8 MeV electron beam induced modifications in the thermal, structural and electrical properties of nanophase CeO₂ for potential electronics applications, *Radiation Physics and Chemistry*, 147 Elsevier (2018) 64-69 2018.
16. Synthesis and Characterization of Silver Tungstate/Iron Phthalocyanine Nanocomposite for Electronic Applications, *European Physical Journal B*, 90 Springer (2017) 102-113.
17. CeO₂/CoPc Nanocomposite for Potential Applications in Electronics, *Journal of Electronic Materials* (2017).
18. Modifications in the Structural and Optical Properties of Nanocrystalline CaWO₄ Induced By 8 MeV Electron Beam Irradiation, *Radiation Physics And Chemistry*, 123 Elsevier (2016) 1-5.
19. Studies on the Structural, Optical and Electrical Properties of CeO₂/SnPc Nanocomposite for Electronic Applications, *Journal of Materials Science: Materials in Electronics*, Springer (2016) 1-9.
20. Structural Modifications and Extended Spectral Response of CeO₂/CoPc Nanocomposites for Potential Applications, *International Journal of Applied Ceramic Technology*, 13, Wiley, (2016) 670-677.
21. Influence of Electron Beam Irradiation on Structural and Optical Properties of α -Ag₂WO₄ Nanoparticles, *Micron* , 88, Elsevier (2016) 1-6.
22. Nanophase α -Silver Tungstate for Light Emitting Diodes and Gate Dielectrics, *Advanced Science, Engineering And Medicine*, 7(6), American Scientific Publishers (2015) 498-505.
23. Effect of Electron Beam Irradiation on the Structure and Optical Properties of Nickel Oxide Nanocubes, *Bulletin of Material Science*, 38 (4) Springer (2015) 825-830.
24. Enhancement of Electrical Properties of Manganese Tungstate Nanoparticles by Electron Beam Irradiation, *Materials Science and Engineering*, 73. IOP Conference Series (2015) 012051.
25. Effect of 8 MeV Electron Beam Irradiation on the Structural and Optical Properties of CeO₂ Nanoparticles, *Materials Characterization*, 98 Elsevier (2014), 222-227.
26. Facile Combustion Synthesis of ZnO Nanoparticles Using *Cajanus Cajan (L.)* and Its Multidisciplinary Applications, *Materials Research Bulletin*, 57, Elsevier (2014)325-334.
27. Effect of Calcination Temperature on the Structural and Optical Properties of Nickel Oxide Nanoparticles, *Nanosystems: Physics, Chemistry and Mathematics*, 5(3), St. Petersburg National Research University of Information Technologies, Mechanics and Optics Pub.

(2014) 441-449.

28. Chemical Synthesis, Structural Characterization and Electrical Studies of Nanocerium for CMOS Applications, *Journal of Electroceramics*, 32(4), Springer (2014) 361-368.

29. Effect of Electron Beam Irradiation on Optical Properties of Manganese Tungstate Nanoparticles, *Journal of Nanotechnology*, Article ID 580308 (2013).

30. Dielectric Studies of Nanocrystalline Manganese Tungstate, *Nanosystems: Physics, Chemistry and Mathematics* 4 (3), Mechanics and Optics Pub. (2013) 357-362.

National Journal Papers: 06

1. Characterization of Nanophase TiO₂ Synthesized by Sol-Gel Method, *Indian Journal of Physics*, 88 (7) Springer (2014), 657-663

2. Chemical Synthesis, Structural Characterization and Optical Properties of Nanophase α -Ag₂WO₄, *Indian Journal of Physics*, 89 (9) Springer (2015) 889-897.

3. Structural Characterization and Optical Studies of CeO₂ Nanoparticles Synthesized by Chemical Precipitation, *Indian Journal of Pure and Applied Physics*, 53 (9) (2015) 596-603.

4. Effect of Calcination on The Structural, Optical and Magnetic Properties of BaWO₄ Nanoparticles Synthesized by Chemical Precipitation, *Indian Journal of Pure & Applied Physics* 57, (2019)14-22.

5. AC Conductivity and Dielectric Studies of TiO₂/Cobalt Phthalocyanine Nanocomposites for Potential Applications, *Science and Society*, 14 (1) (2016) 57-64.

6. Photoluminescence Study of Nanophase TiO₂ Using CIE Diagram, *Science and Society*, 12 (2) (2014) 382-391.

• **Chapters in Books: 03**

1. Synthesis, Characterization and Electrical Properties of Cerium Oxide Nanoparticles. *Functionalized Engineering Materials and Their Applications*, Apple Academic Press, New Jersey (2016), ISBN-9781771885232.

2. Nano Biosensors-An Overview, *Nanotechnology in Biomedical Applications*, Atlantic Publishers (India), New Delhi, 209- 225 (2014), ISBN-9788126918751.

3. Nanomedicine and Medical Nanorobotics, *Nanotechnology in Biomedical Applications*, Atlantic Publishers (India), New Delhi, 237-258 (2014), ISBN-9788126918751.

<p>Presentations</p> <p>(Detailed list of Presentations)</p>	<ul style="list-style-type: none"> • Invited Lectures: 01 <p>‘Nanotitania-Properties and Applications’ during the National Seminar on ‘Emerging Trends in Nanoscience’ organized by the Directorate of Collegiate Education, Govt. of Kerala, India at T. M. Jacob Memorial Government College, Manimalakkunnu, Koothattukulam, Kerala on December 8, 2016.</p> • Conferences (International) : 06 <ol style="list-style-type: none"> 1. Tuned dielectric constant and loss tangent values of TiO₂/M-PC nanocomposites for micro-strip antennae applications, International Conference on Advanced Materials-ICAM-2019; June 12-14, Department of Physics, Nirmalagiri College, Kannur, Kerala, India. 2. Inhibitory Effect of TiO₂ Nanoparticles on Symbiotic Arbuscular Mycorrhizal Fungi in Plant Roots, International Conference on Nanomaterials-NANO-15, 7-10 December (2015), KSRCT Campus, Thiruchengode, Tamilnadu, India. 3. Dielectric Studies of TiO₂/Cobalt Phthalocyanine Nanocomposite With Varying Frequency, Seventh ISSS International Conference on Smart Materials Structures & Systems (ISSS-2014), 8-11 July (2014), Indian Institute of Science, Bangalore, India. 4. Synthesis, Characterization and Electrical Properties of Nanocrystalline Cerium Oxide Particles, First International Conference on Advanced Nanocomposite for Construction Materials-ICNC-2013, 12-14 march (2013), 31, M.G. University, Kottayam, Kerala, India. 5. Dielectric Studies of Nanocrystalline Manganese Tungstate, International Symposium on Macro-And Supramolecular Architectures and Materials-(Mam-12: Nano Systems and Applications), 21-25 November 2012, Coimbatore, India. 6. Effect of Calcination Temperature on The Structural and Optical Properties of Ce₂(WO₄)₃ Nanoparticles, Proceedings of International Conference on RAMSB-2018,23-25 January (2018) Mangalore University, Mangalore, Karnataka, India. • Conferences (National) : 07 <ol style="list-style-type: none"> 1. Toxicological Impact of TiO₂ Nanoparticles in Soil, National Conference on Particle Accelerators in Interdisciplinary Research-PAIR, 11-13 April (2017), Mangalore University, Karnataka, India. 2. TiO₂/CoPc Nanocomposite for NUV Light Excited LEDs, 27th Kerala Science Congress, 27-29 January, 190, 12-15 (2015), Alappuzha, Kerala, India.
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	<ol style="list-style-type: none"> 3. Anatase and Rutile Nano TiO₂ for NUV Light Excited LEDs, National Conference on Emerging Vistas of Engineering And Management (NCEVEM'14), 24-25th November (2014), Centre for Research & Development, Viswajyothi College of Engineering & Technology, Vazhakulam, Kerala, India, 4. Structural, Optical and Dielectric Studies of TiO₂/Cobalt Phthalocyanine Nanocomposite, UGC Sponsored National Seminar on “Recent Advances in Spectroscopy”, 31st July-1st August (2014), Department of Chemistry, Mar Athanasius College, Kothamangalam, Kerala, India. 5. Environmentally Benign Nanotitania Synthesized by Sol-Gel Method, 26th Kerala Science Congress, 27-31st January (2014), Vol.3 (Eds.), 11-07, KVASU, Wayanad, Kerala, India. 6. Anatase and Rutile Nanotitania-A Comparative Study Using Different Characterization Techniques, National Conference on “Nanotechnology’s Invisible Threat: Small Science Big Consequences”, 26-27 September (2013), Hyderabad, India. 7. Electrical Properties of Bismuth Vanadate Nanoparticles, 25th Kerala Science Congress, 29-31st January 2013, Technopark, Thiruvanthapuram, Kerala, India.
<p>Teaching</p>	<ul style="list-style-type: none"> • Modules Taught: <ul style="list-style-type: none"> ➤ Quantum Mechanics, Solid State Physics, Physics of Semiconductor Devices, Engineering Physics (B.Tech), Physics in Everyday Life (Open Elective, B.Voc), General Physics (B.Voc Hotel Management) • PG MS Thesis Advised: <ul style="list-style-type: none"> ➤ Trained and mentored more than 25 graduate and post graduate students in their research work related to dissertation, assisting the synthesis of nanomaterials and their characterization using sophisticated methods (2012-2018). ➤ Phonon Dispersion Study of BeO – 2018, MSRUAS • Professional Memberships: Life Member-Indian Science Congress, Kerala Science Congress