

CURRICULAM VITAE

Prof.(Dr.)PREMA K.H (MSc. M Phil., B Ed., Ph.D)
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ACADEMIC DETAILS

S. No	Academic Qualification	University	Year of passing	Percentage
1.	Ph.D.	Cochin University of Science and Technology	2008	
2.	M.Phil.	Calicut University	1993	75
3.	B.Ed	Calicut University	1992	63
4.	M.Sc Chemistry	Calicut University	1991	79 (1 st Rank)
5.	B Sc.Chemistry	Calicut University	1989	91 (1 st Rank)

ADDRESS

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TEACHING EXPERIENCE

Course	Year of Experience	Area of Specialization
UG	24.01.1996 onwards (28 years)	Physical Chemistry
PG	24.01.1996 onwards (28 years)	Physical Chemistry

RESEARCH EXPERIENCE 2005-2021

Approved Research Guide of Kerala University since 2012	
Masters level Projects	31 Nos
Ph.D	One awarded, one submitted and two ongoing
Projects	One minor project funded by UGC and 4 students projects funded by KSCSTE

Area of Research	Polymer composites- Ferrite filled elastomer composites-conducting composites based on polyaniline. Green synthesis of metal/metal oxide nano particles, Dendrimer based magnetic composites.
Patent (s)	Process of Preparing Metal Nano particles (no.360528) awarded on 8..03.2021 Filed a second Patent on 16.12.2020 Filed the third one on 27.01.2022

PUBLICATIONS

1. **Prema. K. H** , Philip Kurian, P.A. Joy and M. R. Anantharaman, Physicomechanical and Magnetic Properties of Neoprene Based Rubber Ferrite Composites, Polymer Plastics Technology and Engineering 47, 137 (2008). Cited 19
2. **Prema. K. H**, Philip Kurian, Suma M.N, Manoj Joseph and M. R. Anantharaman, Permittivity Characteristics in the X and S Band Frequencies of Microwave Absorbers Based on Rubber Ferrite Composites, Journal of Elastomers and Plastics 40, 331 (2008). Cited by 11 (Impact 1.2)
3. **Prema K. H**, Philip Kurian, Sanoj M.A, and M. R. Anantharaman, Effect of Carbon Black on the Mechanical and Dielectric Properties of Rubber Ferrite Composites, Progress in Rubber, Plastics and Recycling Technology 25, 57 (2009).Citation 2
4. **Prema. K. H**, Philip Kurian, Vijutha Sunny and M. R. Anantharaman, Cure Kinetics and Sorption Characteristics of Neoprene-Based Rubber Ferrite Composites, International Journal of Polymeric Materials, 59,173-183,2010.
5. **Prema. K. H**, Philip Kurian, parameswaran and M. R. Anantharaman, Microstructure and Magnetic Properties of NiFe₂O₄ and γ -Fe₂O₃ Nano Particles Synthesised by Sol-Gel Method, REYONO journal of interdisciplinary studies, 1,141-149,2012.
6. Yadhu Krishnan, Shine Chandran, Nazeeha Usman, Smitha T.R, Parameswaran P.S and **Prema K.H**, “Processability, Mechanical and Magnetic Studies on Natural Rubber-Ferrite Composites”, International Journal of Chemical Studies, 3, 15-22, 2015.ISSN – 2321-4902. Impact factor:0.565 cited 16
7. **Prema K.H**, Yadhu Krishnan, Raji R Krishnan, Parameswaran P.S and, “Effect of Phenolic Moieties on the Properties of γ -Fe₂O₃ Nanoparticles”, Journal of the Academy of Chemistry Teachers, 1, 7-14,2015.ISSN 2395-6801.
8. **Prema K H**,_Sambhu R and Christy Augustine P A, "cure characteristic studies of nr - Compounds reinforced with nano Zinc oxide Cure activator-Synthesized Via Sol-Gel method" International Journal of Current Research, 9,49846-49850, 2017.

9. **Prema K.H**, Sarun Kumar T.R and Smitha T.R.. “Adsorption of Iodine on Polyaniline synthesized via green medium and its characteristics” International Research Journal of Natural and Applied Sciences, Volume 4, Issue 6, June 2017, 214-219..
10. **Prema K.H**, Deepesh D, Sruthy B, and Latha M.S," Docking Study On Mycobacterium Tuberculosis With Phytochemicals Of Acalypha Indica" International Journal of Current Advanced Research, vol7, 2018.
11. **Prema K.H**, Smitha T.R. and Mamta binoy," comparative study on the dc conductivity and optical properties of polyaniline synthesized in different green solvents" International Journal of Current Advanced Research Vol. 7, Issue, 7(G), pp. 14323-14325, July, 2018.
12. **Prema K.H**, Sarun Kumar T.R and Smitha T.R, Characteristics of Polyaniline synthesized in green medium Averrhoa bilimbi fruit extract, International Journal of Engineering, Science and Mathematics, Vol. 7 Issue 7, July 2018, 65-74.
13. **Prema K H**, Smitha T R, Thushara Bhadrn, Vaishali Sankar “Magnetic and Dielectric Characterisation of PANI- Cobalt Ferrite nano composites Synthesized via green medium” International Journal of Advanced Research.(IJAR) 7(5) 1152-1159, May 2019.
14. **Prema K H**, Smitha T R, Thushara Bhadrn, Vaishali Sankar “Theoretical Verification of Dielectric and Magnetic Properties of Polyaniline-Nickel Ferrite Nanocomposites Synthesized in Green Medium Extracted from the Fruit of Tamarindus indica” Asian Journal of Chemistry; Vol. 32, No. 3 (2020), 646-652.
15. **Prema.K.H**, Theoretical evaluation of chemical reactivity of phenol, 2-aminophenol and 2-nitrophenol by DFT, International Journal of Current Science, Volume 12, Issue 1 March 2022, 690-697.
16. **Prema.K.H** Shine. R. Chandran, Raji. R. Krishnan, Darsana S and Elizabeth Johnson, Enhanced Adsorption Studies of Synthetic Dyes From Aqueous Solution By Polyaniline - Nickel Ferrite Composites And Its Conductivity Studies, International Journal of Research in Engineering and Science, Volume 10 Issue 4, 2022 PP.12-18, 2022.
17. **K.H.Prema**, T.R.Smitha and Sarunkumar T.R, Synthesis of Polyaniline- γ -Fe₂O₃ nano composites in Green Medium - Theoretical Justification of Electrical and Magnetic Properties, International Journal of Scientific Research in Engineering and Management, Volume: 06 Issue: 03, 2022, 1-15.
18. Shine.R. Chandran, Anand T. B, Raji. R. Krishnan & **Prema K.H** (2022). Conversion of aquatic weed water-hyacinth to conducting and microwave shielding material-a scientific approach. Journal of Elastomers & Plastics, Sage Publications 54(5), 718-730.
19. **Prema K.H**, Dielectric studies on magneto-elastomer composites filled with soft ferrites, Emerging Trends in Chemical Engineering, Vol.9, April 2022.

20. Raji.R.Krishnan, Anandhu T.P, Shine.R. Chandran, & **Prema, K. H.** (2022). “A novel approach for the fabrication of Cobalt ferrite and Nickel ferrite nanoparticles—magnetic and electrocatalytic studies”. *Journal of Materials Science: Materials in Electronics*, Springer, 33(21), 17100-17112.
21. Raji.R.Krishnan., Shine.R. Chandran ,Elizabeth Johnson, & **Prema K.H** (2022). “Biomedical Applications of Dendrimer Functionalized Magnetic Nanoparticles”. *ChemistrySelect*, Wiley, 7(27), e202201401.
22. Raji.R.Krishnan., Shine.R. Chandran, Elizabeth Johnson, Rohith .R & **Prema K.H** (2022). “Bulk Level Synthesis of Solid Silver Nanocatalyst: Green Mediated Approach”. *ChemistrySelect*, Wiley, 7(33), e202201554.
23. Raji R.Krishnan, E. Prasad, and **K. H. Prema.** "Integrating thermodynamics towards bulk level synthesis of nano Ni catalysts: a green mediated sol–gel auto combustion method." *New Journal of Chemistry*, RSC 47, no. 10 (2023): 4790-4800.
24. Elizabeth Johnson, Raji.R.Krishnan, Shine. R. Chandran, & **Prema, K. H.** (2023). “Green mediated sol-gel synthesis of copper oxide nanoparticle: An efficient candidate for waste water treatment and antibacterial agent”. *Journal of Sol-Gel Science and Technology*, Springer, 1-14.
25. Sreelekshmi Ajay, Jayanthi S. Panicker, Raji.R. Krishnan & **Prema, K. H.** (2023). “Greener Extraction of Anthocyanin Pigment from *Syzygium samarangense* and *Flacourtia jangomas*: An Alternative to Synthetic pH Indicators”. *Waste and Biomass Valorization*, Springer, 1-10.
26. Raji R.Krishnan, E. Prasad, Francis Bonafice Fernandez, Shine R. Chandran, Elizabeth Johnson, and **K. H. Prema.** "Hyperthermia heating efficiency of glycine functionalised graphene oxide modified nickel nanoparticles." *Journal of Alloys and Compounds*, Elsevier (2024): 173804.
27. Shine.R. Chandran , Raji. R. Krishnan , Elizabeth Johnson & **Prema, K. H.** “A green mediated synthesis of glass fiber-nickel ferrite-PANI ternary composites: an excellent thermal stability and outstanding EMI shielding performance”. *Journal of Applied Polymer Science*, Wiley, e55426, 2024.
28. Raji.R.Krishnan, E. Prasad, Francis Bonafice Fernandezd, Nishad K.V, Elizabeth Johnson, Shine. R.Chandran., & **Prema K.H.** “Cytotoxicity and heating efficiency of dendrimer functionalized graphene oxide modified nickel ferrite nanoparticles”. *Chemical Physics Letters*, Elsevier (Under revision).
29. Shine.R. Chandran, Raji.R.Krishnan, Elizabeth Johnson & **Prema K.H.**, “An ingenious technique for the synthesis of high performance electromagnetic shielding binary and ternary composites using an aquatic weed water hyacinth - A Green approach”, 2024, *Fibers and Polymers* (Communicated).
30. Shine.R. Chandran, Raji.R.Krishnan, Elizabeth Johnson & **Prema K.H.**, “A novel green approach for the construction of conductive glass fiber- silver- PANI ternary composites

with efficient electromagnetic interference shielding and excellent thermal stability”.2024, ChemNanoMat (Communicated)

31. Elizabeth Johnson, Anandhu Thejas Prasannakumar, Rohith R, Raji R Krishnan, Shine R Chandran & **Prema K.H**, Green Mediated Sol-gel Synthesis of $M_xCu_{1-x}O$ ($M= La,Ce$ $x= 0.02-0.06$) as an Efficient Catalyst for Electrocatalytic Oxygen Evolution Reaction, Fuel (Communicated)

CONFERENCE PAPERS AND INVITED TALKS

1. **Prema. K. H**, Philip Kurian, Sanoj. M.A, and M. R. Anantharaman, Dielectric properties of carbon black loaded rubber ferrite composites. International Seminar, Asia Rub Tech Expo 2006 Kochi, November 23-25 (2006).
2. **Prema. K. H**, Philip Kurian, and M. R. Anantharaman., Effect of Ferrite Fillers on Cure Kinetics and Dielectric Behaviour of RFCs. National Seminar in Frontiers in Organic Chemistry (FOCY 2007), Dept. of Chemistry, Calicut University, January 11-12 (2007).
3. **Prema. K. H** and M. R. Anantharaman., Development of Rubber Ferrite Composites with Appropriate Dielectric Characteristics for High Frequency Applications. 19th Kerala Science Congress, Kannur, Janury 29-31 (2007).
4. **Prema. K. H**, Philip Kurian, Vijutha Sunny and M. R. Anantharaman, Effect of Magnetic Nano Particles on Cure Characteristics and Mechanical Properties of Neoprene Rubber. International Conference on Nanomaterial & its Applications (ICNA-2007), Dept.of Chemistry, NIT Tiruchirappalli, February 4-6 (2007).
5. **Prema. K. H**, Philip Kurian, and M. R. Anantharaman, Fabrication of New Dielectric Materials Based on Gamma Ferric Oxide and Neoprene Rubber. International Conference on Materials for the Millennium (Mat Con 2007), Dept. of Applied Chemistry, CUSAT, Kochi, March 1-3 (2007).
6. **Prema. K. H**, Philip Kurian, and M. R. Anantharaman., Preparation and Characterisation of Nickel Ferrite and Gamma Ferric Oxide. National Conference on Smart Electronics (NCSE 2007) CMET Thrissur, March 8-9 (2007).
7. Shine Chandran, Yadhu Krishnan, Nazeeha Usman, Parameswaran P.S and **Prema K.H**, “Processability and Magnetic Studies on Natural Rubber-Ferrite Composites”, Swedeshi Science Congress, 2014, November.
8. Raji R Krishnan, Smitha T.R, **Prema K.H**, and Parameswaran P.S, “Structural and Dielectric Characterisation of Polyaniline- Fe_2O_3 , Composites”, Swedeshi Science Congress, 2014 November.
9. Raji R Krishnan Smitha T.R Parameswaran P.S and **Prema K.H**, “Synthesis and Characterization of Pani- $NiFe_2O_4$ Composites”, Science Congress, 2015 January.

10. Sambhu R, Christy Augustine P.A., Smitha T.R. and **Prema K.H.** “Effect of Nano Zinc Oxide on Cure Characteristics of Natural Rubber Vulcanisates”UGC sponsored National Seminar, SN College, Chengannur Alappuzha, 2015.
11. Christy Augustine P.A,Sambhu R, Parameswaran P.S. and **Prema K.H.** “One Pot Synthesis of Nano Structural ZnO and its Optical Characterization.” Second National Seminar on Recent Advances in Photochemistry at St.Michael’sCollege ,Cherthala, Dec 2015.
12. Soumya G Shenoii,**Prema K.H** andParameswaran P.S “Structural Characterization of ZnO NPs Prepared by Green Method” UGC sponsored National Seminar at SD College, Alappuzha,2015December.
13. Christy Augustine P.A,Sambhu R, Parameswaran P.S. and **Prema K.H** “Synthesis and Structural Characterization of nanoZnO”UGC sponsored National Seminar at SD College, Alappuzha, 2015December.
14. Christy Augustine P.A,Sambhu R, Smitha T.R., Parameswaran P.S. and **Prema K.H.**“Modification of Cure Characteristics of NR compounds using Nano ZnO” Poster presentation in the International Conference on Advances in Polymer Technology at CUSAT, Kochi, India, 2016 February.
15. Anand T B, Shine R Chandran, Deepesh D, Raji R Krishnan, **K H Prema** “DC Conductivity and Microwave Studies on Pani Fiber Ferrite Composites” Proceedings, International Conference on Photochemistry and Sustainable Energy (ICPSE) 2019.
16. T R Smitha, Raji R Krishnan, Shine R Chandran and **K H Prema** “ Dielectric, Magnetic and Adsorption Studies of PANI- γ -Fe₂O₃ Composites Synthesized in Green Medium” Proceedings, International Conference on Photochemistry and Sustainable Energy (ICPSE) 2019.
17. **Prema K H** and Smitha T ROne Day International Symposium on Supramolecular and Photochemistry, Adsorption Studies of Water Contaminants by PANI-CoFe₂O₄ composites synthesized in Tamarindusindica Fruit Extract, Dept. of Chemistry SD College, Alappuzha,**2020**
18. **Prema K H**, Philip Kurian and M R Anantharaman, One Day International Symposium on Supramolecular and Photochemistry, Magnetic and Dielectric Properties of EPDM Based Rubber Ferrite, , Dept. of Chemistry SD College, Alappuzha,**2020**
19. **Prema K H**, Elizabeth Jhonson, Shine R Chandran and Raji R Krishnan, Emerging Trends In Chemical Sciences, EFCS-2021, International Confrence, Fabrication of low cost oxygen evolution reaction (OER) elctrocatalyst based on magnetic nanoferrite, Dept. of Chemistry, Farook College
20. **Prema K H**, Elizabeth Jhonson, Shine R Chandran and Raji R Krishnan, 6th International Conference on Recent Advances in Material Chemistry, One pot

synthesis of crystalline silver nanoparticles with enhanced catalytic activity, Dept. of Chemistry, SRM institute of Science and Technology, Tamilnadu, India, February, 2022

21. **Prema K H**, Elizabeth Jhonson, Shine R Chandran and Raji R Krishnan International online conference on material science and technology (ICMT 2021), 12-14, November 2021, Removal of Heavy metals and other organic pollutants from water by PANI Ferrite composites synthesized by green method. Mahatma Gandhi University, P.D Hills P.O, Kottayam Kerala, India
22. **Prema K H**, Elizabeth Jhonson, Shine R Chandran and Raji R Krishnan, International e- conference on Recent Advances in Physical Science' ICRAPS-December 2021, Green synthesis of nickel and copper nanoparticles using *Ocimum tenuiflorum* and *Annona muricata*: Their application in dye adsorption, Bharata Mata College, Thrikkakkara & STRIDE
23. Raji R Krishnan, Shine R Chandran, Elizabeth Johnson, Prema K.H, Synthesis of Silver based magnetic nanocatalysts for the reduction of nitrophenol".-National Seminar on recent advances in photochemistry (NSPC-2023).
24. Resource Person, Basic Concepts in Quantum Mechanics, PG Department of Chemistry, St. Gregorios College Kottarakara & ACT, July 2021.
25. Resource Person, Meet The Scientist Programme on 17- 05-2021. Stepping 2 Patent: Experience Sharing, St. Joseph's College for Women, Alappuzha, Kerala
26. Plenary talk and Subject Expert, National Conference RICERCA October 2021, St. Joseph's College for Women, Alappuzha, Kerala
27. Resource Person, Workshop on Intellectual Property Rights & IP Management for Startups, July 2021 Al-Ameen College, Edathala, Aluva
28. Resource Person, Webinar series on " ψ Concepts in Quantum Mechanics" 03.08.2021-09.08.2021, TKMM college, Nangiarkulangara, Haripad, Alappuzha
29. Resourc Person, Intellectual Property Rights (IPR):Pathways to Patent, May 2021, Academy of Chemistry Teachers, Thriuvananthapuram
30. Resourc Person, Online Workshop on Msc Practical Chemistry, Dept. of Chemistry SD College, Alappuzha, May 2021.
31. **Prema. K.H**, Elizabeth Johnson, Raji. R. Krishnan, Shine. R. Chandran, National seminar on Neoteric Advances in Chemical Science- NACS 2022, Highly Efficient Copper Oxide Nanocatalyst for the Reduction of p-Nitrophenol and Degradation of Rhodamine B: A Green Mediated Approach, Dept of Chemistry, University of Kerala, Thiruvananthapuram.

