

Dr. Thomas Varghese

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- **Office Address:** Associate Professor, Dept. of Physics, Nirmala College, Muvattupuzha – 686 661, Ernakulam Dt., Kerala
- **Areas of Specialization:** Solid State Electronics, Nuclear Physics, Materials Science & Nanoscience and Technology
- **Professional Background:**
 - Research:** 15 years
 - Teaching:** 26 years

Sl. No.	Institution	Designation	Period
1.	Nirmala College Muvattupuzha (Corporate Educational Agency, Diocese of Kothamangalam)	Associate Professor	05.10.2008 onwards
2.	Nirmala College Muvattupuzha (Corporate Educational Agency, Diocese of Kothamangalam)	Reader	05.10.2005 to 04.10.2008
2.	Nirmala College Muvattupuzha (Corporate Educational Agency, Diocese of Kothamangalam)	Lecturer Senior Scale	05.10.2000 to 04.10.2005
3.	Nirmala College Muvattupuzha (Corporate Educational Agency, Diocese of Kothamangalam)	Lecturer	20.03.1997 to 04.10.2000
4.	Pavanatma College Murickassery (Corporate Educational Agency, Diocese of Kothamangalam)	Lecturer	08.03.1996 to 19.03.1997
5.	Newman College Thodupuzha (Corporate Educational Agency, Diocese of Kothamangalam)	Lecturer	05.10.1995 to 07.03.1996
6.	College of Applied Sciences (IHRD), Calicut	Lecturer	19.04.1995 to 04.10.1995
7.	Govt. Brennen College Tellicherry	Lecturer	05.11.1993 to 30.03.1994
8.	Govt. VHS School Ambalappuzha	Lecturer	22.07.1992 to 15.04.1993

▪ **Research Projects:**

Sl. No.	Project title	Sponsoring agency	Period	Amount (Rs.)	Remarks
1	Synthesis and characterization of Ag ₂ WO ₄ nanoparticles	UGC	2015-2017	5 lakhs	PI Completed
2	Synthesis, Characterisation and Applications of Nanocrystalline Metal Oxides	KSCSTE	2012-2015	12.57 lakhs	PI Completed
3	Synthesis, Characterization and application of MnWO ₄ and CaWO ₄ nanoparticles	UGC	2013-2015	2,00,000	CI Completed
4.	Synthesis and Applications of Nanometal Oxides	UGC	2011-2113	1,49,000	PI Completed
4	Studies on gamma ray Compton profiles of some high Z elements	UGC	2007-2009	75,000	PI Completed
5	Compton profiles of some Transition and rare earth elements	UGC	2003-2005	20,000	PI Completed

▪ **Editor**

- **Chief-Editor (2016-2019)**, Science & Society, (ISSN 0973-0206), Peer reviewed Journal of Nirmala Academic & Research Publications (NARP); Abstracted in Indian Science Abstracts (ISA)

• **Editorial Board Member**

- J. Materials Physics and Chemistry, ISSN 2333-4436
- Int. J. Emerging Techno. & Adv. Engg., ISSN 2250-2459
- International Journal of Recent Development in Engineering and Technology, ISSN 2347-6435
- Cloud Journals

▪ **Reviewer (International/National Journals)**

- 1) Journal of Alloys and Compounds, **IF-3.799**, ISSN: 0925-8388, (**Elsevier**)
- 2) Materials Characterization, **IF-2.383**, ISSN: 1044-5803 (**Elsevier**)
- 3) Materials Science and Engineering B, **IF-2.435**, ISSN: 0921-107 (**Elsevier**)
- 4) ACS Applied Materials & Interfaces, **IF-8.456**, ISSN: 1944-8244 (**American Chemical Society**)
- 5) Materials Chemistry and Physics, **IF-2.781**, ISSN:0254-0584 (**Elsevier**)
- 6) Journal of Nanoparticle Research, **IF-2.009**, ISSN: 1388-0764 (**Springer**)
- 7) Macromolecular Research, **IF-1.758**, ISSN: 1598-5032 (**Springer**)
- 8) Optical Materials, **IF-2.687**, ISSN:0925-3467 (**Elsevier**)
- 9) Journal of Advanced Ceramics, **IF-2.3**, ISSN:2226-4108 (**Springer**)
- 10) Materials Research Express, **IF-1.449**, ISSN: 2053-1591 (**IOP Science**)
- 11) Journal of Materials Science: Materials in Electronics, **IF-2.195**, ISSN: 0957-4522 (**Springer**)
- 12) ACS Applied Nano Materials, ISSN: 2574-0970 (**American Chemical Society**)
- 13) Iranian Journal of Science and Technology, ISSN: 1028-6276 (**Springer**)
- 15) Indian Journal of Pure and Applied Physics, **IF-0.766**, ISSN: 0019-5596 (**NISCAIR**)
- 16) Journal of Nanomaterials, Nanoengineering and Nanosystems (JNN), ISSN: 2397-7914 (**SAGE**)

List of Publications:

I. Books:

International

1. **Electron momentum distribution and Compton profile studies**, (ISBN 978-3-8383-9664-4) *Lambert Academic Publishing (LAP)*, Germany, 2010

National

1. **Nanotechnology in Biomedical Applications (ed.)**, (ISBN 978-81-269-1875-1) *Atlantic Publishers*, New Delhi, 2014
2. **Nanotechnology: An introduction to synthesis, properties and applications of nanomaterials**, (ISBN 978-8-1269-1638-2) *Atlantic Publishers*, New Delhi,

2011 (***This book is text book/reference book to many courses in various Universities in India**)

*** Text book:** B. Sc Physics - Kerala University; M Phil Physics- Anna University

***Reference Book:** M.Sc Physics – Kerala University, Thiruvananthapuram; Alagappa University, Tamilnadu; Solapur University, Maharashtra; Loyola College, Chennai; M Phil Physics, M.Sc Chemistry- (Applied Chemistry) Anna University, Chennai and Ravenshaw University, Odisha; M Sc Biotechnology- IIMT University, Meerut; M.Sc Bioinformatics- Alagappa University, Tamilnadu; M.Sc Zoology- MG University, Kottayam; B Tech courses- Various Autonomous Engineering colleges nationwide.

3. **Proc. NANOSTEC2011** (Ed.), NARP, 2011

4. **Source book for HSS Electronics Teachers (Class IX)**, SCERT, Kerala, Trivandrum, 2005.

II. Chapters in Book-11

1. ***Synthesis, characterization and electrical Properties of cerium oxide nanoparticles.***
In: Sabu Thomas, Nandakumar Kalarikkal, Pious C. V., Zakiah Ahmad and Józef Tadeusz Haponiuk (Eds.), ***Functionalized Engineering Materials and Their Applications***, Apple Academic Press, New Jersey (2018), ISBN-9781771885232
2. ***Effect of calcination temperature on the structural and optical properties of Ce₂(WO₄)₃ nanoparticles***, Proceedings of International Conference RAMSB-2018 (ISBN 9789352919536), pp 195-199, 2018
3. ***Influence of Co doping on the properties of NiO nanocrystals***, Proceedings of International Conference RAMSB-2018 (ISBN 9789352919536), pp 205-209, 2018
4. ***Dielectric studies of nanocrystalline calcium tungstate***, V. Rajendran, K. Saminathan and K.E. Geckeler (eds.), **Advanced Nanomaterials: Synthesis and Applications**, Bloomsbury, pp. 95-98 (2015).
5. ***CeO₂/CoPc-A novel nanocomposite for potential applications***, V. Rajendran, R. Suriyaprabha and K.E. Geckeler (eds.), **Industrial Applications of Nanostructured Materials**, Bloomsbury, pp. 89-92 (2015)
6. ***Inhibitory effect of TiO₂ nanoparticles on symbiotic arbuscular Mycorrhizal fungi in plant roots***, V. Rajendran, R. Suriyaprabha and K.E. Geckeler (eds.), **Industrial Applications of Nanostructured Materials**, Bloomsbury, pp. 85-88 (2015)

7. *Ag₂WO₄/CoPc Nanocomposite: Structural and optical properties*, V. Rajendran, R. Suriyaprabha and K.E. Geckeler (eds.), Bloomsbury, Industrial Applications of Nanostructured Materials, pp. 93-96 (2015).
8. **Nanosensors in Biology and Medicine**, *Thomas Varghese (Ed.) Atlantic Publishers (India)*, New Delhi, 2014
9. **Nanomedicine and Medical Nanorobotics**, *Thomas Varghese (Ed.) Atlantic Publishers (India)*, New Delhi, 2014
10. **The Compton profile of Fe**, *Proceedings of Fourteenth National Symposium on Radiation Physics*, Guru Nanak Dev University, Amritsar, November 1 – 3, 2001
11. **The Compton profile of Al**, *Proceedings of Thirteenth National Symposium on Radiation Physics*, Mangalore University, Mangalore, December 21 – 23, 1999.

III. Journals: Research Articles: 54

2019

1. Soumya Kuriakose, Hitha H, Anjali Jose, Mathew John, **Thomas Varghese**, *Structural and optical characterization of lanthanum tungstate nanoparticles synthesized by chemical precipitation route and their photocatalytic activity*, *Optical Materials (Elsevier)* (2019); <https://doi.org/10.1016/j.optmat.2019.109571>
2. H Hitha, Anjaly Jose, Mathew John, **Thomas Varghese**, *Structural and optical modification of NiWO₄ – Formation of NiWO₄/SnPc nanocomposite for improved photocatalytic activity*, *Materials Chemistry and Physics (Elsevier)* 239 (2019) 122080; **IF-2.781**
3. PA Sheena, H Hitha, A Sreedevi, **Thomas Varghese**, *Microstructural characterization and modified spectral response of cobalt doped NiO nanoparticles*, *Materials Chemistry and Physics (Elsevier)* 229 (2019) 412–420; **IF-2.781**
4. N Aloysius Sabu, Xavier Francis, S Ganesh, **Thomas Varghese**, *Effect of 8 MeV electron beam irradiation on the structural, optical and electrical properties of a PANI-MnWO₄ nanocomposite*, *Eur. Phys. J. Plus (Springer)* 134: 42 (2019); DOI 10.1140/epjp/i2019-12462-0; **IF-2.612**
5. Sheena PA, Sreedevi A, Chandra Viji, and **Thomas Varghese**, *Nickel oxide/cobalt phthalocyanine nanocomposite for potential electronics applications*, **European**

Physical Journal B (Springer) 92: 13 (2019); DOI: 10.1140/epjb/e2018-90280-8;
IF-1.440

6. Chithra Aloysius, Aveena Abee Varghese, Shameena Pattekkal Ali, TH Sukirtha, N Aloysius Sabu, Jaiby Cyriac, **Thomas Varghese**, *Antibacterial activity of carbon nanoparticles isolated from chimney soot*, **IET Nanobiotechnology** 13, 316-319 (2019); DOI: 10.1049/iet-nbt.2018.5183; **IF-1.925**
7. Seenamol K Stephen, Aloysius Sabu N, Priyanka K P, **Thomas Varghese**, *Effect of calcination on the structural, optical and magnetic properties of BaWO₄ nanoparticles synthesized by chemical precipitation*, **Indian Journal of Pure & Applied Physics (NISCAIR)** 57, 14-22 (2019); **IF-0.822**
8. H Hitha, Anjaly Jose, **Thomas Varghese**, *Synthesis, characterization and photocatalytic activity of NiWO₄ nanoparticles*, **AIP Conference Proceedings 2082**, 030017 (2019); <https://doi.org/10.1063/1.5093835>
9. Anjaly Jose, Aneesh George, Shinju Benny, H Hitha, **Thomas Varghese** *Synthesis and characterization of iron cerium tungstate nanoparticles and their dielectric Studies*, **AIP Conference Proceedings 2082**, 030005 (2019); <https://doi.org/10.1063/1.5093823>

2018

10. A. Sreedevi, K. P. Priyanka, S. C. Vattappalam, **Thomas Varghese**, *Silver Tungstate Nanoparticles for the Detection of Ethanol, Ammonia and Acetone Gases*, **Journal of Electronic Materials** (Springer), 47, 6328-6333, 2018 (DOI 10.1007/s11664-018-6551-8); **IF-1.676**
11. H. Hitha, K.P. Priyanka, A. Sreedevi, Anjali Jose, **Thomas Varghese**, *Structural, optical and magnetic properties of nanophase NiWO₄ for potential applications*, **European Physical Journal B** (Springer) 91, 287, 2018 (DOI:10.1140/epjb/e2018-90382-3); **IF-1.440**
12. K.K. Babitha, A. Sreedevi, K.P. Priyanka, S. Ganesh, **Thomas Varghese**, *8 MeV electron beam induced modifications in the thermal, structural and electrical properties of nanophase CeO₂ for potential electronics applications*, **Radiation**

Physics and Chemistry (Elsevier) 147, 64-69, 2018 (DOI-10.1016/j.radphyschem.2018.02.008); **IF-1.984**

13. K.P. Priyanka, Ani Kurian, K.M. Balakrishna, **Thomas Varghese**, *Toxicological impact of TiO₂ nanoparticles on Eudrillus euginae*, **IET Nanobiotechnology** 12, 579 – 584, 2018 (DOI 10.1049/iet-nbt.2017.0240); **IF-1.925**

14. P. A. Sheena, K. P. Priyanka, A. Sreedevi, **Thomas Varghese**, *Characterization of NiO/CoPc nanocomposite material synthesized by solvent evaporation route*, **Journal of Nanostructure in Chemistry** (Springer), 8, 207–215, 2018 (DOI: 10.1007/s40097-018-0272-7)

2017

15. K. P. Priyanka, S. C. Vattappalam, S. Sankararaman, K. M. Balakrishna, **Thomas Varghese**, *High-performance ethanol gas sensor using TiO₂ nanostructures*, **Eur. Phys. J. Plus** (Springer) (2017) 132:306; DOI 10.1140/epjp/i2017-11581-x; **IF-2.612**

16. K. P. Priyanka, S. Sankararaman, K. M. Balakrishna, **Thomas Varghese**, *Enhanced visible light photocatalysis using TiO₂/phthalocyanine nanocomposites for the degradation of selected industrial dyes*, **Journal of Alloys and Compounds** (Elsevier), 720, 541-549, 2017; **IF- 4.175**

17. K. K. Babitha, K. P. Priyanka, H. Hitha, S. Rintu Mary, E. M. Mohammed, S. Sankararaman, **Thomas Varghese**, *CeO₂/CoPc Nanocomposite for Potential Applications in Electronics*, **Journal of electronic materials** (Springer), 46, 6234-6240, 2017; DOI: 10.1007/s11664-017-5653-z; **IF: IF-1.676**

18. N. Aloysius Sabu, Francis Xavier, Anjaly Jose, S. Sankararaman, **Thomas Varghese**, *Enhanced Structural and Optical Properties of Polyaniline-Calcium Tungstate (PANI-CaWO₄) Nanocomposite for Electronics Applications*, **The European Physical Journal Plus** (Springer), 132, 290, 2017; **IF-2.612**

19. A. Sreedevi, K. P. Priyanka, K.K.Babitha, S. Sankararaman, **Thomas Varghese**, *Synthesis and characterization of silver tungstate/iron phthalocyanine nanocomposite*

for electronic applications, **European Physical Journal B** (Springer), 90, 102, 2017; DOI10.1140/epjb/e2017-80149-9, **IF-1.440**

20. K.P. Priyanka, V.S. Harikumar, K.M. Balakrishna, **Thomas Varghese**, *Inhibitory effect of TiO₂ nanoparticles on symbiotic arbuscular mycorrhizal fungi in plant roots*, **IET Nanobiotechnology** 11, 66-70, 2017; **IF-1.925**

2016

21. **Enhanced gas sensing correlated with structural and optical properties of Cs loaded SnO₂ nanofilms**, *European. Physical Journal Plus* (Springer) 131(9), 1-7 (2016), **IF-2.612**
22. **Studies on the structural, optical and electrical properties of CeO₂/SnPc nanocomposite for electronics applications**, *Journal of materials science: Materials in electronics* (Springer), DOI: 10.1007/s10854-016-5636-5 (2016), **IF-2.195**
23. **Dielectric studies of nanocrystalline calcium tungstate**, *Nanosystems: Physics, Chemistry, Mathematics*, 7(4), 599-603 (2016), **IF-0.726**
24. **Influence of electron beam irradiation on structural and optical properties of α -Ag₂WO₄ nanoparticles**, *Micron* (Elsevier), 88, 1-6 (2016) **IF-1.530**;
[doi:10.1016/j.micron.2016.05.003](https://doi.org/10.1016/j.micron.2016.05.003)
25. **Structural Modifications and Extended Spectral Response of CeO₂/CoPc Nanocomposites for Potential Applications**, *International Journal of Applied Ceramic Technology* (Wiley), 13 (4), 1–8 (2016); DOI:10.1111/ijac.12542, **IF-1.074**
26. **Modifications in the structural and optical properties of nanocrystalline CaWO₄ induced by 8 MeV electron beam irradiation**, *Radiation Physics and Chemistry* (Elsevier) 123, 1-5, 2016, **IF-1.984**
27. **Influence of La doping on structural and optical properties of TiO₂ nanocrystals**, *Materials Characterization* (Elsevier) 113, 144-151, 2016, **IF-3.220**
28. **Structural and optical modifications of the Ag₂WO₄/CoPc nanocomposite for potential applications**, *European. Physical Journal Plus* (Springer) 131:7, 1-8, (2016), **IF-2.612**

29. **Microbicidal activity of TiO₂ nanoparticles synthesised by sol-gel method,** *IET Nanobiotechnology*, 10 (2), 81- 86 (2016);DOI: [10.1049/iet-nbt.2015.0038](https://doi.org/10.1049/iet-nbt.2015.0038), **IF-1.925**

2015

30. **Nanophase α -silver tungstate for potential applications in light emitting diodes and gate dielectrics,** *Advanced Science, Engineering and Medicine (ASP)* 7(6), 498-505, 2015, **IF-0.987**

31. **Chemical synthesis, structural characterization and optical properties of nanophase α -Ag₂WO₄,** *Indian Journal of Physics*, 89(9):889–897,2015, DOI 10.1007/s12648-015-0664-1, **IF-1.166**

32. **Effect of electron beam irradiation on the structure and optical properties of nickel oxide nanocubes,** *Bulletin of Materials Science*, 38 (4), 825–830, 2015. **IF-1.264**

33. **Structural characterization and optical studies of CeO₂ nanoparticles synthesized by chemical precipitation,** *Indian Journal of Pure & Applied Physics*, 53, 596-603 (2015) **IF-0.822**

34. **Magnetic properties of cobalt ferrite nanoparticles synthesized by sol-gel method,** *IOP Conf. Series: Materials Science and Engineering* 73, 012050 (2015) doi:10.1088/1757-899X/73/1/012050

35. **Enhancement of electrical properties of manganese tungstate nanoparticles by beam irradiation,** *IOP Conf. Series: Materials Science and Engineering* 73, 012051, (2015) doi:10.1088/1757-899X/73/1/012051

2014

36. **Effect of 8 MeV electron beam irradiation on the structural and optical properties of CeO₂ nanoparticles,** *Materials Characterization* (Elsevier) 98, 222–227 (2014), **IF-3.22**

37. **Chemical synthesis, structural characterization and electrical studies of nanoceria for CMOS applications**, *Journal of Electroceramics* (Springer), 32 (4), 361-368 (2014); DOI: 10.1007/s10832-014-9919-z, **IF-1.238**
38. **Facile combustion synthesis of ZnO nanoparticles using *Cajanus cajan* (L.) and its multidisciplinary applications**, *Materials Research Bulletin* (Elsevier), 57, 325-334 (2014); DOI: 10.1016/j.materresbull.2014.06.010, **IF-2.873**
39. **Effect of calcinations temperature on the structural and optical properties of NiO nanoparticles**, *Nanosystems: Physics, Chemistry, Mathematics*, 5(3), 441-449 (2014), **IF-0.726**
40. **Sol-gel synthesis and Characterization of TiO₂ nanoparticles**, *Advanced Science, Engineering and Medicine (ASP)* 6(3), 257-262 (2014), **IF-0.987**
41. **Cerium doped nanotitania-extended spectral response for enhanced photocatalysis**, *Materials Research Express* (IOP), Vol.1 1, 015003 (2014) **IF-1.151**
42. **Characterization of nanophase TiO₂ synthesized by sol-gel method** *Indian Journal of Physics*, 88(7), 657-663 (2014); DOI 10.1007/s12648-014-0475-9, **IF-1.166**

2013

43. **Effect of electron beam irradiation on optical properties of Manganese tungstate nanoparticles**, *Journal of nanotechnology*, Vol.2013, 1-6, 2013
44. **Dielectric studies of Nanocrystalline Manganese tungstate**, *Nanosystems: Physics, Chemistry, Mathematics*, 4(3), 357-362, 2013, **IF-0.726**
45. **Effect of High Energy Electron Beam Irradiation on the Optical Properties of Nanocrystalline TiO₂**, *Nanosystems: Physics, Chemistry, Mathematics*, 4(2), 218-224, 2013, **IF-0.726**
46. **Dielectric Properties and A.C. Conductivity of Nanocrystalline Titania**, *Journal of Basic and Applied Physics*, 2 (1), 105-108, 2013

2010-12

47. **Surface Modification of Nanotitania using High Energy Electron Beam**, *International. J. Emerg. Tech. Adv. Engg.* 2 (11), 130-134, 2012, IF-2.324
48. **Electron momentum distribution and Compton profiles of europium** *European. Phys. J. D* (Springer) 57, 9-11 (2010) **IF-1.288**

2000-2006

49. Gamma ray Compton profiles of dysprosium and holmium, *Indian J. Phys. B* 80 (3), pp289-292 (2006) IF-1.166
50. **Compton profiles of praseodymium and gadolinium**, *Indian J. Pure & Appl. Phys.* 42, pp 239-242 (2004) IF-0.766
51. **Compton profile of tantalum**, *Pramana-J. Phys.* 60 (3), pp569-573 (2003) IF-0.692
52. **Electron momentum distribution and Compton profiles of tin**, *Indian J. Phys.* 77B (6), pp631-634 (2003) IF-1.166
53. **Compton profile of samarium**, *Indian J. Phys.* Vol. 76B, pp657-659 (2002) IF-1.166
54. **Gamma Ray Spectrometer**, *Physics Education* Vol.17, pp75-80 (2000).

Proceedings Publications

55. **Environmentally benign nanotitania synthesized by sol gel method** Proc. 26th Kerala Sci. Cong., 3850-3859, 2014
56. **Electrical Properties of Bismuth Vanadate Nanoparticles**, *Proc. 25th Kerala Science Congress*, 429-430, 2013
57. **The Compton profile of Fe**, *Proc. NSRP-14*, pp171-173 (2001).
58. **The Compton profile of Al**, *Proc. NSRP-13*, pp608-612 (1999).

V. Presentations: 28

- 1) **Tuned Dielectric Constant and Loss Tangent Values of TiO₂/M-Pc Nanocomposites for Microstrip Antennae Applications**, International Conference on

Advanced Materials (ICAM2019), Nirmalagiri College, Koothuparambu, 12-14 June 2019

2) ***Effect of Polyethylene Glycol on the Structural and Optical Properties of Manganese Tungstate Nanorods Synthesized by Precipitation Method***, International Conference on Advanced Materials (ICAM2019), Nirmalagiri College, Koothuparambu, 12-14 June 2019

3) ***Synthesis and characterization of Iron Cerium tungstate nanoparticles and their dielectric studies***, Int. Conference on Optoelectronics and Nanomaterials for Advanced Technology, CUSAT, Cochin, 2-5 January 2019

4) ***Synthesis, characterization and photocatalytic activity of NiWO₄ nanoparticles***, Int. Conference on Optoelectronics and Nanomaterials for Advanced Technology, CUSAT, Cochin, 2-5 January 2019

5) ***Effect of calcination temperature on the structural and optical properties of Ce₂(WO₄)₃ nanoparticles***, Int. Conference RAMSB-2018, Mangalore University, Mangalagore, Karnataka, 23-25 January 2018

6) ***Influence of Co doping on the properties of NiO nanocrystals***, Int. Conference RAMSB-2018, Mangalore University, Mangalagore, Karnataka, 23-25 January 2018

7) ***Size-dependent toxicological impact of TiO₂ nanoparticles on Eudrillus eugeniae***, 29th Kerala Science Congress, Tiruvalla, 28-31 January, 2017

8) ***Characterization of NiWO₄ nanoparticles synthesized by Chemical Precipitation***, 29th Kerala Science Congress, Tiruvalla, 28-31 January, 2017

9) ***Dielectric studies of nanocrystalline calcium tungstate***, International Conference on nanomaterials and Nanotechnology (Nano15), KSR Collge, Tiruchengode, Tamil Nadu, 7-10 December 2015.

10) ***CeO₂/CoPc-A novel nanocomposite for potential applications***, International Conference on nanomaterials and Nanotechnology (Nano15), KSR Collge, Tiruchengode, Tamil Nadu, 7-10 December 2015.

11) ***Inhibitory effect of TiO₂ nanoparticles on symbiotic arbuscular Mycorrhizal fungi in plant roots***, International Conference on nanomaterials and Nanotechnology (Nano15), KSR Collge, Tiruchengode, Tamil Nadu, 7-10 December 2015.

12) ***Ag₂WO₄/CoPc Nanocomposite: Structural and optical properties***, International Conference on nanomaterials and Nanotechnology (Nano15), KSR Collge, Tiruchengode, Tamil Nadu, 7-10 December 2015.

13) ***Structural characterization and photoluminescence properties of CaWO₄ nanoparticles prepared by chemical precipitation***, 27th Kerala Science Congress, Alappuzha, 27-29 January 2015.

14) ***TiO₂/CoPc Nanocomposite for NUV light excited LEDs***, 27th Kerala Science Congress, Alappuzha, 27-29 January 2015.

- 15) ***Dielectric studies of TiO₂/Cobalt Phthalocyanine nanocomposite with varying frequency***, 7th International conference on smart materials, structures and systems-ISSS 2014, IISc Bangalore, July 8-11, 2014.
- 16) ***Anatase and Rutile nanotitania-A comparative study using different characterization techniques***, 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.
- 17) ***Synthesis, Characterization and Optical Studies of Manganese Tungstate Nanoparticles***, 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.
- 18) ***Effect of Annealing on the Structural and Optical Properties of NiO Nanoparticles***, 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.
- 19) ***Synthesis, Characterisation and Electrical Properties of Nanocrystalline Cerium Oxide Particles***, First International Conference on Advanced Nanocomposite For Construction Materials (Icnc-2013), MG University, Kottayam, Kerala, India, 12-14 March 2013
- 20) ***Synthesis, Characterisation and Dielectric Study of Nanocrystalline Nickel Oxide***, National Seminar on Current Trends in Chemistry-Ctric- CUSAT, Cochin, March 2013
- 21) ***Synthesis, Characterisation and Dielectric Study of MnWo₄ Nanoparticles***, National Seminar on Current Trends in Chemistry-Ctric-2013(Eds.), CUSAT, Cochin March 2013
- 22) ***Dielectric studies of nanocrystalline manganese tungstate***, 6th International Symposium on Macro and Supramolecular architectures and Materials- MAM 12, Coimbatore, 21-25 November 2012
- 23) ***Magnetic properties of Copper ferrite and cobalt ferrite nanoparticles synthesized by Sol –Gel method***, International Conference on Materials Science and Technology-ICMST 2012, St. Thomas College, Pala, 10-14 June 2012
- 24) ***Soft Chemical Synthesis and Structural Characterization of nanophase Zinc Orthophosphate: Effect of Mn²⁺ on its Photoluminescence***, National Symposium on Nanoscience & Technology-NANOSTECH2011, Nirmala College, Muvattupuzha, 1-2 September, 2011.
- 25) ***Nanophysics: An Overview***, UGC Sponsored Seminar, Morning Star Home Science College, Angamaly, 21 July, 2011.

- 26) **The Compton profile of Fe**, *Fourteenth National Symposium on Radiation Physics*, Guru Nanak Dev University, Amritsar, November 1 – 3, 2001.
- 27) **The Compton profile of Al**, *Thirteenth National Symposium on Radiation Physics*, Mangalore University, Mangalore, December 21 – 23, 1999.
- 28) **Compton profiles of Al, Fe, Cu, Zn, Mo, and Cd**, Ninth National Symposium on Radiation Physics, Osmania University, Hyderabad, November 27-29, 1992.

- **Research Activities**

Guide: M.G. University, Kottayam & Bharathiar University, Coimbatore

Number of Ph.Ds produced: 4

Research Scholars: 6

Project Guidance to M.Sc students: 65

Research Collaboration

- Dept. of Studies in Physics, Mangalore University, Mangalore, Karnataka State
- Dept, of Physics, Maharajas College, Ernakulam, Kerala State

Research Contribution: Established Nanoscience Research Centre (NSRC) at Nirmala College, Muvattupuzha, January 2012

- **Extension Activities**

1. **Mentor**, Young Innovator's Program (YIP) 2018-2021, Govt. of Kerala
2. **Question paper setter, B.Sc Physics**, CMS College (Autonomous), Kottayam (2019)
3. **Question paper setter, M.Sc Electronics**, University of Kerala, Thiruvananthapuram (2018)
4. **Question paper setter, B.Sc Electronics**, University of Kerala, Thiruvananthapuram (2018)
5. **Question paper setter, M.Phil Nanoscience and Nanotechnology Physics**, University of Kerala, Thiruvananthapuram (2017)
6. **Expert, Research committee of HRDG/CSIR**, New Delhi, 2017
7. **Member, List of examiners, M.Phil Nanoscience and Nanotechnology**, University of Kerala, Thiruvananthapuram (2017)
8. **Question paper setter, M.Sc Physics**, St.Teresa's College (Autonomous), Ernakulam (2015)

9. **Convener, IRC regional conference on Astronomy research: opportunities and challenges**, Sponsored by IUCAA, Pune, 8-19 December 2014
10. **Subject Expert, Kerala Public service commission**, Thiruvananthapuram (2008-2013)
11. **Academic Core Committee Member**, Career oriented ADD ON Course, M.G. University, Kottayam, since 2008.
12. **Convener, National Symposium on Nanoscience & Technology-NANOSTECH 2011**, Nirmala College, Muvattupuzha, 1-2 September, 2011.
13. **Coordinator, Faculty Training Programme in Information Technology**, Nirmala College, Muvattupuzha, 7-9 December. 2010.
14. **Coordinator**, UGC ADD-ON course on IT, 2008-2015
15. **Research Guide**, M.G. University, Kottayam (since 2009); Bharathiar University, Coimbatore (since 2013).
16. **Additional Chief Superintendent**, Off Campus Examination, M.G. University, Christ Nagar English HSS, Trivandrum, May 3-30, 2009.
17. **Member, Core State Resource Group, SCERT**, Trivandrum, 2005-2006.

- **Resource Person**

1. Invited lecture on **Introduction to nanotechnology**, UGC sponsored National seminar on Frontiers of Nanotechnology, Mar Thoma College, Perumbavoor, 08.08.2017
2. Invited lecture on **Research Methodology**, Dept. of Optoelectronics, University of Kerala, Thiruvananthapuram, 09.01.2017
3. **"Hidden Hazards of Cell Phone Radiation"**, Invited Lecture, TM Jacob Memorial Government College, Manimalakunnu, Koothattukulam, Ernakulam, 10 August 2016
4. **Keynote speaker** at the National conference on emerging vistas of engineering and management, Viswajyothi College of engineering and technology, Vazhakulam, 24-25th November 2014
5. **"An introduction to nanophysics"**, National Seminar, UGC Sponsored, SSV College, Perumbavoor, Kerala, 06.03.2014
6. **Kerala Public Service Commission (KPSC)**, Pattom, Trivandrum, 2008-2013.
7. **Subject Expert**, Selection committee for FDP, Mar Athanasius College, Kothamangalam, 19.03.2013.

8. *“Hidden Hazards of Cell Phone Radiation”*, Invited Lecture, St. Teresa’s College, Ernakulam, 28 February 2013.
5. *“An introduction to Nanoscience & Nanotechnology”*, Invited lecture, MES College, Marampally, Aluva, 17 February, 2012.
6. *“Societal Implications of Emerging Technologies”*, Dept. of Economics, Nirmala College, Muvattupuzha, 7 March, 2012
7. UGC sponsored *“Workshop on Electronic Instrumentation”*, Morning Star College, Angamali, 21 July, 2011
8. *Science and Mathematics Inspire Exhibition 2009-2010*, Idduki Educational District, 10 August, 2010.
9. *Physics and Malayalam Literature*, Dept. of Malayalam, Nirmala College, Muvattupuzha, 13 August, 2010.
10. *Mobile Phone Hazards*, Dept. of Physics, Morning Star Home Science College, Angamaly, 21 October, 2009.
11. *Preparation of source book for HSS teachers – Electronics (XI Class)*, State Council of Educational Research and Training (SCERT), Trivandrum, 2005-2006.
12. *Electronics made simple, Quality Improvement Programme for High school teachers*, Muvattupuzha Educational District, Muvattupuzha, 1999 and 2000.

- **Seminars/Workshops/Symposia Organized**

1. *Convener, IRC regional conference on Astronomy research: opportunities and challenges*, Sponsored by IUCAA, Pune, 18-19 December 2014.
2. *Convener, National Symposium on Nanoscience & Technology- NANOSTECH 2011*, Sponsored by BRNS, DST & KSCSTE, 1-2 September, 2011.
3. *Co-ordinator, Faculty Development programme in Information Technology* for college teachers (State Level), Sponsored by KSHEC, 7-9 December, 2010.

- **Memberships**

- *American Nano Society*
- *American Chemical Society*
- *International Association of Advanced Materials*

- **Awards/honours**

- **Best paper award** for the paper “*Inhibitory effect of TiO₂ nanoparticles on symbiotic arbuscular mycorrhizal fungi in plant roots*”, International Conference on Nanomaterials and Nanotechnology- NANO 15, KSR College, Tiruchengode, Coimbatore, Tamilnadu, 07-10 December, 2015.
- **Prof. Satish John memorial special prize** (Award and Cash prize Rs. 60,000/-) for the **Best project in Solar Energy, YUVA MASTERMIND-2014**, organised by Malayala Manorama ; Project titled “*Enhanced dye sensitized solar cell*”.
- **Best paper award** for the paper titled “*Anatase and rutile nano TiO₂ for NUV light excited LEDs*”, National conference on emerging vistas of engineering and management, Viswajyothi College of engineering and technology, Vazhakulam, 24-25th November 2014.

- **LINKS:**

https://www.researchgate.net/profile/Thomas_Varghese3

<https://scholar.google.co.in/citations?user=0u9jqPQAAAAJ&hl=en>

<http://www.nsrc.in/principal-investigator.html>

- **Academic Background**

Degree	Subject	Year of passing	University	Class
B.Sc	Physics	1985	Kerala University	First
M.Sc	Physics- Electronics Special	1987	M.G University	First
B.Ed	Physical Science	1988	Kerala University	Second
M.Phil	Physics	1992	Mangalore University	First Class with Distinction
Ph.D	Physics	2003	Mangalore University	

- **Date of Birth:** 27.04.1965
- **Religion & Caste:** Christian, Orthodox
- **Nationality:** INDIAN