Faculty Profile

Dr. P.VINOTHKUMAR M.Sc.,B.Ed., Ph.D
Assistant Professor of Physics (SG)

HIGHLIGHTS:

- Number of Journal Publications : 40
- H-Index : 10
- Patents Published : 12

PROFESSIONAL LINKS:

Scopus ID	**36807192400**
Scopus Link	**https://www.scopus.com/authid/detail.uri?authorId=36807192400**
Google Scholar ID	**https://scholar.google.co.in/citations?user=jE_0xzAAAAAJ&hl=en**
Anna University Faculty ID	**2122445**
AICTE Faculty ID	**14147059409**
Anna University SupervisorID	**3970036**
LinkedIn	**https://www.linkedin.com/in/dr-p-vinothkumar-rudra-ab7a6216a/**

PROFESSIONAL BACKGROUND:

- Teaching Experience till date: 25.06. 2018 to till data
- Industrial Experience: Nil

INTERNATIONAL EXPOSURE:

1. **Aston University, Birmingham, United Kingdom.**

AREA OF SPECIALIZATION:

- **MATERIALS SCIENCE**
- **ATOMIC AND NUCLEAR PHYSICS**
- **ASTRO AND SPECTRO PHYSICS**
- **THERMODYNAMICS**

Ph.Ds AWARDED WITH DETAILS: NIL

S:No	Name of Scholar	Title of Thesis	Year of Completion	Full Time/Part Time

Ph.Ds GUIDING:

- **Full Time Scholars: 4**
- **Part Time Scholars : -**

SPONSORED RESEARCH / FUNDING APPLIED / CONSULTANCY: NIL

PATENTS PUBLISHED/GRANTED:

- Cadmium ion incorporated iminium salt as potent breast cancer drug, Dr. Panjanathan Vinothkumar, 202441040486 A (2024).
- M-xylene linked dimeric pyridinium cadmium complex act as potent antiproliferative drug, Dr.Panjanathan Vinothkumar, 202441044701 A (2024)
- Investigation On Sm3+ Doped Zine Bore Tellurite Glass For Warm White Led And Radiation Shielding Applications-202441093580 A (2024)
- Enhanced Photocatalytic Efficiency Of Ag3po4@Tio2 Composites Via Disorder Kinetics Analysis Using Uv-Visible Spectroscopy-202441093587 A (2024)
- Innovation Lead Free Tm^{3+} Doped Zinc Tellurite Glass For Modern Radiation Shielding Applications-202441100282 A (2024)
- Mercerization Extraction Of Lignin From Sugarcane Bagasse And Its Qualitative Analysis Of Adsorption Efficiency For Wood Preservation-202441100346 A (2024)
- Novel Gd3+ Doped Silver Borophosphate Glass For Radiation Shielding-202441100334 A (2024)
- Influence of samarium (sm^{3+}) doping on aluminum- titanium barium borophosphate glass for radiation shielding-202441100293 a (2024).

COURSES CERTIFIED:

- Information technology for Teaching and Learning course offered by **AICTE.**

ACHIEVEMENTS AND AWARDS:

- R.K.V.GOLD MEDAL FOR BACHELOR OF SCIENCE (PHYSICS)
- FIRST RANK FOR MASTER OF SCIENCE (PHYSICS)
- DR.RADHAKRISHNAN AWARD
- BEST RESEARCHER AWARD
- INTERNATIONAL BEST TEACHERS AWARD for (Science -Tamil Teaching)

SPECIAL SESSIONS DELIVERED: nil

CONFERENCES/SEMINARS/WORKSHOPS ATTENDED:

1. Attended an International Conference on Recent Advancements in Material Science (NewPhy 2020),Organized by P.G & Research Department of physics, The New College(Autonomous), Chennai - 600 014. Jan 21,2020.
2. Presented a paper on "Structural, Optical, Electrical Studies on Pure and Irradiated Mannitol Single Crystals for Nonlinear Optical Applications." National Laser Symposium (NLS-28) VIT Chennai, Chennai, January 8-11, 2020.
3. Presented a paper on An Overview: Structural and Optical Properties of Different Rare Earth Doped Phosphate Glasses, in a National Conference on Recent Trends in Physics of Materials (NCRTPM 2018), held at Pachaiyappa's College on February 9–10, 2018.
4. Attended an Skill Development in Research, Projects and Patent Filing at Saveetha Engineering College on 03.04.2018.
5. International Workshop on Recent Advances in Nanotechnology and Applications at AMET UNIVERSITY on 07.09.2018 and 08.09.2018.
6. National level Seminar on Recent Trends in Advanced Materials on 04-04-2018 to 06-04-2018 at Saveetha Engineering College.
7. Growth, Optical, dielectric and fundamental properties of N' methyl urea NLO Single Crystals" in national level conference "National conference on Advanced Materials and Applications" at National Institute of Technology, Tiruchirappalli during April 4-5, 2013.
8. "Structural, spectral, thermal, dielectric, mechanical and optical properties of Urea Tartaric acid single crystals" in national level conference "National seminar on Advanced Materials and Applications' '. at Karpagam University Coimbatore during 27-28 September 2013.
9. "Synthesis, Growth, and characterization of organic Nonlinear single crystal of N'methyl urea oxalate in national level Fifth Indian Youth Science Congress 2013 at Visva-Bharati University, Santiniketan, West Bengal during 6- 9.12.13.
10. Science academies lecture workshop on topics in theoretical physics organized by Department of Physics, Presidency College, Chennai during 10 & 11.3.2014.
11. International Conference On Advances In New Materials -2014 organized by Department of Inorganic Chemistry, University of Madras on 30.06.14. The topic is ''Growth and characterization of Monomethyl Urea Maleic acid Single Crystal''

12. International Conference On Advances In New Materials -2014 organized by Department of Inorganic Chemistry, University of Madras. The topic is ‘’Growth and characterization of Urea Phosphoric acid Single Crystal’’
13. NRB Research Dissemination Workshop on Titanium Matrix Composites organized By IIT-Madras during 30 August 2013
14. National Conference on Recent Trends In Physics of Materials (2015) organized by Department of Physics, Pachaiyappa’s College, Chennai-30.
15. 19th National Seminar on Crystal Growth-15 organized by VIT University, Vellore. The topic is ‘’Comparative Studies on Tartaric Acid Amide Single Crystals’’
16. National Conference on Materials Science and Technology Organized By Indian Institute of Space Science and Technology, Kerala. The topic is “Growth and Characterization of N’methyl Urea P-Nitrophenol single crystals’’ Workshop on Engineering Materials and Applications at Saveetha Engineering College.
17. National seminar on Advanced Materials for Energy and Environmental Applications held on 30.09.2023 organized at Department of Chemistry, KONGU ENGINEERING COLLEGE, ERODE.
18. National conference on materials synthesis and environmental sustainability-2023 organized by Department of physics, Sacred Heart College, Tirupattur on 26.09.2023.
19. International seminar on Modern Functional Materials (ISMFM-2024) at Sai Ram Engineering College, Chennai
20. 2nd International conference on innovations in Science and Humanities (ICISH-2024) a Saveetha Engineering College, Chennai

PROFESSIONAL MEMBERSHIPS:

- Indian Science congress Association, Kolkota
- Society for Atomistic and Continuum Modeling, BARC
- Indian Association of Nuclear Chemists and Allied Scientists, BARC, India

OTHER DETAILS (If any):

1. Synthesis, growth, structural, optical, thermal and mechanical properties of an organic Urea maleic acid single crystals for nonlinear optical applications.
   P Vinothkumar, RM Kumar, R Jayavel, A Bhaskaran. Optics & Laser Technology 81, 145-152.

2. Effects of Ce3+/Dy3+ and Ce3+/Sm3+ co-doping as a luminescent modifier in alumina-borophosphate glasses for w-LED application. M Dhavamurthy, **P Vinothkumar**, M Mohapatra, A Suresh, P Murugasen. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 266, 120448.

3. A combined experimental and DFT computations study of novel (E)-3-(benzofuran-2-yl)-2-(thiophen-2-yl) acrylonitrile (TACNBNF): Insight into the synthesis, single crystal XRD …JI Ahamed, M Priya**, P Vinothkumar**, K Sathyamoorthy, P MuraliManohar, ...

Journal of Molecular Structure 1202, 127241.

4. Preparation and luminescence properties of Dy3+ doped BaAlBO3F2 glass ceramic phosphor for solid state white LEDs P Muralimanohar, G Srilatha, K Sathyamoorthy, **P Vinothkumar,** ...Optik 225, 165807.

5. Structural, optical, thermal and mechanical properties of Urea tartaric acid single crystals. **P Vinothkumar**, K Rajeswari, RM Kumar, A Bhaskaran

   Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 145, 33-39.
6. The effect of rare earth on the radiation shielding properties of transparent lead-free Alumino-borophosphate glass system AA Suresh, **P Vinothkumar**, M Mohapatra, M Dhavamurthy, P Murugasen. Radiation Physics and Chemistry 193, 109941.

7. Optical characteristics of Eu3+ doped alumino borophosphate glass containing Al3+, Zn2+, Li2+, Sr2+ and Ba2+ ions. M Dhavamurthy, **P Vinothkumar**, AA Suresh, M Mohapatra, P Murugasen. Results in Optics 8, 100232.

8. Optical, electrical, mechanical properties of Pr^{3+} and Yb^{3+} doped phosphate glasses AV Deepa, **P Vinothkumar**, K Sathya Moorthy, P Muralimanohar, ... Optical and Quantum Electronics 52, 1-28.

9. A comparison on the Structural and Optical Properties of Different Rare Earth Doped Phosphate Glasses **P Vinothkumar**, Optik 181, 361-367

10. Synthesis, crystal structure and solid-state properties of 4-(3-nitrophenylamino)-4-methylpentan-2-one picrate (3NAP): An efficient cocrystal for χ (3) optics D Shalini, **P Vinothkumar,** K Sathyamoorthy, P Muralimanohar, TA Hegde, ...Journal of Molecular Structure 1225, 129098

11. Synthesis, growth, structural, optical, electrical and magnetic properties of novel (E)-3-(4-(diethylamino) phenyl)-2-(thiophen-2-yl) acrylonitrile (DPTA) single crystal K Sathyamoorthy, **P Vinothkumar**, J IrshadAhamed, P MuraliManohar, ...Journal of Molecular Structure 1192, 241-251.

12. Crystal growth and physico-chemical characterization of an organic 2-amino-6-methyl pyridinium L-tartrate single crystal for optoelectronic device applications E Priyadharshini, **P Vinothkumar**, P Jayaprakash, S Venda Journal of Materials Science: Materials in Electronics 34 (4), 245.
13. The effects of Ba2+ addition in the LiCO3–Mn2O3–B2O3 glass structure on electro-chemical and physical characterizations. **P Vinothkumar**, M Dhavamurthy, M Mohapatra, P Murugasen. Journal of Materials Science: Materials in Electronics 32 (17), 22548-22560.
14. A novel n-methylurea cyanurate single crystal: structural and physical characterizations for magneto-electronics applications. **P Vinothkumar**, M Dhavamurthy, K Sathyamoorthy, M Mohapatra, ...Journal of Molecular Structure 1245, 131015

15. Growth and Physicochemical properties of organometallic (DL)- trithiourtartrato-O1,O2,O3-cadmium(II) single crystals. **P Vinothkumar**. Journal of crystal growth 487, 96-103

16. Investigation on structural, optical properties of Sm3+ doped antimony boro-phosphate glass for warm white light emitting diode and radiation shielding applications. SK A. Paul Dhinakaran, **P. Vinothkumar**, T. S. Senthil. Journal of optics.

17. Investigation on single rare earth Dy3+ doped silver boro-phosphate glass for radiation shielding and led application. S Kalpana, **P Vinothkumar**, TS Senthil. Applied Physics A 130 (5), 1-14.

18. INVESTIGATION ON THE OXIDATIVE CAPACITY OF Zn MODIFIED Mn3O4 NANOPARTICLES BY PHOTOCATALYTIC METHYLENE BLUE DYE DEGRADATION. G Srilatha, P Muralimanohar, K Sathyamoorthy, **P Vinothkumar**, S Sriram, ...Digest Journal of Nanomaterials and Biostructures 15 (3), 895-904.

19. Growth, mechanical, thermal, electrical, linear, and nonlinear optical studies of urea resorcinol single crystals for NLO applications. **P Vinothkumar**, S Praveenkumar, S Thennarasu, M Harirajan. Chemical Physics Impact 8, 100554.

20. Structural, optical and thermo-physical characterizations of co-doped Pr^{3+} and Nd^{3+} ions on $BaCO_3$–H_3BO_3 glasses for microelectronic applications. **P Vinothkumar**, M Dhavamurthy, M Mohapatra, P Murugasen. Bulletin of Materials Science 44, 1-10

21. Predominance of Yb3+ and Ce3+ on the AlTaBaBO: Yb and BaTiSbBPO: ce glasses for effective photoluminescence and radiation shielding properties towards w-LED and γ-ray shielding …T Sivakumar, **Vinothkumar Panjanathan**, P Dhinakaran. Radiation Physics and Chemistry 224, 111995.

22. Synthesis structural optical and mechanical properties of $Nb3^+$ doped Zinc Borophosphate glass for radiation shielding application. **P Vinothkumar** Zeitschrift für Physikalische Chemie.

23. Influence of Mn_2O_3 on the physical properties of metallic glass network. **P Vinothkumar,** M Dhavamurthy, M Mohapatra, AA Suresh, P Murugasen Pramana 97 (3), 137

24. Physical, optical, and luminescent characteristics of Sm3+ doped tellurite glass suitable for yellow laser, warm white LED, and radiation shielding applications. SJ Isac, **P Vinothkumar**, AP Dhinakaran, S Praveenkumar Optics & Laser Technology 182, 112111.

25. catena-Poly [[sodium-di-μ-aqua-μ-(boric acid)-μ-succinato-sodium-di-μ-aqua] boric acid monosolvate]. G Rajasekar, **P Vinothkumar**, S Sudhahar, G Chakkaravarthi, ... IUCrData 1 (6), x160948.

26. The effect of Ce3+ ions on the optical, and radiation shielding properties in Ba–Sn borophosphate glass. AP Dhinakaran, **P Vinothkumar**, S Praveenkumar, M Mohapatra Radiation Physics and Chemistry 226, 112357.

27. Holmium ions influence in structural and optical properties of Aluminium Strontium-phosphate glasses for radiation shielding applications. **P Vinothkumar**, AK John, S Praveenkumar. Inorganic Chemistry Communications 170, 113483.

28. Investigation on dysprosium (Dy^{3+}) doped lithium boro-phosphate glass for light-emitting diode (LED) and supercapacitor applications. **P Vinothkumar**, SP Kumar, AA Grace, T Sivakumar, AP Dhinakaran. Journal of Materials Science: Materials in Electronics 35 (31), 2029.

29. Investigation of structural, optical characteristics of Gd3+ doped phosphate glass for radiation shielding applications. **P Vinothkumar**, T Sivakumar, SP Kumar, K Pradheesha. Inorganic Chemistry Communications 169, 113102.

30. Catalyst efficiency through the disorder kinetics to identify its nonlinearity in their properties of Ag_3PO_4@TiO_2 catalyst using UV–visible spectroscopy. **P Vinothkumar**, T Sivakumar, S Praveenkumar, P Ramalingam, ... Zeitschrift für Physikalische Chemie.

31. Investigation on luminescent characteristics of Tb^{3+}/Dy^{3+}co-doped boro-phosphate glass for cool white LED and radiation shielding applications. AP Dhinakaran, **P Vinothkumar,** TS Senthil, S Kalpana. Applied Physics A 130 (10), 709.

32. Synthesis, growth, structural, thermal, electrical and optical properties of organic NLO: N'methyl urea oxalic acid. **P Vinothkumar**, S Praveenkumar, P Dhinakaran A Journal of Optics, 1-10.

33. Growth and physiochemical properties of semi organic ammonium pentaborate dihydrate single crystal. K Dhatchaiyini, **P Vinothkumar**, S Joyal Isac, A Dinesh, M Ammavasi, ... Zeitschrift für Physikalische Chemie

34. Deciphering the Role of Gamma Ray Induced Radicals in the Thermoluminescence Process of a Neutral to Cool Daylight Emitting $Sr_{1-x}B_4O_7$–Dy_x Phosphor …M Mohapatra, A Suresh, **P Vinothkumar**, G Meena, P Murugasen. ACS Applied Optical Materials 1 (2), 544-551.

35. Synthesis, structural, optical, thermal and mechanical properties of dipotassium tetra borate monohydrate single crystal. MK Dhatchaiyini, **P Vinothkumar**, AA Suresh, M Mohapatra, D Shalini, ...Journal of Materials Science: Materials in Electronics 33 (21), 17023-17035.

36. Structural and physical characterizations of an organic Dispiro-Oxindolopyrrolidines single crystal for magnetic applications. G Vimala, P Rajakumar, **P Vinothkumar**, M Mohapatra, P Prabhakaran, ...Journal of Molecular Structure 1251, 131869.

37. Growth, linear, nonlinear optical, electronic and mechanical studies of urea-phosphoric acid crystals. **P Vinothkumar**, D Shalini, AA Suresh, P Murugasen
Materials Today: Proceedings 68, 543-548.

38. Radiative properties of 'Eu'in Li–Al–Si–O ceramics: Effect of 'Si'to 'Li'ratio

M Mohapatra, **P Vinothkumar**, K Sathyamoorthy, P Murugasen. Ceramics International

48 (1), 278-284.

39. Development of novel RE incorporated aluminium barium borophosphate glass for gamma ray shielding application. **P Vinothkumar**, AA Suresh, P Murugasen
Proceedings of the fifteenth biennial DAE-BRNS symposium on nuclear.

40. A brief look at the trap level spectroscopic properties of SrB_4O_7: Dy system, A TL and PL study. AA Suresh, **P Vinothkumar**, P Murugasen
Proceedings of the fifteenth biennial DAE-BRNS symposium on nuclear .