

Curriculum – Vitae

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Address: Dept of Physics, TKM College of Arts and Science, Kollam

Courses Undertaken:

Spectroscopy, Quantum Mechanics, Condensed Matter Physics , Fiber optics technology, Laser technology. Physics of Thin films, Electronics and Nano Science and Nanotechnology

Journal assignments

Scientific Journal (Peer reviewed) Association

1. Editor of “TKM International Journal for Multidisciplinary Research” from 2019-2021 ISSN (e) 2581-6519 (p) 2582-130X url : www.tijmr.org
2. Associate Editor of “TKM International Journal for Multidisciplinary Research” from 2018 to 2019

Edited Volumes-Peer reviewed

1. Proceedings of International Conference on Energy and Environment- AIP Conference Proceedings , Vol: 2244, Published Online: 26 June 2020
2. Proceedings of International Conference on Energy and Environment- Materials Today Conference Proceedings 2021 Vol 41, Part 3
3. International Journal of Materials Research, December 30, 2021, Guest Editor

Reviewer

1. Materials Today Proceedings (Elsevier)
2. AIP Conference Proceedings (AIP)
3. Material Chemistry and Physics (Elsevier)
4. Journal of Alloys and Compounds (Elsevier)
5. Journal of Thermal Spray Technology (Springer)
6. The Journal of Optoelectronics and Advanced Materials (National Institute of Optoelectronics, Bucharest, Romania)
7. Journal of Material Research (Springer)

Publications

Book Publication

1. Material Science; RBA Publication 2011
2. Modern Physics; RBA Publication 2010

Journal articles Publications (international journals)

Scopus ‘h index’ from the following manuscripts = 10; Total 1096 citations.

1. Photocatalytic, electrochemical performance and charge storage mechanism of WO₃ synthesized by chemical co-precipitation method. Sandra P Nair, DA Nayana, Nithya S George, S Nandakumar, S Athira, Lolly Mariya Jose, Aruna Joseph, Javeesh Alex, **P K Manoj**, D Sajan. Journal of Materials Science: Materials in Electronics vol. 36, no. 19, 2025 pp 1-20
2. Future of nanotechnology and functionalized nanomaterials. DA Nayana, Nithya S George, S Nandakumar, Arun Aravind, **P K Manoj** (Book Chapter: Functionalized Nanomaterials Based Supercapacitor: Design, Performance and Industrial Applications) 2023, Springer Nature Singapore
3. Bio-synthesis, characterization and antibacterial studies of ZnO nanoparticles. B. R. Aswathy, Dalia Vishnudasan, **P K Manoj** International Journal of Materials Research, vol. 112, no. 12, 2021, pp. 963-968.
4. Growth and characterization of gel grown single crystals of calcium iodate. M. Jasmina, Simi Sugathan, and **P K Manoj**. AIP Conference Proceedings 2369, 020137 (2021)
5. Drought stress amelioration in plants using green synthesised iron oxide nanoparticles, B B Sreelakshmi, S Induja, PP Adarsh, HL Rahul, SM Arya, S Aswana, R Haripriya, BR Aswathy, **P K Manoj**, Dalia Vishnudasan Materials Today: Proceedings 41, 723-727 (2021)
6. Influence of deposition parameters on the optical properties of ZnO thin films by dip coating method. AIP Conference Proceedings 2244, 110003 (2020); <https://doi.org/10.1063/5.0009213>, B R Aswathy and **P K Manoj**
7. Deposition of tin oxide thin films by sol-gel dip coating technique and its characterization, International conference on advanced materials. AIP Conference Proceedings 2162, 020134 (2019), Nirmalagiri college , Kannur, Kerala. Aswathy BR, Vinay K, Arjun M, **P K Manoj**
5. Transparent anatase titania films: a critical study on optical properties. **P K Manoj**, Peter Koshy, V K Vaidyan. Progress in Natural Science: Materials International 22 (2012) 79-85.
6. Investigation on the Effect of Process Parameters on Hardness of Components Produced by Direct Metal Laser Sintering (DMLS), C. D. Naiju, K. Annamalai, **P. K. Manoj**, K. M. Ayaz. Advanced Materials Research, 488 (2012) 1414-1418.
7. Study on the Effect of Process Parameters on Reciprocating Wear Behavior of Components Produced by Selective Laser Sintering (SLS). C. D. Naiju, **P. K. Manoj**, Tarun Thomas George, Joseph Kurian. Advanced Materials Research, 488 (2012) 1424-1428.
8. Preparation and characterization of indium doped tin oxide thin films. **P K Manoj**, Benny Joseph, V K Vaidyan and D Sumangala Devi Amma. Ceramics International 33 (2007) 273.
9. Growth and characterization of indium oxide thin films prepared by spray pyrolysis. **P K Manoj**, K G Gopchandran, Peter Koshy, V K Vaidyan and Benny Joseph. Optical Materials 28 (2006) 1405.

10. Structural electrical and optical properties of Al-doped ZnO thin films prepared by chemical spray deposition. Benny Joseph, **P K Manoj** and V K Vaidyan. *Ceramics International* 32 (2006) 487.
11. Structural, electrical and optical studies on chemically deposited tin oxide films from inorganic precursors. D Sumangala Devi Amma, V K Vaidyan and **P K Manoj**. *Materials Chemistry and Physics* 93 (2005) 194.
12. Preparation of transparent and semiconducting NiO films. B Sasi, K G Gopchandran, **P K Manoj**, Peter Koshy, P Prabhakara Rao and V K Vaidyan. *Vacuum* 68 (2003) 149.

Publications (in Indian journals)

1. Studies on preparation and characterization of indium doped zinc oxide films by chemical spray deposition. Benny Joseph, **P K Manoj** and V K Vaidyan. *Bulletin of Material Science* 28 (2005) 487.
2. Preparation and characterization of indium oxide thin films by chemical spray deposition. **P K Manoj**, K G Gopchandran, Benny Joseph, Peter Koshy and V K Vaidyan. *Indian Journal of Physics* 75A (2001) 507.
3. Optical and electrical properties of zinc oxide films prepared by spray pyrolysis. Benny Joseph, K G Gopchandran, **P K Manoj**, Peter Koshy and V K Vaidyan. *Bulletin of Material Science* 22 (1999) 921.
4. Optical and structural characterization of ZnO films prepared by oxidation of Zn films. Benny Joseph, K G Gopchandran, **P K Manoj**, J T Abraham, Peter Koshy and V K Vaidyan. *Indian Journal of Physics* 72A (1998) 99.

Publications in conference proceedings

1. Structural studies of Zinc oxide thin film by sol-gel dip coating method. 31st Kerala Science Congress, FMN College, Kollam 2019, Aswathy BR, **P K Manoj**, Vinay K, Arjun M
2. Green Synthesized Iron Nanoparticles and its Uptake in *Pennisetum glaucum* - A Nanonutrimomics Approach. IEEE TAP Energy 2017, Amrita University, Siji S, Njana J, Amrita PJ, Athira Raj, Dalia Vishnudasan, **P K Manoj** ISBN:9781538640227
3. Preparation of semitransparent photoluminescent and conducting nanocrystalline titanium dioxide films by pulsed laser ablation. Indo-Australian Symposium on Nanoscience and Nanotechnology, IISc, Bangalore (2006). S Sankar, **P K Manoj**, V P Mahadevan Pillai, K G Gopchandran.
4. Optical and structural properties of titania thin films. International Conference on Optics & Optoelectronics, IRDE, Dehradun, (2005). **P K Manoj**, K G Gopchandran, Peter Koshy and V K Vaidyan.
5. Structural studies of Hydrozine Bromate: A Raman spectroscopic study National Laser Symposium BARC, Bombay, (2005). M J Bushri, **P K Manoj** and A A Antony.
6. Preparation and characterization of titanium dioxide thin films. Annual conference of EMSI on electron microscopy and allied fields (2003). **P K Manoj**, Peter Koshy and V K Vaidyan.

7. Growth and characterization of NiO thin films. Annual conference of EMSI on electron microscopy and allied field (2001). **P K Manoj**, K G Gopchandran, Peter Koshy and V K Vaidyan.
8. Highly transparent and conducting ITO films by reactive evaporation. Proceedings of 10th Kerala Science Congress (1998) 98. K G Gopchandran, Benny Joseph, **P K Manoj**, Peter Koshy and V K Vaidyan.
9. Studies of indium oxide thin films prepared by spray pyrolysis. National conference on electron microscopy and XXIII Annual meeting of EMSI (1999). **P K Manoj**, K G Gopchandran, Benny Joseph, Peter Koshy and V K Vaidyan.
10. Studies on zinc oxide films prepared by spray pyrolysis. National conference on electron microscopy and XXIII Annual meeting of EMSI (1999) K G Gopchandran, **P K Manoj**, Benny Joseph, Peter Koshy and V K Vaidyan.

Membership of Society

1. Optical Society of India
2. Optical Society America
3. Academy of Physics Teachers Kerala
4. Web of Science ResearcherID [J-5251-2019](#)
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Seminars Conferences and Workshops

1. Science Academies Refresher Course in “Theoretical Physics”, at SSRNM College, Sattur March 17 to 30, 2024
2. Science Academies Lecture workshop on “Quantum Theory of Angular Momentum”, at TKM College of Arts and Science, Kollam 14 March to 16 March 2018.
3. 2017 IEEE International Conference on Technological Advancements in Power and Energy at Amrita Viswavidyapeetam, Kollam during 21st to 23rd Dec 2017
4. Hands-on MOOC worksop by Royal Academy of Engineering (UK), Thapar University and Amrita Vishwavidyapeetham on 16-17 Sept, 2017 at Amrita Vishwavidyapeetham, Kollam
5. National Seminar on Quality in Higher Education: The Emerging Scenario, at TKM College of Arts and Science, Kollam on 14 Nov and 17 Nov 2017.
6. Refresher Course in Quantum Mechanics, at Bishop More College, Mavelikkara, 01 May to 15 May, 2017. In association of Indian Academy of Sciences
7. One day Capacity building workshop for Internal mentors of walk with a scholar programme of Dept of Collegiate Education, Govt of Kerala at Fathima Matha National College on Feb 04, 2016.
8. Fourth International Conference on Frontiers in Nanoscience and Technology - Cochin NANO - 2016, at Cochin University of Science and Technology on Feb 20-23rd, 2016.
9. Workshop on VALUE Virtue Labs at Amrita Viswavidyapeetam, Kollam on 22nd Dec 2014.
10. National Colloquium on Theoretical Physics during 09-11 Aug 2013, under KSCSTE and SRIBS, at Trivandrum

11. International Conference on Materials for Energy and Nano Convergence 2013, 4 to 6th July, 2013 at CENCON, Hindustan University, Chennai
12. National workshop on Recent Advances in Material Science, March 1, 2013 at Hindustan University, Chennai.
13. National Biodiversity Congress, Dec 27-30, 2012, Trivandrum
14. 14th National Seminar on Crystal Growth. March 10-12, 2010.
15. National Conference on Solid State Nanomaterials. Oct-2009.
16. International conference on Sensors and related networks. Dec 8-11, 2009.
17. International conference on Sensors and related networks. Dec 12-14, 2007.
18. Refresher Course in Condensed Matter and Statistical Physics, at St. Thomas College Pala, 28 Feb to 13 Mar, 2011. In association of Indian Academy of Sciences.
19. Basic Concepts of Quantum Mechanics and its Applications. July 6-7, 2011, at VIT.
20. FDP on Biomedical Physics, 30th June and 1st July, 2011, at VIT.
21. FDP on Multidimensional NMR, Basic Principles and its Applications, 27-28 March 2010, VIT.
22. Skill Improvement Programme, 5th Feb- 30 April, 2008, VIT.

Education Details

Institution	Year	University
*PhD (Physics)	2004	University of Kerala
M Phil (Physics)	1998	University of Kerala
MSc (Physics)	1995	University of Kerala
B Sc (Physics)	1993	M G University

*PhD thesis title : Studies on Preparation of Titanium dioxide thin films by Electron Beam Evaporation and their Characterization

Employment details

Institution	Position	Duration
TKM College of Arts and Science, Kollam	Assistant Prof.	Jul 2013 onwards – 12 Y
Hindustan University	Associate Prof.	1Y
VIT University	Assistant Prof.	5 Y
Kerala University – Optoelectronics Dept.	Lecturer	1 Y
SAS College Konni	Lecturer	8 months

Other important assignments

1. PhD guide at University of Kerala, No of Research Scholars : 6
2. Associate Editor TIJMR ISSN (e) 2581-6519 (p) 2582-130X - from 2018-2019
3. Editor TIJMR ISSN (e) 2581-6519 (p) 2582-130X - from 2019-2021
4. KCSTE District level School Science Lab Modernization Committee Member, Govt. of Kerala (2018)