

Name : Dr. S.S. KANMANI
Designation : Assistant Professor
Department : Department of Physics
Qualification : M. Phil., Ph. D
Experience : Teaching: 7.5 Years Research: 11 Years
Area of Specialization(s) : Nanomaterials, Solar Cells, Photo catalytic materials
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Academic Qualifications

Degree	Branch	Institution / University Name	Year of Graduation
Ph. D.	Physics	Madurai Kamaraj University	2013
M. Phil.	Physics	Madurai Kamaraj University	2009
MSc	Physics	Madurai Kamaraj University	2008
BSc	Physics	Gobi Arts and Science College /Bharathiyar University	2006

Research Publications (Indexed)

International

1. V. Gowthambabu, S. S. Kanmani & N. Rajamanickam, **Influence of anionic precursors on electrochemical properties of tin oxide nanoparticles: a comparative analysis**, Journal of Materials Science: Materials in Electronics, 32, 11695–11708 (2021).
2. V Gowthambabu, A Balamurugan, S Satheesh Kumar, and SS Kanmani, **ZnO nanoparticles as efficient sunlight driven photocatalyst prepared by solution combustion method involved Lime juice as biofuel**, Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 258, 119857(2021).
3. N. Rajamanickam, S.S. Kanmani, K. Jayakumar, and K. Ramachandran. **On the possibility of ferromagnetism and improved dye-sensitized solar cells efficiency in TiO₂/ZnO core/shell nanostructures**, Journal of Photochemistry and Photobiology A: Chemistry, Vol. 378, pp 192-200, 2019, 1010-6030 (Indexed in SCI).
4. S.S. Kanmani, N. Rajamanickam, and K. Ramachandran. **Eosin yellowish dye sensitized solid state solar cells with titanium dioxide electrodes composed of nanoparticles/nanowires**, Journal of Electroanalytical Chemistry, Vol. 767, pp174-181, April- 2016, ISSN: - 1572-6657, (Indexed in SCOPUS).

5. S.S. Kanmani, N. Rajamanickam, and K. Ramachandran. **Influence of Ti dopant on the properties and dye sensitized solar cell performance of ZnO chunk-shaped nanostructures**, Organic Electronics, Vol.15, pp 2302–2310, 2014. ISSN: - 1566-1199, (Indexed in SCI).
6. S.S. Kanmani and K. Ramachandran. **Role of aqueous ammonia on ZnO nanostructures and its influence on solid state dye sensitized solar cells**, Journal of Materials Science, Vol. 48(5), pp 2076-2091, 2013. (Indexed in SCI).
7. S.S. Kanmani and K. Ramachandran. **Synthesis and characterization of TiO₂/ZnO core/shell nanomaterials for solar cell applications**, Renewable Energy, Vol. 43, pp 149-156, 2012. (Indexed in SCI).
8. S.S. Kanmani, K. Ramachandran and S. Umapathy. **Eosin yellowish dye-sensitized ZnO nanostructure-based solar cells employing solid PEO redox couple electrolyte**, International Journal of Photoenergy, Vol 2012, Article ID 267824, 8 pages doi:10.1155/2012/267824.
9. S.S. Kanmani, M. Sarkaraikani and K. Ramachandran. **Core/shell type ZnO/CdS nanocomposites: Synthesis, characterization, and application for solar energy conversion**, Advanced Science Letters, Vol. 16, pp 46-52, 2012.
10. S.S. Kanmani, N. Rajkumar and K. Ramachandran. **On the phonon confinement and particle size in TiO₂:ZnO nanocomposite**, International Journal of Nanoscience, Vol. 10(1 & 2), pp 227-231, 2011.
11. S.S. Kanmani, N. Rajkumar, and K. Ramachandran. **Structural, optical, and magnetic properties of Zn_{1-x}Mn_xS (x = 0.00, 0.01, and 0.03) nanoparticles**, Journal of Nano- and Electronic Physics, Vol. 3, pp 1064-1070, 2011.
12. N. Rajkumar, S.S. Kanmani, and K. Ramachandran. **Performance of dye-sensitized solar cell based on TiO₂:ZnO nanocomposites**, Advance Science Letters, Vol. 4, pp 627-633, 2010.
13. S. Rajashabala, S.S. Kanmani and K. Navaneethakrishnan. **Laser induced metal insulator transition through exciton mechanism in quantum well systems**. Modern Physics Letters B, Vol. 23, pp 1229-1242, 2008.

National

1. S.S. Kanmani and K. Ramachandran . **Self-diffusion in nano-ZnO**. Defect and Diffusion Forum, Vol. 307, pp 27-35, 2010.

Other Publications: International / National Journals

1. S.S. Kanmani, S. Umapathy and K. Ramachandran. **Eosin yellowish dye sensitized TiO₂ solar cell with PEG/PEO/LiI/I₂ as electrolyte**. American Institute of Physics Conference Proceedings, Vol. 1447, pp 343-344, 2012.

Book Publications

1. A chapter “Binary Semiconductor Metal Oxide as Photoanodes” in the book “Interfacial Engineering in Functional Materials for Dye-Sensitized Solar Cells”, S.S. Kanmani, I. John Peter, A. Muthu Kumar, P. Nithiananthi, C. Raja Mohan, and K. Ramachandran, John Wiley & Sons Inc. 2020, ISBN: 9781119557333.

Presentations in Conference

1. **Role of Sn On Structural And Optical Properties Of ZnO Chunk Shaped Nanostructures**, 24th National Seminar on Crystal Growth and Applications (XXIV NSCGA-2020), Feb. 2020.
2. **Eosin yellowish dye sensitized TiO₂ solar cell with PEG/PEO/LiI/I₂ as electrolyte**, 56th DAE-Solid State Physics Symposium, SRM University, Kattankulathu, Dec-11.
3. **Synthesis of ZnO nanostructures and their applications in dye sensitized solar cells with solid state electrolyte**, International Conference on Nanoscience and Nanotechnology (ICNN - 2011), Coimbatore Institute of Technology, Coimbatore, July 6-8 (2011).
4. **Structural, optical and magnetic properties of Zn_{1-x}Mn_xS (x=0.00, 0.01, and 0.03) nanoparticles**, International Symposium on Semiconductor Materials and Devices, The M.S. University, Baroda, Gujarat, January 28-30 (2011).
5. **Dye sensitized solar cells based on TiO₂/ZnO nanocomposites**, National Seminar on Recent Advances in Inorganic and Nano Chemistry, Madurai Kamaraj University, Madurai, March 29-30 (2010).
6. **Optical and magnetic properties of Zn_{1-x}Mn_xS (x=0, 0.005, 0.01, 0.03 and 0.05) nanoparticles**, International Conference on Nano Science and Technology (ICONSAT-2010), Indian Institute of Technology, Bombay, February 17-20 (2010).
7. **On the phonon confinement and particle size in TiO₂:ZnO nanocomposite**, International Conference on Advanced Nanomaterials and Nanotechnology, IITG, Guwahati, December 9-11 (2009).
8. **Optical studies on the dye sensitized TiO₂/ZnO nanocomposite**, National conference on Emerging materials, Devices and Technologies (EMDT-09), Sri Venkateswara University, Tirupathi, February 24-25 (2009).

Participation in Conference

International

1. National conference on Nanomaterials for energy and medical applications, SNS college of Technology, Coimbatore, 20th November 2019.
2. Recent advances in crystal growth and crystallography (RACC-2012), School of Physics, Madurai Kamaraj University, Madurai, March 21-22 (2012).
3. Recent trends in advanced materials (SRAM-2012), School of Physics, Madurai Kamaraj University, Madurai, March 8-9 (2012).
4. Indo-Norwegian satellite meeting on advances in solar cell materials and technologies, School of Chemistry, Madurai Kamaraj University, Madurai, December 17 (2011).
5. Recent developments and applications on nano systems (RDANS-2011), School of Physics, Madurai Kamaraj University, Madurai, March 10-11 (2011).
6. International conference and workshop on new materials and devices for photovoltaic applications (ICWNMDP-2011), School of Chemistry, Madurai Kamaraj University, Madurai, February 10-12 (2011).
7. 55th DAE-Solid State Physics Symposium, Manipal University, Manipal, December 26-30 (2010).

National

1. Research Issues in Nano Composite Polymers for Super Capacitor Fabrication, Hindusthan College of Engineering and Technology, Coimbatore, July 12 (2018).

Participation in Seminars

1. Seminar on introduction to quantum mechanics & computer applications in physics, Department of Physics, Gobi Arts & Science College, Gobichettipalayam, September 3 (2005).

Participation in Workshop

1. One day workshop on Science Communication, PSGR Krishnammal college for women, Coimbatore, 20th December 2019.
2. National workshop and conference on Monte Carlo Simulation, School of Physics, Madurai Kamaraj University, Madurai, August 9-13 (2010).
3. Workshop on recent trends in astrophysics, School of Physics, Madurai Kamaraj University, Madurai, January 28-29 (2010).

Participation in Orientation Programme / Short Term Courses

1. Solar Photovoltaics Fundamentals, Technology and Applications, NPTEL –Online Certification course, Sep-Nov-2020.
2. Selection of nanomaterials for energy harvesting and storage application, NPTEL –Online Certification course, July-August, 2019.

Participation in Faculty Development Programme

1. Solar Photovoltaics Fundamentals, Technology and Applications, NPTEL- AICTE FDP, Sep-Nov-2020
2. Selection of nanomaterials for energy harvesting and storage application, NPTEL- AICTE FDP, July-Aug-2019.
3. Faculty Development Programme, United institute of Technology, Coimbatore, June-16.

Conference / Seminar / Workshop Organized

1. Organizing Secretary- SPECTRA'20 (Intercollegiate Meet)- Department of physics, Coimbatore on 27.02.2020.
2. Organized a Career Guidance Program On IIT JAM (Venper Academy) – Academic Career Development Cell, Dr. NGP Arts and Science College on 17.08.2019.

Invited Speaker / Session Chair- Conference / Seminar / Workshop

Session Chair- Dr. K. Srinivasan, Professor and Head, Bharathiar University, Polymorphism and Crystallization of Food and Pharmaceutical Materials, Dr. NGP Arts and Science College, 03.03.2020

Member in BoS

Board of Studies, Department of Science and Humanities (Physics), Hindustan college of Engineering and Technology, Coimbatore, 2017- May 19.

Awards / Honors

Awards / Honors	Agency / Institute	Year of Award
Best Result award	Hindusthan college of Engineering and Technology	March 2019
Best M.phil Project	Madurai Kamaraj University	April 2009

Recognition National / International

Nature of Recognition	Organization / Institution	Year
Inspire Fellowship	DST	2011-2013
University Stipendary Research Fellowship	Madurai Kamaraj University	2010