

Dr. C. Gopinathan

Professor and Head

Department of Solar Energy

School of Energy, Environment and Natural Resources



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Educational Qualifications : M.Sc. (Physics), Ph.D. (Energy Sciences)

Professional Experience : Teaching : 24 Years

Research : 25 Years

FIELD OF SPECIALIZATION

- Solar Energy – Solar Photovoltaic Materials
- Solar Radiation Modeling

RESEARCH SPECIALIZATION

- Physics of Solar Cell Materials
- Study on Solar Energy Potential

Research Supervision:

Program	Completed	Ongoing
Ph.D.	12	03
M.Phil.	22	-

PROFESSIONAL EXPERIENCE

No	Institution	Position	From (date)	To (date)	Duration
1.	Madurai Kamaraj University	Professor and Head	05.06.2016	Till Date	3 years, 8 months
2.	Madurai Kamaraj University	Associate Professor and Head	05.06.2013	04.06.2016	3 years
3.	The Madura College	Reader / Associate Professor	01.02.2011	04.06.2013	2 years, 4 months
4.	The Madura College	Lecturer (Selection Grade)	01.02.2008	31.01.2011	2 years, 11 months
5.	The Madura College	Lecturer (Senior Scale)	01.02.2004	31.01.2008	3 years, 11 months
6.	The Madura College	Lecturer	01.02.1999	31.01.2004	4 years, 11 months
7.	School of Energy Sciences, Madurai Kamaraj University	Research Associate - CSIR	03.01.1994	31.01.1999	5 years

ON-GOING RESEARCH PROJECT

No.	Title of the Project	Funding Agency	Total Grant	Year
1.	Research, Design and Development of Solar Thermal Technologies	Ministry of New and Renewable Energy, Govt. of India	Rs. 9,11,000/-	2016-2017

HONORS / AWARDS / RECOGNITIONS

- CSIR Research Associateship (1991 - 1996)

PUBLICATIONS

1. A. Deepa, **C. Gopinathan**, P. Pandi, [2019], Investigation on Oxide Multilayer Thin Film of Solar Cells, Journal of Metallurgy and Material Science, Vol. 61, Issue 2, pp. 73-81.
2. A. Deepa, **C. Gopinathan**, P. Pandi, [2019], Structural, Optical and Morphological Study of Oxide Materials, Advances in Applied Physics, Vol 7, Issue 1, pp. 7-17.
3. D. Nithya Sree, S. Paul Mary Deborrah, **C. Gopinathan**, S.S.R. Inbanathan, [2019], Enhanced UV Light Induced Photocatalytic Degradation of Methyl Orange by Fe Doped Spray Pyrolysis Deposited ZnO Thin Films, Applied Surface Science, Vol. 494, pp. 116-123. IF : 5.155.
4. P. Backialakshmi and **C. Gopinathan**, [2018], Influence of solvent on structural, morphological and optical properties of SnO₂ nanoparticles prepared by different methods, International Journal of Recent Scientific Research, Vol 8, pp. 19800-19804.
5. P. Backialakshmi and **C. Gopinathan**, [2018], Fabrication, Optimization and characterization of TiO₂ Photoanode utilizing Natural Photosensitizer for Dye Sensitized Solar Cell Application, International Journal of Scientific Research in Science and Technology, Vol 4, pp. 104-110.
6. P. Backialakshmi and **C. Gopinathan**, [2018], Improved Performance of Natural Dye for Eco-friendly Solar Cell Application using SnO₂ Nanoparticles by Chemical Precipitation Method, Journal of Nanoscience and Technology, Vol 4, pp. 402-406. IF : 1.354.
7. S. Jainulabdeen, **C. Gopinathan**, A. Mumtaz Parveen, K. Saravanakumar, [2018], Structural and Optical Studies of Zinc Oxide Nanorods Prepared by Hydrothermal Technique, International Journal of recent Scientific Research, Vol. 9, Issue 12, pp. 29963-29969.
8. P. Pandi, **C. Gopinathan**, [2017], Structural transformation study of TiO₂ nanoparticles annealing at different temperatures and the photo degradation process of eosin-Y, Phase Transitions, pp. 1-21. IF: 1.06
9. P. Pandi, **C. Gopinathan**, [2017], Synthesis and Characterization of TiO₂-NiO and TiO₂-WO₃ nanocomposites, Journal of Materials Science: Materials in Electronics, 28, pp. 5222 – 5234, IF: 1.798
10. K. Kaviyarasu, P. Pandi, **C. Gopinathan**, [2017], Photocatalytic performance and antimicrobial activities of HAp- TiO₂ nanocomposite thin film by Sol-Gel method, Surfaces and Interfaces, pp. 247-255.
11. T. Sarveswaran, **C. Gopinathan**, K. Saravanakumar, P. Pandi, [2016], Synthesis and Study of CdS thin films prepared with different KMnO₄ activation time, Journal of Materials, pp. 1-7.

12. M.Muthuvinagayam, **C. Gopinathan**, [2015], Characterization of Proton conducting polymer electrolytes based on PVdF-PVA, Polymer, pp. 122-130, IF : 3.586
13. M.Muthuvinagayam, **C.Gopinathan**, [2014], Synthesis and Characterization of a novel proton conducting polymer blend electrolytes, Polymer-Plastics technology and Engineering, pp. 1333-1338, IF : 1.511
14. M. Muthuvinayagam, **C.Gopinathan**, [2013], N.Rajeswari, S. Selvasekarapandian, C. Sanjeeviraja, Proton Conducting polymer electrolytes based on PVdF-PVA blend with NH_4NO_3 , Journal of Polymer Engineering, pp. 315-322, IF : 0.631.
15. M. Kavitha,**C. Gopinathan**, R. Chandramohan, P. Pandi, [2013], Properties of ZnS Buffer layer prepared by CBD for Solar Cells, International journal of current research, pp. 4222 – 4226.
16. M. Kavitha,**C. Gopinathan**, [2013], Characterization of PN multilayer thin film for Solar Cell application, International Journal of Scientific and Engineering Research, pp. 1-4.
17. M. Kavitha,**C. Gopinathan**, P. Pandi, [2013], Synthesis and Characterization of TiO_2 Nanopowders in Hydrothermal and Sol-Gel Method, International Journal of Advancements in Research and Technology, pp. 102-108. IF : 0.4
18. **C. Gopinathan**, M. Kavitha, P. Pandi, [2013], Optical properties of (AR) multilayer thin film for solar cell application, International Journal of Applied Chemistry, pp. 1-4.
19. P. Pandi, **C. Gopinathan**, [2013], Dye Sensitized Solar cell materials - TiO_2 with Hesperidin, International Journal of innovative research in Science, Engineering and Technology, pp. 3237-3244.
20. P. Pandi, **C. Gopinathan**, [2013], Synthesis and Characterization of surface modified RhoB- TiO_2 , International journal of Current Research, pp. 2179-2182.
21. M. Kavitha, **C. Gopinathan**, R. Chandramohan, K. Neyvasagam, P. Pandi, [2013], Characteristics studies on multilayer thin film in CBD for photovoltaic solar cell material, International Journal of Innovative Research in Science, Engineering and Technology, pp. 3479-3482.
22. **C. Gopinathan**. T. Sarveswaran, K. Mahalakshmi, [2011], Studies on CdS Nanocrystalline Thin Films with Different S/Cd Ratios Prepared using Chemical Bath Deposition Method, Advances Studies in Theoretical Physics, pp. 171-183.
23. **C. Gopinathan**, K. Mahalakshmi, [2011], Structural, Surface Morphological and Electrical properties of Nanostructured p- Type ZnO:N Films, Contemporary Engineering Sciences, pp. 119-140.
24. **C. Gopinathan**, K. Mahalakshmi, [2011], XPS and Raman studies on (002) oriented Nanocrystalline ZnO films showing temperature dependent optical red shift, Advances Studies in Theoretical Physics, pp. 101-110.

PAPERS PRESENTED IN CONFERENCE / SEMINAR / WORKSHOP

S. No.	Name of the Conference	Date	Place	Title	Author(s)
1.	National Conference on Nanomaterials for Energy and Biomedical Applications	20 th November 2019	Dept. of Physics, SNS College of Technology, Coimbatore	Fabrication and Study of ZnO Nanorods for Device Applications	S.Jainulabdeen C.Gopinathan
2.	National Seminar on Recent Trends and Prospects in Energy, Environment and Natural Resources	05 th April, 2019	School of Energy, Environment and Natural Resources, M.K. University, Madurai	Performance Study of Ethanol Sensor for Real Time Environmental Applications	S.Jainulabdeen C.Gopinathan
3.	National Seminar on Recent Trends and Prospects in Energy, Environment and Natural Resources	05 th April, 2019	School of Energy, Environment and Natural Resources, M.K. University, Madurai	Study on Iron Oxide Thin Film for Solar Photovoltaic Applications	A. Deepa, C.Gopinathan
4.	National Conference on Nanotechnology	29 th and 30 th January, 2019	Dept. of Physics, L.R.G. Govt. Womes College, Tirupur	Hydrothermal Synthesis of ZnO Nanorods for Ethanol Gas Sensing Applications	S.Jainulabdeen C.Gopinathan
5.	National Conference on Recent Trends in Physics	09 th February, 2018	Jayaraj Annabakkiyam College for Women, Periyakulam	Investigation of Co ₃ O ₄ Metal Oxide Thin Film Material for Solar Celle Applications	A.Deepa, C.Gopinathan
6.	International Conference on Advanced Materials	14 th and 15 th , Dec 2017	School of Physical Sciences, St. Joseph's College, Trichy	Structural and Morphological study Of WO ₃ Thin Film for Solar Cell Applications	A.Deepa, C.Gopinathan
7.	International Seminar on Materials Science and Technology	04th Aug, 2017	Department of Physics, Mother Teresa Women's University,	Preparation and morphology of TiO ₂ thin film for solar cell	A.Deepa, C.Gopinathan

			Kodaikanal	Applications	
8.	Two day National Seminar on Solar Thermal and photovoltaic Techniques	5 th and 6 th , Oct, 2017	School of Energy Sciences, Madurai Kamaraj University, Madurai	Synthesis, structural and morphological study of NiO with Doctor blade technique for solar cell applications	A.Deepa, C.Gopinathan
9.	International conference on Advanced functional materials for Energy, Environment and Biomedical Applications	11 th and 12 th Dec, 2017	Madurai Kamaraj University, Madurai	Investigation of NiO thin film with Doctor blade technique for solar cell Applications	A.Deepa, C.Gopinathan
10.	Advanced Functional Materials for Energy, Environment and Biomedical Applications (AFMEEB-2017) International Conference on Advanced Functional Materials for Energy, Environment, and Biomedical Applications	11 th and 12 th Dec, 2017	Madurai Kamaraj University, Madurai	Antibacterial study of pure and Ag doped SnO ₂ nanoparticles against <i>Escherichia coli</i> and <i>Staphylococcus aureus</i>	P.Backialakshmi, C.Gopinathan
11.	ENERGY FEST 2017 Seminar on Advanced Technologies and Innovation in Energy and Environment	28 th March, 2017	School of Energy, Environment and Natural Resources, M.K. University	A comparative Study of SnO ₂ Nanoparticles using Different Precursor Solution	P.Backialakshmi, C.Gopinathan
12.	National Conference on Computational and Experimental Physics of Functional Materials	16 th - 17 th December, 2016	Department of Physics	A comparative investigation of SnO ₂ nanoparticles via chemical routes	P.Backialakshmi, C.Gopinathan
13.	International Seminar On materials Science and Application (ISMSA)	25 th November, 2016	Department of Physics, Mother Teresa Women's University, Kodaikanal, Tamilnadu	A comparative Investigation of SnO ₂ Nanoparticles by Different Precursor Solution	P.Backialakshmi, C.Gopinathan
14.	International Conference on Nanomaterials and Molecular Research	9 th and 10 th February, 2016	PG & Research Department of Physics, St.	Synthesis and characterization of pure and Al	P.Backialakshmi, C.Gopinathan

			Josephs College of Arts and Science, Trichy	doped SnO ₂ Nanoparticles for Antibacterial Study	
15.	International Conference on Environment and Health in Changing Climate	14 th and 16 th September, 2016	Department of Environmental Biotechnology, School of Environmental Sciences, Bharathidasan University, Trichy	Critical Investigation on the synthesis and characterization of pure and Aluminum doped SnO ₂ microrods during the experimental mismatch	P.Backialakshmi, C.Gopinathan
16.	International Conference on Nanomaterials and Molecular Research (ICNMR -2016)	8 th and 9 th September, 2016	St. Joseph's College of Arts and Science, Cuddalore	A comparative investigation of SnO ₂ nano particles by effect of solvents	P.Backialakshmi, C.Gopinathan
17.	9 th NABS National Conference on New Biological Researches: Opportunities and Challenges for Sustainable Development	11 th and 12 th August, 2016	School of Energy, Environment and Natural Resources, Madurai Kamaraj University, Madurai	Synthesis and Characterization of TiO ₂ – NiO and TiO ₂ – WO ₃ nanocomposites for DSSCs	P. Pandi, C.Gopinathan
18.	Nineteenth National convention of Electrochemists	28 th and 29 th April, 2016	National Institute of Technology, Trichy	Synthesis and Characterization of TiO ₂ – NiO and TiO ₂ – WO ₃ nanocomposites	P. Pandi, C.Gopinathan R.Sakthivedivel, T.Sarveswaran
19.	International conference on A New Horizon in Materials	11 th March, 2016	Sarah Tucker College, Tirunelveli	Structural transformation study on TiO ₂ nanoparticles annealing at different temperature with photodegradation process of Eosin- Y	C.Gopinathan P. Pandi,R. Sakthivedivel, T.Sarveswaran

20.	Energy Fest-2014, Advanced Technologies and Innovations in Energy and Environment	28 th March, 2014	School of Energy, Environment and Natural Resources, Madurai Kamaraj University, Madurai	Effect of Tilt and Angle of incidence on the performance of Solar flat plate collectors	C.Gopinathan
21.	National conference on Advanced materials and Applications	5 th April, 2013	National Institute of Technology Trichy,	Structural, thermal and ionic conductivity studies on NH ₄ NO ₃ doped PVDF-PVA polymer blend electrolytes	M.Muthuvinagayam, C.Gopinathan S.Selvasekara Pandian,
22.	National Seminar on Multifunctional Materials	22 nd and 23 rd March, 2013	Kalasalingam University	Thermal studies of NH ₄ SCN doped blend polymer electrolyte	M.Muthuvinagayam, C.Gopinathan S.Selvasekara Pandian,
23.	National seminar on Technologically important crystalline and amorphous solids	1 st and 2 nd March, 2013	Kalasalingam University,	Dielectric and ionic conductivity studies on proton conducting polymer electrolytes	M.Muthuvinagayam, C.Gopinathan S.Selvasekara Pandian,
24.	ASIAN conference on Solid State Ionics	July, 2012	Sendai, Japan,	Studies on Proton Conducting Polymer electrolytes based on PVDF-PVA with NH ₄ NO ₃	M.Muthuvinagayam, C.Gopinathan N.Rajeswari, S.Selvasekara Pandian

CONFERENCE / WORKSHOP / SEMINAR / TRAINING ORGANIZED

Type	Name	Date(s)	Place	Role Played	Funding Agency
National	Two day National Seminar cum Workshop on Solar Thermal and Photovoltaic Techniques	05 th and 06 th October, 2017	School of Energy, Environment and Natural Resources	Organizing Secretary	MNRE
State	One day Workshop on Solar Rooftop Segments	30 th May, 2016	School of Energy, Environment and Natural Resources	Organizing Secretary	MNRE

MEMBERSHIP IN ACADEMIC BODIES

- Solar Energy Society of India (SESI)
- Indian Association of Physics Teachers (IAPT)

MEMBERSHIP IN PROFESSIONAL BODIES

- Member – Senate, M. K. University, Madurai
- Member – Academic Council, M. K. University, Madurai
- Member – Board of Studies, M. K. University affiliated Colleges, Madurai
- Member – Advisory committee - Centre for Renewable Energy Studies (CNRES), Periyar University, Salem
- Member – Selection committee, UGC-BSR Research Fellowship, School of Energy Sciences, M. K. University, Madurai
- Board of Examiner - P.G, M.Phil., Ph.D., in Physics, Annamalai University, Annamalainagar

ADMINISTRATIVE EXPERIENCE

Role Played	Responsibilities	Period
Professor and Head, Dept. of Solar Energy, School of Energy Sciences	Teaching, Research and Extension activities	05.06.2016 to till date
Associate Professor and Head, Dept. of Solar Energy, School of Energy Sciences	Teaching, Research and Extension activities	05.06.2013 to 04.06.2016
Associate Professor and Head, The Madura College	Teaching, Research and Extension activities	01.02.2008 to 04.06.2013
Principal Investigator / Director, Regional Test Centre (Solar Thermal), M.K.University	Testing, Standardization and Certification	12.07.2016 to till date

CONTACT

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