

Name	Dr. R. VENKADESHKUMAR			
Contact (office)	Assistant professor Department of Physics M.I.E.T. Engineering College Trichy - 620007			
Email	Email: venkadeshkumar.r@miet.edu			
Educational Qualifications	DEGREE	EDUCATIONAL INSTITUTION	BOARD/ UNIVERSITY	YEAR OF PASSING
	Ph.D. Physics	National Institute of Technology - Tiruchirappalli	National Institute of Technology - Tiruchirappalli	08.2016-09.2021
	M.Sc. Physics (FIRST CLASS WITH DISTINCTION)	Sri Ramakrishna Mission Vidyalaya College of Arts and Science - Coimbatore	Bharathiar University	2014
	B.Sc. Physics (FIRST CLASS)	Hajee Karutha Rowther Howdia College - Theni	Madurai Kamaraj University	2012
Professional Career Profile	Organization	Designation	Date of Joining	Duration of work
	M.I.E.T. Engineering College	Assistant Professor	22.01.2024	Till date
	Ben-Gurion University of the Negav – Israel	Post-Doctoral Fellow	03.01.2023-31.12. 2023	1 year
	SSN College of Engineering – Chennai	Post-Doctoral Fellow	31.01.2022-31.12.2022	1year
Awards & Recognitions	<p>Qualified Graduate Aptitude Test for Engineers (GATE-2016) conducted by Indian Institute of Science, Bangalore, India.</p> <p>Awarded DST-SERB International travel grant to attend 10th International Conference on Materials for Advanced Technologies (ICMAT-2019) Organized by Material research society Singapore and Nanyang Technical university Singapore during 23 - 28 June 2019.</p> <p>Awarded SPIE officers travel grant to attend leadership meeting in SPIE Optics and Photonics 2020 conference in San Diego, California, USA. (Not used due to COVID-19).</p>			

	<p>2016-2018: Junior Research Fellowship from Ministry of Human Resources Development, India.</p> <p>2018-2021: Senior Research Fellowship from Ministry of Human Resources Development, India.</p> <p>2022-2023: Institute post-doctoral fellowship from SSN College of Engineering, Chennai, India.</p>
Academic Areas of Interest	Electromagnetic theory; Electronics; Classical Mechanics; Quantum Mechanics.
Research Areas of Interest	Graphene Nanocomposites; Nonlinear Optics; Photocatalysis; Water decontamination; Carbon Capture; Raman Spectroscopy.
Membership in professional bodies	<p>2017-2022: Student Active Member in SPIE.</p> <p>2017-2021: Student Active Member in OSA.</p> <p>2022-2025: Early Career Member in OSA.</p>

LIST OF PUBLICATIONS

1. **Venkadeshkumar Ramar** and Ambedkar Balraj, Critical review on Carbon nanomaterial for carbon capture: Technical challenges, Opportunities and future perspectives. **ACS Energy and Fuels**, 2022, 36, 22, 13479-13505. Impact factor: 4.654. <https://doi.org/10.1021/acs.energyfuels.2c02585>.
2. **Venkadeshkumar Ramar**, Pratik M Pataniya, Solanki Gunvant and Karthikeyan Balasubramanian, Ultrasonication assisted exfoliation of MoSe₂ nanosheets for optical and optical power limiting applications, **Journal of Applied Physics**, 2022, 132 (10), 103101. Impact factor: 2.877. <https://doi.org/10.1063/5.0102001>.

3. **Venkadeshkumar Ramar** and Karthikeyan Balasubramanian, Reduced Graphene oxide/WO₃ Nanorod Composites for Photocatalytic Degradation of Methylene Blue under Sunlight Irradiation, **ACS Applied Nanomaterials**, 2021, 4(5), 5512-5521. Impact factor:6.140. <https://doi.org/10.1021/acsanm.1c00863>.
4. **Venkadeshkumar Ramar** and Karthikeyan Balasubramanian, Effect of Reduced Graphene oxide on the Sunlight Driven Photocatalytic Activity of rGO/h-MoO₃ Nanocomposites, **Journal of Physics D: Applied Physics**, 2021,54(15), 155502. Impact factor: 3.409. DOI 10.1088/1361-6463/abd8e.
5. Arivalagan Shabashini, **Venkadeshkumar Ramar**, Karthikeyan Balasubramanian, Manas K Panda and Ganesh Chandra Nandi, Design and Synthesis of Tryphenylamine based Cyano Stillbenes for Picric Acid Sensing and Two Photon Absorption Applications, **Chemistry Select**, 2021, 6(44), 12300-12308. Impact factor: 2.307. <https://doi.org/10.1002/slct.202103085>.
6. Adul Rasheed, Inder Mohan Chabra, Mahendra Kumar Gupta, **Venkadeshkumar Ramar** and Karthikeyan Balasubramanian, Optical and Strong Blue Emission Properties of Alumina Abrasive Grains Mediated Grinding Induced SiO₂ Glass Surface for Navigation Grade Sensors, **Optical Materials**, 2021,117,111181.Impactfactor:3.754.<https://doi.org/10.1016/j.optmat.2021.111181>.
7. **Venkadeshkumar Ramar** and Karthikeyan Balasubramanian, Strong Violet Emission and Optical Power Limiting Properties of Reduced Graphene Oxide/MoO₃ Synergistic Composites, *Journal of Applied Physics*, 2020, 127(19), 193102. Impact factor: 2.877. <https://doi.org/10.1063/5.0002509>.
8. **Venkadeshkumar Ramar** and Karthikeyan Balasubramanian, Unravelling the Synergistic Effects of Reduced Graphene Oxide On Optical, Phonon and Optical Power Limiting Properties of rGO/MoO₃ Nanohybrids, **Applied Physics A**, 2020, 126(7), 1-9. Impact factor: 2.983. <https://doi.org/10.1007/s00339-020-03749-2>.

9. **Venkadeshkumar Ramar** and Karthikeyan Balasubramanian, Optical and Highly Enhanced solar light Driven Photocatalytic activity of Reduced Graphene Oxide Wrapped Alpha - MoO₃ Nanoplates, **Solar Energy**, 2019, 194, 1-10. Impact factor: 7.188. <https://doi.org/10.1016/j.solener.2019.10.037>.
10. S.Nandhini, S.Muniappan, **Venkadeshkumar Ramar**, Karthikeyan Balasubramanian and P. Murugakoothan, Quantum Chemical Analysis on Supramolecular Assemblies of Guandinium Tetrafluoroborate Crystal Structure: Emission and NLO behavior, **Journal of Molecular Structure**, 2019, 1198, 126859. Impact factor: 3.841. <https://doi.org/10.1016/j.molstruc.2019.07.106>.
11. **Venkadeshkumar Ramar** and Karthikeyan Balasubramanian, Metal free, Sunlight and White light Based Photocatalysis using Carbon Quantum Dots from Citrus Grandis: A green way to Remove Pollution, **Solar Energy**, 2018, 169, 120-127. Impact factor: 7.188. <https://doi.org/10.1016/j.solener.2018.04.040>.
12. **Venkadeshkumar Ramar** and Karthikeyan Balasubramanian, Charge Transfer Induced Tunable Bandgap and Enhanced Saturation Absorption behavior in rGO/WO₃ Nanocomposites, **Applied Physics A**, 2018, 124 (11), 1-11. Impact factor: 2.983. <https://doi.org/10.1007/s00339-018-2191-3>.
13. Hariharan, Swaminathan, **Venkadeshkumar Ramar** and Karthikeyan Balasubramanian, Excited State Election and Energy Transfer Dynamics between 2D MoS₂ and GO/rGO for turn on BSA/HSA Sensing, **The Journal of Physics Chemistry C**, 2017, 121(23), 12585-12592. Impact factor: 4.177. <https://doi.org/10.1021/acs.jpcc.7b02611>.

LIST OF BOOK CHAPTERS PUBLISHED

1. **Venkadeshkumar Ramar**, N B Karthik Babu and Karthikeyan Balasubramanian, The state-of-the-art of solid sorbents for carbon capture applications: opportunities and future perspectives, **Materials Technology for the Energy and Environmental Nexus, Volume 1, IOP Publishing**, 4-1-4-32, <https://doi.org/10.1088/978-0-7503-5724-1ch4>. ISBN: 978-0-7503-5722-7.
2. S. Arun Kumar, A. Gowdhaman, C. Balaji, Prabhu Sengodan, **Venkadeshkumar Ramar**, R. Ramesh and P.M. Anbarasan; Emerging Mxenes materials for efficient supercapacitor applications: Current Trends and Future Perspectives; **Iterative International Publishers** (just accepted).
3. P. Sivakumar, Venkadeshkumar Ramar; Temperature and Thickness Dependent Optical Properties of Sulphide (ZnS, CdS and PbS) Thin Films Prepared by Chemical Bath Deposition; **Iterative International Publishers** (just accepted).

PARTICIPATION IN WORKSHOPS AND CONFERENCES

1. **Venkadeshkumar Ramar**, Karthikeyan Balasubramanian: Horiba Optical school held in Jawaharlal Nehru Centre For Advanced Scientific Research (JNCASR), Bangalore from 22nd – 26th May 2017.
2. **Venkadeshkumar Ramar**, Karthikeyan Balasubramanian: Structural, Optical and Morphological studies on carbon dots synthesized from Rosy periwinkle leaves using hydrothermal method, National conference on Recent trends in Chemistry 2018 (RTC'18) organized by Sri Ramakrishna Mission Vidyalaya college of Arts and science, Coimbatore on 2nd February 2018.
3. **Venkadeshkumar Ramar**, Karthikeyan Balasubramanian: Synthesis of Carbon dots from rosy periwinkle flower using laser ablation for white light photocatalysis, National symposium on Advances in functional and Exotic materials organized by

MRSI Trichy chapter and Centre for High pressure research Bharathidasan university Tiruchirappalli on 14th-16th February 2018.

4. **Venkadeshkumar Ramar**, Karthikeyan Balasubramanian: Keysight Education symposium – 2018 organized by Keysight technologies and Elmack Engg. Services held at Tiruchirappalli on 20th April 2018.
5. **Venkadeshkumar Ramar**, Karthikeyan Balasubramanian: Structural and Morphological studies on silica micro particles derived from rice husk, National conference on Energy materials – 2018 Organized by Department of Physics, Manonmaniam Sundaranar University, Tirunelveli on 28th-29th June 2018.
6. **Venkadeshkumar Ramar**, Karthikeyan Balasubramanian: INUP familiarization workshop on Nanofabrication Technologies Organized by Centre for Nanoscience and Engineering, Indian Institute of Science, Bangalore from 10th-12th September 2018.
7. **Venkadeshkumar Ramar**, Karthikeyan Balasubramanian: Students Conference on Optics and Photonics 2018 Organized by Physical Research Laboratory, Ahmedabad, Gujarat during 4th-6th October 2018.
8. **Venkadeshkumar Ramar**, Karthikeyan Balasubramanian: Structural, Morphological and Phonon properties of rGO/WO₃ Nanorod Composites, International conference on recent Advances in Material Science – 2019 Organized by Department of Physics, National college, Tiruchirappalli during 4th-6th February 2019.
9. **Venkadeshkumar Ramar**, Karthikeyan Balasubramanian: participated Chemical/phytochemical mediated disruption of bacterial acyl homoserine lactone mediated, quorum sensing communication systems Organized by Department of Chemical Engineering, National Institute of Technology-Tiruchirappalli during 27th-31st March 2019.

10. **Venkadeshkumar Ramar**, Karthikeyan Balasubramanian: Optical and enhanced UV sensing properties of rGO/MoO₃ nanorod composites, 10th International conference on Materials for Advanced Technologies (ICMAT 2019) Organized by Material Research society of Singapore and Nanyang Technical University, Singapore during 23rd-28th June 2019.

LIST OF INVITED LECTURES DELIVERED:

1. Acted as a Resource person and delivered a lecture on the topic of "Designing and Simulating electronic circuits using Fritzing" at Nadar Saraswathi College of Arts and Science on 29.09.2023.
2. Acted as a Resource person in "Two days International conference on Applied physics and Mathematical Analytics" and delivered a lecture on the topic of "Recent progress in industrial waste water treatment and Door steps to Research" between 15.12.2023 to 16.12.2023.

ACTIVITIES

1. 2018-2019: **Vice president for NIT Trichy SPIE student chapter.**
2. 2019-2020: **President for NIT Trichy SPIE student chapter.**
3. 2019-2021: Residential student Counselor (Deputy Warden) for Zircon-C hostel, NIT Trichy.
4. 2019-2020: Physics Department coordinator - NIT Trichy.