

Dr. R.SANGEETHA
Assistant Professor,
Department of Physics,
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Qualification

S.No	Degree/Diploma	Subject	Institution	University	Year of passing
1	B.Sc.	Physics	JeyarajAnnapackiam college for women	MKU	2002
2	B.Ed.	Physics	Lakshmi college Education	MKU	2004
3	M.Sc.	Physics	NMSSVN college	MKU	2006
4	M.Phil.	Physics	Bharathidhasan University	BDU	2008
5	Ph.D.	Physics	Madurai KamarajUniversity	MKU	2015

Professional Experience

Position	Department & Institution	Duration
Assistant Professor	Department of Physics, MannarThirumalaiNaicker College, Madurai	From 17 th Feb 2016 to Till Date
Assistant Professor	Department of Physics, NPR College of Engineering and Technology, Dindugul	From 1 st July 2011 to 15 th Feb 2016
Lecturer	Department of Physics, BharathNikaten Engineering College, Theni	From 7 th Dec 2006 to 31 st Jan 2008

Research Publications

1. C. Kirubhanand , J. Merciline Leonora , S. Anitha , **R. Sangeetha** , K. T. Nachammai , K. Langeswaran and S. Gowtham Kumar Targeting potential receptor molecules in non-small cell lung cancer (NSCLC) using in silico approaches. *Frontiers in Molecular Biosciences* 2023.
2. T.Rajesh Kumar, K. Langeswaran, **R. Sangeetha**, Sangavi P Chemical, Molecular docking, andMolecular dynamics studies on (2-methoxy-4-prop-2-enylphenyl) n-(2- methoxy-4-nitrophenyl)carbamate: A novel inhibitor of Hepatocellular Carcinoma. *Journal of Bio molecularStructure & Dynamics*. 2023.

3. Abraham Hudson Mark J, Premkumar R, **Sangeetha R**, Lakshmi A, Langeswaran K. Structural ,Quantum Chemical ,Molecular Docking and Dynamics Studies of Quercetin – A Potent Inhibition for Colon Cancer. *Journal of Polycyclic Aromatic Compounds*. 2022.
4. Sangavi P, **Sangeetha R**, Langeswaran K. Identification and validation of Hydroxychavicol from Betel leaf as a promising Breast cancer inhibitor – An in vitro and in silico analysis. *Journal of Current Enzyme Inhibition*. 2022; 18(2): 127-134.
5. Sangavi P, Langeswaran K, **Sangeetha R**, Gowthamkumar S, Senthilkumar R. Screening of Potential Breast Cancer inhibitors through Molecular Docking, and Molecular Dynamics Simulation. *BiomedResearchInternational Journal*. 2022;3338549.
6. **Sangeetha R**, Premkumar, S.S. Maithili, C. Kirubhanand, S. Gowthamkumar, P. Sangavi, K. Langeswaran. Quantum Chemical, Vibrational, Spectroscopic, UV-Vissolvent effect, Molecular Docking and Molecular Dynamics Simulation investigation on phytocompounds from *Elettariacardamomum* against Covid – 19. *Journal of Polycyclic Aromatic Compounds*. 2022;
7. Shaslinah N, Sangavi P, **Sangeetha R**, Gowtham Kumar S, Sindhu Varghese, Langeswaran K. Screening and identification of potential inhibitor for visceral leishmaniasis through computational analysis. *Journal of Genetic Engineering and Biotechnology* 2022; 20: 35
8. Anitha R, **Sangeetha R**, ArockiaJeyaYasmiPrabha E, Sangavi P, Langeswaran K. Synthesis, crystallization, XRD, Hirshfeld surface, vibrational spectra, and quantum chemical studies and Computational investigation of Caffeinium bisulfate: a new noncentrosymmetric form. *Journal of Biomolecular Structure and Dynamics* doi.org/10.1080/07391102.2021.2015445.
9. **Sangeetha R**, ArockiaJeyaYasmiPrabha E, A. Lakshmi, Sangavi P, Langeswaran K. Molecular docking and dynamic simulations of *Ocimum basilicum* compounds against HCC and structural, vibrational, quantum, and chemical investigation of campesterol. *Journal of Biomolecular Structure and Dynamics* 2021 doi.org/10.1080/07391102.2021.1997816.
10. ArockiaJeyaYasmiPrabha E, **Sangeetha R**, Sangavi P, Langeswaran K, Athimoolam S. Experimental, and Theoretical Investigations on the Structure and Vibrational spectral analysis of oxalate complex of Nicotinamide and Computational scrutiny against Prostate cancer. *Journal of Biomolecular Structure and Dynamics* 2021 doi.10.1080/07391102.2021.1938231
11. ArockiaJeyaYasmiPrabha E, **Sangeetha R**, Langeswaran K, Athimoolam S. Structural, Vibrational, Quantum chemical and Thermal investigation of a nutraceutical drug in new zwitterionic crystal form (Nicotinic acid: Catechol) with enhanced cytotoxic activity in Cervical cancer HeLa cell line. *Journal of Biomolecular Structure & Dynamics* 2021; 1-14.

12. **R. Sangeetha**, K. Karthigaivel, P.S. Satheesh Kumar. Magnetic field induced donor binding energy of a GaN/AlGaIn quantum dot. *Materials Today: Proceedings*. 2020
13. Satheesh Kumar PS, **Sangeetha R**, Sivakumar R, Amalraj L. Effects of substrate temperature on structural and photoelectronic properties of SnSe thin films by nebulized spray deposition for solar cell applications. *Materials Today: Proceedings*. 2020.
14. **Sangeetha R**. Modified growth technique and characterization of SCN Ligand based NLO CMTC and MMTC single crystals. *Journal of Applied Science and Computations*, 2019; 6(4):
15. **Sangeetha R**. Influence of KDP on the growth and Characterization of NLO Single Crystal of LADI. *GTN Multidisciplinary journal* 2018;
16. **Sangeetha R**, John Peter A. Band Alignment of Strained ZnCdTe/ZnTe Quantum dot, *The Mannar Scroll* 2017; 5: 3.
17. Francis S, **Sangeetha R**, John Berchmans L. Charge Density in High Temperature Grown Zn_xFe_xO Powder. *The Mannar Scroll* 2017; 5: 3.
18. Honest Arul Raj J, Rajeshkumar T, **Sangeetha R**. The Structural and Optical Properties of Urea Doped Lasc NLO Single Crystal 2017; 4(10).
19. Gowri M, Sathya G, John Berchmans L, **Sangeetha R**, Francis S, Lakshmi A. The effect of chemical composition of molten flux in the structural evolution of $CeVO_4$, *The MannarScroll* 2017; 4: 1.
20. **Sangeetha R**, John Peter A, Chang KyooYoo. Electric field induced third order susceptibility of third order harmonic generation in a $Cd_{0.2}Zn_{0.8}Te/ZnTe$ quantum dot. *Quantum Matter* 2015;4: 1.
21. **Sangeetha R**, John Peter A. Effects of strain on the band alignment and the optical gain of a CdTe/ZnTe quantum dot. *Canadian J Phys* 2014; 92: 1-9.
22. **Sangeetha R**, John Peter A, Chang Woo Lee. Effects of quantum confinement and magnetic field strength on Landé g-factor in a $Cd_{0.8}Zn_{0.2}Te/ZnTe$ strained quantum dot, *J ComputTheorNanosci* 2014; 11: 1.
23. **Sangeetha R**, John Peter A, Chang kyooYoo. Strain induced optical properties of CdTe/ZnTe quantum dots. *Super lattices and micro structures* 2014; 66: 54.
24. **Sangeetha R**, John Peter A. Strain induced optical gain in a $Zn_xCd_{1-x}Te/ZnTe$ quantum dot nanostructure. *AIP ConfProc*2013; 1512: 1014.
25. **SangeethaR**, John Peter A. Pressure induced nonlinear optical rectification of a confined exciton in a $Cd_{0.8}Zn_{0.2}Te/ZnTe$ strained quantum dot. *Elixir Nuclear & Radiation phys*2013; 64: 19071.
26. **Sangeetha R**, John Peter A. Dielectric Confinement on Exciton Binding Energy in a II-VI Semiconductor. *Elixir Semiconductor Materials* 2012; 50: 10517

Book Chapter

- ✿ GowthamKumarSubbaraj,SindhuVarghese,LangeswaranKulanthaivel,LakshmiAlagarsamy,**sangeethaRajaram**andSangeethaRamanathan.CardiovascularandCoronaryArteryImaging “Gene Polymorphism and the risk of coronary artery disease”**Elsevier Academic Press. 2021 ISBN: 9780128227060**
- ✿ SangaviJ,Geevaprabhakaran G, **Sangeetha R**, Vijayalakshmi P, Gowtham Kumar S, LANGESWARAN K. Perspectives of Stem Cell Therapy: a promising therapeutic for cancer model and Alzheimer’s disease. Book Title: Handbook of Animal Models and its Uses in CancerResearch.**Springer Nature 2022.** ISBN: 978-981-19-1282-5
- ✿ K.T. Nachammai , R. Srinithi , P. Sangavi , **R. Sangeetha** , S. Gowtham Kumar , R. Lakshmi Sundarame , and KulanthaivelLangeswaranPhospholipase A2 and hepatocellular carcinoma progression. Book Title: PHOSPHOLIPASES IN PHYSIOLOGY AND PATHOLOGY.**Elsevier2023** ISBN: **978-0-323-95687-0**
- ✿ **Text Book Published**

T. Rajesh Kumar, K.Langeswaran, **R.Sangeetha**. Nano Physics. 2022. New Century Book Century, Tamil Nadu, India. ISBN: **978-81-2344-240-2**.

Paper presented in Conference/Seminar

- 1 **AUG 2012** - Presented a paper in theNational Level Conference on Recent Advancement in Nanoscale Research (NCRNR 2012), organized by Anna University, Madurai. **Title:** “Dielectric confinement on exciton binding energy in an II-VI semiconductor.
- 2 **SEP 2012**- Presented a paper in the National Level Conference on New Materials Research and Nanotechnology (NSNMRN-2012) organized by Government Arts College Ooty. **Title:** Investigations on the optical gain of a CdTe/ZnTe quantum dot.
- 3 **DEC 2012** - Presented a paper in the 57th DAE Solid State Physics Symposium at Indian Institute of Technology Bombay. **Title:** Strain induced optical gain in a $Zn_xCd_{1-x}Te/ ZnTe$ quantum dot nanostructure.
- 4 **JAN 2013** - Presented a paper in the National Conference on Recent Development in Physics organized by the Department of physics Government Arts College, Melur. **Title:** Nonlinear optical properties in a wide band gap semiconductor.
- 5 **FEB 2013** - Presented a paper in the National Level Conference on Recent Trends in Advanced Materials organized by JayarajAnnapackiam College for Women Periyakulam. **Title:** Effects of hydrostatic pressure on nonlinear optical properties of an excition In II-VI Semiconductor Nano-dot.
- 6 **MAR 2013** - Presented a paper in the National Level Conference on Recent Development in Nanomaterials organized by Mohamed Sathak Engineering College, Kilakarai. **Title:**Magnetic field induced Landé g-factor in a CdZnTe/ZnTe dot.

- 7 **AUG 2017** - Presented a paper in the International Level Seminar on Materials Science and Technology organized by Mother Teresa Women's University, Kodaikanal. **Title:** Structural and Optical Properties of V_2O_5 Thin film.
- 8 **SEP 2017** - Presented a paper in the National Level Conference on Preparation and Characterization of Crystalline Materials organized by Govt. Arts College, Tiruvannamalai. **Title:** Structural, Electrical Optical Properties of KDP doped LADI NLO Crystal.
- 9 **MAR 2019** - Presented a paper in the National Level Conference on Recent Advances in Materials Science organized by G.T.N Arts College, Dindigul. **Title:** Modified Growth Technique and Characterization of Blue Light Emitting SCN Ligand based NLO Single Crystal.
- 10 **SEP 2019** - Presented a paper in the International Level Conference on Advanced Materials for Sustainable Energy and Sensors organized by Alagappa University, Karaikudi. **Title:** Synthesis and Optical Characterization of SCN Ligand Non Linear Optical Single Crystal.
- 11 **OCT 2019** - Presented a paper in the State Level Seminar on Emerging Trends in Chemical Science and Technology Sciences organized by G.T.N Arts College, Dindigul. **Title:** Synthesis and Characterization of Bis (Thiourea) Nickel Chloride Non Single Crystal.
- 12 **FEB 2020** - Presented a paper in the International Level Seminar on Emerging Trends in Chemistry & Energy Science organized by Saraswathi Narayanan College, Madurai. **Title:** Fabrication and Characterization of CdS/CdTe.
- 13 **JAN 2021**- Presented a paper in the International Conference on Frontiers in Chemistry and Material Science organized by Mannar Thirumalai Naicker College, Madurai. **Title:** Preparation & Conductivity Characteristics Na^+ ions conducting electrolytes based on PVA & PVP.
- 14 **JAN 2023**- Presented a paper in the International Conference Recent Advancement in material science and its applications organized by Mannar Thirumalai Naicker College, Madurai. **Title:** Synthesis and Characterization of Zinc Sulfide thin films By chemical Bath Deposition
- 15 **JAN 2023**- Presented a paper in the International Conference Recent Advancement in material science and its applications organized by Mannar Thirumalai Naicker College, Madurai. **Title:** Effect Of Capping Agent on SnS Nanoflower By Solvo thermal Method .
- 16 **FEB 2023**- Presented a paper in the International Conference Advanced Nanomaterials for Energy and Environment Applications organized by Alagappa University, **Title:** Quantum Chemical, Vibrational Spectroscopic, and Molecular Docking Studies on 4-Fluorochalcone: A Potent Cervical Cancer.

Projects Completed

S.No	Title of the Project	Funding Agency	Amount in ₹
1	Preparation and Characterization of novel Oxide Materials for Energy and Environmental Applications	MannarThirumalaiNaicker College	25,000.00
2	Modified Growth Technique and characterization of SCN Ligand based NLO CMTC and MMTC Single Crystal	MannarThirumalaiNaicker College	25,000.00
3	Investigation and screening of novel inhibitor for hepatocellular carcinoma from <i>Ocimum basilicum</i> using bioinformatic tools	MannarThirumalaiNaicker College	25000.00
4	Spectroscopic Characterization and Molecular Docking Studies on 4 - Fluorochalcone and 4 - Hydroxychalcone: A novel cervical cancer drug	MannarThirumalaiNaicker College	25000.00
5	DFT Calculations, Molecular Reactivity, Silico and in Vitro Anticancer activity Studies on 4-Nitrochalcone: A potential cervical cancer drug	TNSCST	7500.00

Distinctive Achievements /Awards

- ⊕ Received SIR CV Raman Best Young Scientist Award from Bose Science Society and sponsored by Tamil Nadu Scientific Research Organization, Tamil Nadu, India on 2019
- ⊕ Received Dr.APJ Abdul Kalam Award for Scientific Excellence for the Year 2020 from Marina Labs, Chennai on March 2021.
- ⊕ Bose Science society fellowship 2019

Reviewer for Journals

- ❖ Materials Today: Proceedings
- ❖ Journal of Physics Conference Series

Events organized

S. No	Date	Name of the Programme	Role	Funding Agency
1	17.02.2017	National level Seminar on "Nano Science and	Organizing Member	MannarThirumalaiNaicker College

		Technology for Energy and Environment		
2	07.10.2017	National level Seminar on “Developments in Advanced Materials and their Applications	Organizing Convener	MannarThirumalaiNaicker College
3	12.2.2019	“Analytical Techniques in Preparation of Nano Materials”	Organizing Member	MannarThirumalaiNaicker College
4	25.03.2022	Emerging Technologies in Material Science	Organizing Convener	MannarThirumalaiNaicker College
5	21&22.12.2022	National Science Day	Organizing Convener	TNSCST (₹ 2,00,000)
6	12.01.2023	International Conference Recent Advancement in material science and its applications	Organizing Member	MannarThirumalaiNaicker College

Invited Lectures

- ★ Guest Lecture on “Device fabrications of potentially viable materials” on 08-03-13 organized by Department of Physics, Rama Prabha College of Arts and Science, Dindigul
- ★ Guest Lecture on “Some Interesting optical properties of II-VI nano Semiconductors” on 22-01-13 organized by Department of Physics, V.V.VanniaPerumal College for Women, Virudhunagar
- ★ Guest Lecture on “Electronic and Optical Properties of Wide Bandgap Semiconductors” on 18-02-13 organized by Department of Physics, JayarajAnnapackiam College for Women, Periyakulam
- ★ Guest Lecture on “Shape Memory Alloys ” on 22-02-23 organized by Department of Physics, V.V.VanniaPerumal College for Women, Virudhunagar.

Other Training Programs

- ➡ 100th Orientation Program at Bharathidasan University, Tiruchirappalli (15.11.2017-12.12.2017), Tamil Nadu, India.
- ➡ Refresher Course in Recent Trends in Physics for Energy and Environment at Madurai Kamaraj University, Madurai. (13.02.2020 -26.02.2020), Tamil Nadu, India.

- Participated in National Faculty Enrichment Programme organized by Internal Quality Assurance Cell of MannarThirumalaiNaicker College (13.05.2020 – 19.05.2020)
- Refresher Course in Inter Disciplinary online two-week Refresher Course / Faculty Developgramme on “Managing Online Classes & Co – creating MOOCS 7.0” at CMS College (Autonomous) Kottayam(05.08.2021-19.08.2021),Kerala, Tamil Nadu
- Two days In- Service Teacher Training Programme organized byTamilnadu State Council For Science and Technology on 5.5.2022 to 6.5.2022.
- Refresher Course in Recent Advances in the in Physics of Materials atMadurai Kamaraj University, Madurai. (7.10.2022 -20.10.2022), Tamil Nadu, India.

Member in Academic Bodies

- ▶ Question Paper Setter for UG, Examination Evaluation Board, American College, Madurai
- ▶ Question Paper Setter for UG, Yadava College (Autonomous) Madurai
- ▶ External Practical Examiner for Saraswathi Narayanan College, Madurai
- ▶ External Practical Examiner for SVN College, Madurai
- ▶ External Practical Examiner for YadavaCollege, Madurai
- ▶ Bos Member – S.VellaichamyNadar College
- ▶ DC Member in SRNM College & Govt. Arts College Melur.

Additional Responsibilities in Parent Institution

- ❖ Research Cell Member - 2015-16 to 2019
- ❖ IQAC Member - 2015 to 2016
- ❖ Certificate Course In charge - 2016 to 2017
- ❖ Criterion V (NAAC) Member - 2016 to 2019
- ❖ Science Club Convener - 2017 to 2019
- ❖ Women Development Cell Member - 2017 to 2019
- ❖ Bridge Course Member - 2018 to 2019
- ❖ Gandhian Thought Course Member - 2018 to 2019
- ❖ Nodal Officer (Community College & B.Voc) - 2018 to 2021
- ❖ Director (Community College & B.Voc) - 2019 to 2021

- ❖ Criterion III (NAAC) Member - 20120 to till date
- ❖ Red Ribbon Club Convenor (2022-2023)
- ❖ Science Club Convener – 2022 to 2023
- ❖ Eco Club Convenor- 2023 to 2024
- ❖ Certificate & Add-on-Courses Committee member – 2023 to 2024

FDP, Conference, Symposium and Workshop Attended

- **NOV 2011** ISTENational workshop on Aakash for Education conducted by NPR College of Engineering and Technology, Dindigul
- **DEC 2012** ISTENational workshop on Engineering Thermodynamics conducted by NPR College of Engineering and Technology, Dindigul collaboration with IIT Remote Center
- **MAY 2014** Two Week 2012 ISTENational workshop on Fluid Mechanics conducted by NPR College of Engineering and Technology, Dindigul collaboration with IIT Remote Center
- **AUG 2016** Conference on Introduction to Theoretical Physics conducted by Govt Arts College, Melur
- **DEC 2017** Science Academies Lecture Workshop on Interaction of Radiation with Matter conducted by Govt Arts College, Melur
- **MAR 2017** Faculty Development Programme conducted by MannarThirumalaiNaicker College, Madurai
- **OT 2017** Faculty Development Programme on online Teaching, Learning and Assessment using Moodle, MOOC platform, open educational resources & Education Technology Tools conducted by MannarThirumalaiNaicker College, Madurai
- **MAR 2018** Faculty Development Programme on E-content Development and Digital Tools Conducted by MannarThirumalaiNaicker College, Madurai
- **JUN 2018** Workshop on Technicalities of writing research proposal conducted by Mannar ThirumalaiNaicker College, Madurai
- **JAN 2019** Workshop on Intellectual Property Rights, Skill Development Programmes, Innovations, Patents and Setting Up Incubation Centers conducted by MannarThirumalai Naicker College, Madurai

- **MAR 2019** Promotion of API Score and CAS Filling conducted by MannarThirumalai Naicker College, Madurai
- **MAR 2019** Training and Production Workshop on Prospects of outcome based curriculum conducted by MannarThirumalaiNaicker College, Madurai
- **AUG 2019** Workshop on Outcome Based Education conducted by MannarThirumalaiNaicker College, Madurai
- **OCT 2019** Workshop on Research Writing and Publications: Theory and Practice conducted by MannarThirumalaiNaicker College, Madurai
- **MAR 2020** Faculty Development Programme on “Promotion of API Score and Career Advancement Scheme” conducted by MannarThirumalaiNaicker College, Madurai.
- **MAR 2020** Faculty Development Programme on “21st Century Skills” conducted by MannarThirumalaiNaicker College, Madurai.
- **MAR 2020** Workshop on Quality Assurance and Sustenance in Higher Education conducted by MannarThirumalaiNaicker College, Madurai
- **MAY 2020** Online Faculty Enrichment Programme conducted by MannarThirumalaiNaicker College, Madurai

Webinar Participated

- ★ **MAY 2020** participated in Faculty Development Programme on Data analysis & visualisation of COVID 19 Dataset using Python organized by Department of CSE in association with CC+Computational intelligence research foundation, Chennai.
- ★ **MAY 2020** participated in Micro & Nanotechnology and its Applications organized by Department of Physics, G.N.T Arts and College, Dindigul
- ★ **MAY 2020** participated in Bio Diversity organised by ECO Club, MannarThirumalaiNaicker College, Madurai
- ★ **MAY 2020** participated in the series of online lectures in Solid State Physics – Series I: Electrons in Solids organized by Department of Theoretical Physics, University of Madras
- ★ **MAY 2020** participated in Thin Film Technologies in our daily life organized by the PG and Research Department of Physics, NadarMahajanaSangam S. VellichamyNadar College, Madurai.
- ★ **May 2020** participated in FDP on Applications of Molecular Techniques in Biomedical Research organized by RUSA 2.0 Entrepreneurship and career hub, University of Madras

- ★ **October 2021** Faculty Development Programme on “Innovations in Applied Research for Science and Technology” organized by KDK College of Engineering ,Nagpur.
- ★ **July 2022** participated in Workshop on “Sustainable Materials Advances and Application” organized by SRM Institute of Science and Technology, Ramapuram, Chennai.
- ★ **Feb 2023** participated in International Virtual Conference on “Material Science and Applications” organized by Seethalakshmi Ramaswami College, Tiruchirappalli.
- ★ **April 2023** participated in National Virtual Workshop on Machine Learning: An Iceberg, SSN Research Centre, SSN Institutions Chennai. **Breaker Between Materials Research and Data Science**
- ★ **May & June 2023** participated in Five days online FDP on “Theoretical & Experimental Physics” Organized by School of Advanced Sciences and G.T.N Arts College Dindigul from 29th May to 2nd June 2023 at Vellore Institute of Technology, Chennai.