



# SRM Valliammai Engineering College


(An Autonomous Institution)

SRM Nagar, Kattankulathur-603203, Chengalpattu District, Tamil Nadu

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## Department of Physics

### Personal Details

Name :	Dr. M. Anbuechhiyan	
Designation :	Associate Professor	
Educational Qualification :	M.Sc., M.Phil., Ph.D.	
Experience:	26.8 yrs	
Area of Specialization :	Crystal Growth, Nano Materials	
Date of Joining :	20.09.2000	
Email ID	<a href="mailto:chezhiyan70@gmail.com">chezhiyan70@gmail.com</a>	
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### Educational Details

S.No	Degree	Branch / Specialization	Institution / University	Year
1.	B.Sc.	Physics	Lakshmipuram College of Arts and Science, Neyyoor, Madurai Kamaraj University	1990
2.	M.Sc.	Physics	N.M.Christian College, Marthandam, Manonmaniam Sundaranar University	1992
3.	M.Phil.	Scientific Instrumentation	Department of Scientific Instrumentation, University of Madras, Chennai	2001
4.	Ph.D.	Physics	Department of Physics, SRM IST Kattankulathur.	2011

### Professional Society Memberships

1. Indian Science Congress Association
2. Indian Association of Crystal Growth
3. Indian Society for Technical Education
4. Indian Physics Associations
5. Computer Society of India

## Publication Details

### Journals:

1. N. Srinivasan alias Arunsankar, M. Anbuezhayan, S. Harish, S. Ponnusamy Efficient catalytic activity of BiVO<sub>4</sub> nanostructures by crystal facet regulation for environmental remediation *Chemosphere* 289, 133097 2022
2. N.Srinivasan alias Arunsankar, M.Anbuezhayan  
S. Padmaja Enhanced photocatalytic mineralization efficiency of anionic element doped ZnO by improving separation of excitons *Journal of Materials Science: Materials in Electronics International* 32, 12631 – 12647, 2021.
3. B.Anusha, M.Anbuezhayan, R.Sribalan An efficient photocatalytic degradation of nitrophenols using TiO<sub>2</sub> as a heterogeneous photo Fenton catalyst *Reaction Kinetics, Mechanisms and Catalysis International* 134, 501-515 2021
4. C.Deepa, M.Anbuezhayan, R.Sribalan Theoretical and Experimental study of new nonlinear optical material nicotinohydrazide *Journal of Nonlinear Optical Physics & materials International* 29, 3 & 4 2050007 (1-16) 2021
6. Arputhalatha A Anbuezhayan M and Geetha Palani Synthesis, growth, physio-chemical and Hirshfeld surface analysis of guanidinium l-glutamate single crystal *Journal of Materials Science: Materials in Electronics International* 32, 12503 – 12512, 2021.
7. Deepa C, Anbuezhayan M , Arivazhgan T Synthesis, spectroscopic, thermal analysis and quantum chemical calculation of a new third-order nonlinear optical material: N-allylthiourea *Journal of Materials Science: Materials in Electronics International* 32, Issue 11 15364 – 15374, 2021
8. C.Deepa, M.Anbuezhayan Evolving NLO effect, mechanical, thermal, and dielectric study of N-Benzoyl glycine doped L-Threonine, *Material today and Proceedings International* 46, 3049-3052, 2021  
N Srinivasan Arunsankar, M Anbuezhayan Photocatalytic Activity of Hydrazine Hydrate Passivated ZnO Nanostructures Synthesized by Hydrothermal Method *i-Manager's Journal on Material Science International* 9 Issue 1 48-53, 2021
9. C. Deepa, M.Anbuezhayan ,R.Sribalan has published the research paper entitled “The Combined Experimental and Theoretical study of N-acetyl L-Glutamine” in the international *Tierärztliche Praxis* Vol.No.40 1493-1507, 2020
10. Srinivasan Alias Arun Sankar N, M. Anbuezhayan, S. Ponnusamy “Hydrothermal synthesis of C doped ZnO nanoparticles coupled with BiVO<sub>4</sub> and their photocatalytic performance under visible light irradiation” *Applied Surface Science*, 494 (2019) 771-782.
11. Arputha latha, A, Anbuezhayan, M “The crystal structure, linear and nonlinear optical properties of 3-Aminonitrobenzene for photonic application — A combined experimental and theoretical investigation” *Journal of Nonlinear Optical Physics & Materials*, Vol. 28, No. 3 (2019) 1950028.
12. Arputha latha, A, Anbuezhayan M, Charles C Kanagam, Selavarani K, ”Synthesis and Characterization of  $\gamma$ -glycine - a non linear optical single crystal for optoelectronic and photonic applications” *Material Science- Poland*, 35 (1) (2017) 140-150.

13. Mr.Syed Suresh Babu, M.Anbuezhayan, M.Gulam Mohamed, P.A.AbdullahMahaboob and R.Mohan“ Growth, optical, dielectric, thermal and mechanical properties of pure and Sr(II)-doped L- asparagine monohydrate single crystal” Archives of Physics Research, 4 (2013) 31-39.
14. M.Anbuezhayanhas published the research paper entitled “Effect of phosphorous on the growth, optical, mechanical and thermal properties of L-alanine crystals” in Photonics Letters of Poland, Vol 7, (2), 44-46, 2015.
15. Anbuezhayan, M., Ponnusamy, S., Muthamizhchelvan, C., 2008, “Growth, Spectroscopic, Optical, Mechanical and Thermal Studies of  $\alpha$ -Alanine Cadmium Chloride Crystal, a Semi-organic Nonlinear Optical Material,”Optoelectronics and Advanced Materials-Rapid Communications, 2 (10) pp. 624-629.
16. Anbuezhayan, M., Ponnusamy, S., Muthamizhchelvan, C., 2009, “Synthesis and Characterization of New Organic Nonlinear Optical Crystal: L-Phenylalaninium Maleate,” Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy,74, pp. 917- 923.
17. Anbuezhayan, M., Ponnusamy, S., Muthamizhchelvan, C., 2009, “Synthesis, Characterization and Nonlinear Optical Studies of L-Leucinium Oxalate: a Single Crystal,” Optoelectronics and Advanced Materials-Rapid Communications, 3 (11) pp. 1161-1167.
18. Anbuezhayan, M., Ponnusamy, S., Muthamizhchelvan, C., 2010, “Crystal Growth and Characterizations of L-Cystine Dihydrobromide - A Semiorganic Nonlinear Optical Material,” Physica B: Condensed Matter, 405, pp. 1119-11924.
19. Anbuezhayan, M., Ponnusamy, S., Singh, S. P., Pal, P.K., Datta, P.K., Muthamizhchelvan, C., 2010, “Effect of Strontium Chloride on the Optical and Mechanical Properties of  $\hat{U}$ -glycine Crystals,” Cryst. Res. Technol.,45 (5), pp. 497-502.
20. Anbuezhayan, M., Ponnusamy, S., Muthamizhchelvan, C., Sivakumar, K., “Crystal Growth, Structure and Characterizations of New Semiorganic Nonlinear Optical Material -  $\hat{u}$ -Alanine Zinc Chloride”, Material Research Bulletin, 45, pp. 897-904.
21. M Anbuezhayan, S Ponnusamy, C Muthamizhchelvan, CC Kanakam, SP Singh, PK Pal, PK Datta “Etching, micro hardness and laser damage threshold studies of a nonlinear optical material L-valine” The European Physical Journal-Applied Physics 58 (2012) 10201.

#### **Conferences:**

- M.Anbuezhayan has presented his research papers entitled “Effect of Potassium Chloride on the optical, thermal & mechanical properties of  $\gamma$ -glycine” and “Hydrothermal synthesis of uncapped ZnO Nanostructures” on second National Conference on Hierarchically Structured Materials [NCHSM 2014] held on 24<sup>th</sup>& 25<sup>th</sup> March 2014, organized by Department of Physics, SRM University, Ramapuram Campus, Chennai – 89.

- M. Anbuezhayan has presented a paper entitled ‘Solvothermal Synthesis of ZnO Nanostructures And Their Visible Light Photocatalytic Activity’ in the National Conference on Science and Technology for Indigenous development in India (NCST-IDI2015) organized by Indian Science Congress, Chennai chapter in association with SRM University, Chennai held on 26-28, November, 2015.
- M. Anbuezhayan has presented a paper entitled ‘Synthesis and Characterization of amine passivated ZnO nanostructures’ Centre for Nanoscience and Technology, Anna University is organizing the Third International Workshop on Advanced Functional Nanomaterials (TIWAN-2015) at Anna University, Chennai during 16-18, December 2015.
- M. Anbuezhayan presented a paper on ‘Solvothermal synthesis of ZnO, micro/nano structures by using mixed solvents and their photocatalytic activity’ in the 4<sup>th</sup> National Conference on Hierarchically structures materials [NCHSM 2016], held on March 4<sup>th</sup> 2016 organized by the Dept., of Physics, SRM University, Ramapuram Campus, Chennai.
- Dr. M. Anbuezhayan presented a paper on the ‘Synthesis and characterization of pure and PVP passivated ZnO nanostructures by hydrothermal method’ in the National Symposium on Nano Science & Technology (NSNST – 2016) conducted at the Centre for Nano Science and Engineering, Indian Institute of science, Bangalore, from 29-30 June 2016.
- M. Anbuezhayan has presented a paper entitled “ Hydrothermal synthesis of BiVO<sub>4</sub> Photocatalysts from different precursors and their catalytic performances under the visible light in 4<sup>th</sup> International Conference on Nano science and technology during August 9-11, 2017 organized by Department of Physics and Nano Technology, SRM University, SRM Nagar.
- M. Anbuezhayan has presented paper on the “CTAB surfactant assisted hydrothermal synthesis of BiVO<sub>4</sub> nanostructures and their catalytic activity for the degradation of MB dye International Conference on Recent Advancements in Material Science (NewPhy2020) Organized by P.G & Research Department of Physics, The New College (Autonomous) (Affiliated to University of Madras) Chennai, Tamilnadu, India. January 21, 2020.
- M. Anbuezhayan has presented the paper entitled “Enhanced photocatalytic activity and inhibition of photocorrosion of ZnO by doped with fullerene C<sub>60</sub> via hydrothermal method” International Seminar on Advanced Nanomaterials (ISAN 2018), University of Madras on 27<sup>th</sup> and 28<sup>th</sup> February 2018.
- M. Anbuezhayan has presented the paper entitled “Hydrothermal synthesis of C-ZnO/BiVO<sub>4</sub> nanocomposites and their photocatalytic activities” in the International E - Conference on Recent trends in Nanotechnology and Material Science (ICRTNM 2021) Organized by P.G & Research Department of Physics, St. Joseph’s College for Women Alappuzha, Kerala. (Affiliated to University of Kerala) India, January 18 - 20, 2021.

- M.Anbuezhayan has presented the paper entitled “Investigation of C-ZnO/V<sub>2</sub>O<sub>5</sub> nanocomposite for the decomposition of organic compounds under visible light” in the International Conference on Nanoscience and Nanotechnology (ICONN 2021), organized by Department of Physics and Nanotechnology, SRM Institute of Science and Technology, Kattankulathur Feb 1-3 ,2021
- M.Anbuezhayan has presented the paper entitled “Synthesis of Ag/ZnO and Cu/ZnO nanocomposites and their photocatalytic performances for the environmental remediation” in the International Conference on Nanoscience and Nanotechnology (ICONN 2021), organized by Department of Physics and Nanotechnology, SRM Institute of Science and Technology, Kattankulathur Feb 1-3 ,2021.
- M.Anbuezhayan has presented the paper entitled “Novel perspective of AgCu bimetallic alloy nanoparticles decorated BiVO<sub>4</sub> with synergistic photocatalytic effect” in the International Conference on Nanoscience and Nanotechnology (ICONN 2021), organized by Department of Physics and Nanotechnology, SRM Institute of Science and Technology, Kattankulathur Feb 1-3 ,2021.
- M.Anbuezhayan has presented the paper entitled “Synthesis and characterization of TiO<sub>2</sub>-rGO nanocomposites for the photocatalytic degradation of picric acid in the International Conference on Nanoscience and Nanotechnology (ICONN 2021), organized by Department of Physics and Nanotechnology, SRM Institute of Science and Technology, Kattankulathur Feb 1-3 ,2021.
- M. Anbuezhayan has presented the research paper on Polymer based synthesized ZnO nanoparticles for biological Applications in International conference on Modern Functional Materials (ICMFM-2021) on 24 and 25.6.2021 at Sri Sairam Engineering College, Chennai.
- M. Anbuezhayan has presented the research paper on Polyethylene glycol-chitosan incorporated Zinc Oxide nanoparticles with NN-Dimethyl International Virtual conference on Materials Research (IVCMR-21) 26 and 27.8.2021 at Easwari Engineering College, Chennai.

### Research and Development etails

*No. of Ph.D. candidate completed: 2*

*No. of Ph.D. candidates guiding: 04*

### Other Particulars

- Best oral research paper presentation award in National Seminar on Physics of New Materials organized by Department of Physics, Noorul Islam University, Kanyakumari (Dt.) on April 20-21, 2012.

- Received the best research paper presentation award in International Conference on Recent Advancements in Material Science (NewPhy2020) Organized by P.G & Research Department of Physics, The New College (Autonomous) (Affiliated to University of Madras) Chennai, Tamilnadu, India. January 21, 2020.
- Best Presentation (Second Prize) award received for the research paper titled Hydrothermal synthesis of C-ZnO/BiVO<sub>4</sub> nanocomposites and their photocatalytic activities International E - Conference on Recent trends in Nanotechnology and Material Science (ICRTNM 2021) Organized by P.G & Research Department of Physics, St. Joseph's College for Women Alappuzha, Kerala. (Affiliated to University of Kerala) India held from January 18 - 20, 2021.
- Best Oral presentation award for the research paper Polymer based synthesized ZnO nanoparticles for biological Applications in International conference on Modern Functional Materials (ICMFM-2021) on 24 and 25.6.2021 at Sri Sairam Engineering College, Chennai.
- NPTEL and NITTTR SPOC, ISO MR and College Library Co-ordinator. He is recognized as a reviewer for Elsevier Journals, Springer, IOP Journals etc.
- Recognized research supervisor in Anna University, Chennai.
- Produced 100% result.
- Proficiency in Physics (UG level)
- Best Teacher award (Depart.) - 2009
- Received the certificate from International Centre for Diffraction Data (ICDD), Newton Square, U.S.A. in recognition of the significant contribution of pattern to the Powder Diffraction File.
- Editorial Board Member in Advanced Central Science and the International Journal of Engineering Research and Modern Education.
- Certificate of membership an active professional member of the Institute for Engineering and Publication (IFERP) from 06-02-2020 to 31-12-2021