Curriculum Vitae

Name : **Dr. C. Anzline**

Designation : **Assistant Professor**

Department : **Physics**

Date of Joining : **07.12.2007**

Mobile Number : **9944241279**

Email : anzlinec@gmail.com

anzline@americancollege.edu.in, anzlinec@yahoo.com

Educational Qualification : **M.Sc., M.Phil., Ph.D., SET**

Degree	Subject	College/University & Place	Year Completed
B.Sc	Physics	Lady Doak College, Madurai	2004
M.Sc	Physics	The American College, Madurai	2006
M.Phil	Physics	The American College, Madurai	2007
SET	Physics	Bharathiar University, Coimbatore	2012
Ph.D	Physics	Mother Teresa University, Kodaikanal	2021

Specialization in Teaching:

Optics, Solid State Physics and Spectroscopy

Specialization in Research

X-ray Crystallography

Research Interests:

Crystallography and crystal structures, Single crystal preparation and characterization, Charge density in semiconductors, oxides, fluorides, oxy-fluorides and pharmaceutically important materials, Topological analysis of charge density and Quantum chemical calculations.

List of Papers Published in Journals:

1. X-ray derived experimental charge density distribution in GaF3 and VF3 solid systems
   K.Sujatha , S.Israel , **C.Anzline**, R.Niranjana Devi, R.A.J.R.Sheeba.
   Physica B: Condensed Matter 496 (2016)74–81.

2. 2-Amino-4-methylpyridinium 4-methylbenzoate
   P. Sivakumar, **C. Anzline**, S. Israel and G. Chakkaravarthi
   IUCr Data, Data reports Vol.1,Part 4 (2016)x161411

3. 2-(4-Nitrophenyl)acetate 2-amino-4-methylpyridin-1-ium
   P. Sivakumar, **C. Anzline**, S. Israel and G. Chakkaravarthi
   IUCr Data, Data reports Vol.1,Part 4 (2016)x161433

4. High Resolution Synchrotron Diffraction Study on Charge Density Distribution of Ampicillin Trihydrate: A Correlation between DFT and Multipole Models
   C. Anzline, S. Israel, R. Niranjana Devi, R.A.J.R. Sheeba and P. Richard Rajkumar
   Chinese Journal of Chemical Physics VOLUME 30, NUMBER 1,2017

5. Charge density analysis of Metformin/HCl, a biguanidean anti-hyperglycemic agent
   R. Niranjana Devi, C. Jelsch, S. Israel**,** E. Aubert, **C. Anzline** and A. A. Hosamani
   Acta Crystallographica Section B:
   Structural Science, Crystal Engineering and Materials, (2017). B73, 10-22

6. 2-Amino-3-methylpyridinium hydrogen phthalate
   P. Sivakumar, **C. Anzline**, S. Sudhahar, S. Israel and G. Chakkaravarthi
   IUCrData, Data Reports, (2017). 2, x170422

7. Testing the ability of rhodanine and 2, 4-thiazolidinedione to interact with the human pancreatic alpha-amylase: electron-density descriptors complement molecular docking, QM,and QM/MM dynamics calculations
   R. Niranjana Devi, Maria G. Khrenova, S. Israel, **C. Anzline**, Andrey A. Astakhov, Vladimir G. Tsirelson
   Journal of Molecular Modelling (2017) 23:252

8. Experimental charge density distribution and its correlation to structural and optical properties of Sm3+ doped Nd_2O_3 nanophosphors
   Morris Marieli Antoinette, S.Israel, G. Sathya, Arlin Jose Amali, John L. Berchmans, K. Sujatha, **C. Anzline** and R.Niranjana Devi
   Journal of Rare Earths 35 (2017) 1102 -1114

9. Analysis of oxygen bonding with metals of different oxidation states from experimental charge density distribution
   K. Sujatha, S. Israel, **C. Anzline**, K.S. Syed Ali, R.A.J.R. Sheeba, P. Richard Rajkumar
   Physica B: Condensed Matter 555 (2019) 21–31

10. X-ray derived experimental charge density distribution in two isostructural oxyfluorotellurates, $FeTeO_3F$ and $GaTeO_3F$
    K. Sujatha, S. Israel and **C. Anzline**
    Physica B: Condensed Matter, 579 (2020) 411896
    https://doi.org/10.1016/j.physb.2019.411896

11. Comprehensive study on the topological properties of 5-Amino-2-Methyl Benzene Sulfonamide involving inter and intra molecular hydrogen bonds
    C. Anzline, P. Sivakumar , S. Israel, K. Sujatha
    Journal of Molecular Structure 1201 (2020) 127208
    https://doi.org/10.1016/j.molstruc.2019.127208

12. Hirshfeld Surface, Charge Density and Site Selectivity Studies of 1-(2-Methyl-5-nitro-1H-imidazol-1-yl)-acetone
    C.Anzline, S.Israel, K.Sujatha and R.A.J.R.Sheeba
    Computational and Theoretical Chemistry 1191 (2020) 113044
    https://doi.org/10.1016/j.comptc.2020.113044

13. Charge density of difluorides from synchrotron diffraction data and investigation of bonding in low valent binary fluorides
    K.Sujatha, S.Israel, **C.Anzline**, R.A.J.R.Sheeba
    Materials Chemistry and Physics 259 (2021) 123990
    https://doi.org/10.1016/j.matchemphys.2020.123990

14. Structure, Charge density and Hirshfeld Surface Analysis of proton transfer complex 2-Amino-4-methylpyridinium 2-(3-methylphenyl)-acetate
    C.Anzline, S.Israel, K.Sujatha and R.A.J.R.Sheeba
    Journal of the Chinese Chemical Society(Wiley), 1-14, 2022
    DOI:10.1002/jccs.202100433

List of papers presented in National and International conferences

1. Multipole analysis of Charge density in a pharmaceutical solid system: Tolbutamide
   S.Israel, **C. Anzline**, and R.A.J.R. Sheeba
   International conference on recent trends in Advanced Materials, Vellore Intstitute of Technology University, Vellore, February- 2012, Abstract No: BMS Pr-11

2. Multipole analysis of charge density in Ampicilin trihydrate
   C. Anzline, S. Israel and P. Richard Rajkumar
   National seminar on technologically important crystalline and amorphous solids, Kalasalingam University, Krishnan Koil, February - 2013, pp-109

3. Structural and electronic properties of Phenyl acetic acid using Density functional Theory
   C. Anzline, S. Israel, R. Niranjana Devi and P. Richard Rajkumar
   National seminar on technologically important crystalline and amorphous solids, Kalasalingam University, Krishnan Koil, February - 2014, op-5,page – 43

4. Charge derived properties and site selectivity studies in 5-Amino-2-methyl benzene sulfonamide using XRD and DFT techniques
   C. Anzline, S. Israel, R. Niranjana Devi and P. Richard Rajkumar
   Theoretical chemistry Symposium- 2014, National chemical Laboratory, Pune

5. Elucidation of reactivity descriptors for 2-mercaptobenzoic acid using Density functional Theory approach
   R. Niranjana Devi, S. Israel, **C. Anzline**, P. Richard Rajkumar and W. Hannah Blessy
   Journal of Research in Science, Vol.2, December 2014, pp. 25-30.
   Recent Trends in Quantum Chemistry-2014, Nesamony memorial Christian college, Marthandam.

6. Molecular structure, vibrational spectroscopic and site selectivity studies in 5-amino-3-methyl-1,2-oxazole-4-carbonitrile using DFT technique.
   C. Anzline, S. Israel, R. Niranjana Devi , P. Richard Rajkumar and W. Hannah Blessy
   Journal of Research in Science, Vol.2, December 2014, pp. 35-39.
   Recent Trends in Quantum Chemistry-2014, Nesamony memorial Christian college, Marthandam.

7. Topological and electron density analysis and electrostatic properties of N-(Phenylsulfonyl)acetamide: An experimental and theoretical study
   R. Niranjana Devi , S. Israel, **C. Anzline**, P. Richard Rajkumar
   National symposium on X-ray diffraction and recent advances in crystallography-2015, A-19, 2015, Periyar University, Salem.

8. Molecular Structure, Population Analysis, Vibrational Spectroscopic and Chemical Reactivity studies of Nicotinohydrazide using DFT approach
   C. Anzline, S. Israel, R. Niranjana Devi, P.Richard Rajkumar, K.Sujatha
   National Conference on Advanced Materials Science – 2015, Jerusalem College of Engineering, Chennai. Page: 26-32. (ISBN 978-81-89843-73-1)

9. Investigation on reactivity descriptors of 2,5-Lutidinium Bromanilate using DFT approach
   R. Niranjana Devi , S. Israel, **C. Anzline**, P. Richard Rajkumar
   National Conference on Advanced Materials Science – 2015, Jerusalem College of Engineering, Chennai. Page: 33-38 (ISBN 978-81-89843-73-1)

10. X-ray Analysis of the Charge Density Distribution in GaF3
    K. Sujatha, S. Israel, **C. Anzline**, R. Niranjana Devi
    National Conference on Advanced Materials Science – 2015, Jerusalem College of Engineering, Chennai. Page: 39-44 (ISBN 978-81-89843-73-1)

11. Ab-initio studies of L-Alanine organic molecule
    G.K.Priya Merline, S. Israel, **C. Anzline**, M. Chitra
    National Conference on Advanced Materials Science – 2015, Jerusalem College of Engineering, Chennai. Page: 20-25 (ISBN 978-81-89843-73-1)

12. Luminescent properties of Nd3+ doped Sm_2O_3 nanoparticles and its correlation with X-ray derived charge density
    Morris Marieli Antoinette, S. Israel and **C. Anzline**
    Nano India - 2015, Sastra University, Tanjavur, January 2015, ID:1218

13. Charge density and chemical reactivity studies of δ-sulfanilamide
    C. Anzline, S. Israel, R. Niranjana Devi, K. Sujatha, P. Richard Rajkumar and Morris Marieli Antoinette,
    International conference on materials processing and applications(ICMPA-2016), VIT University, Vellore,
    December 14-16, 2016, Abstract No:CG65

14. X-ray derived experimental charge density distribution in two sesquioxides In_2O_3 and Y_2O_3
    K. Sujatha, S. Israel, **C. Anzline** and Morris Marieli Antoinette
    International conference on materials processing and applications(ICMPA-2016), VIT University, Vellore,
    December 14-16, 2016, Abstract No: CG63

15. An analysis of structure and reactivity descriptors of Metformin HCl using XRD and DFT approach
    R. Niranjana Devi, S. Israel and **C. Anzline**
    International conference on materials processing and applications(ICMPA-2016), VIT University, Vellore,
    December 14-16, 2016, Abstract No: CG24

16. Investigation on the properties of Sm3+doped Nd2O3nanoparticles and X-ray characterization by the maximum entropy method (MEM)
    Morris Marieli Antoinette, S.Israel, G. Sathya, Arlin Jose Amali, John L. Berchmans, K. Sujatha and **C. Anzline**
    Fourth International Conference on Nanostructured Materials and Nanocomposites (ICNM 2017) on 10, 11 and 12 February 2017 at Mahatma Gandhi University, Kottayam, Kerala, India

17. X-ray investigation on the charge density distribution of some organic compounds
    C. Anzline
    VII All India Young Scientists Convention of XLI Indian Social Science Congress, 18 to 22 December 2017, Periyar University, Salem, Tamil Nadu.

18. X-ray Analysis of the Charge Density Distribution in Transition Metal Oxyfluorotellurate:$FeTeO_3F$
    K. Sujatha, S. Israel, **C. Anzline**
    International Conference on Recent Advances in Material Sciences, 4 – 6 February 2019, National College (Autonomous), Thiruchirapalli, Tamil Nadu.

19. Molecular Structure and site selectivity studies in N- Methyl – N- nitroso – p- toluene sulfonamide using DFT Technique
    C. Anzline, S. Israel, K. Sujatha
    International Conference on Recent Advances in Material Sciences, 4 – 6 February 2019, National College (Autonomous), Thiruchirapalli, Tamil Nadu.

20. Structure And Site Selectivity Studies of Non Steroidal Anti Inflammatory Drug Ibuprofen using DFT Technique
    C. Anzline, S. Israel, K. Sujatha
    International conference on innovation and sustaiable development of science, social science, management and technology(ISDSSMT- 19), DMI-St. Eugene University, Lusaka, Zambia, South- Central Africa. ISBN: 978-81-940502-3-0

21. X-Ray Derived Experimental Charge Density Distribution in Transition Metal Oxyfluorotellurate:$GaTeO_3F$
    K. Sujatha, S. Israel, **C. Anzline**
    International conference on innovation and sustaiable development of science, social science, management and technology(ISDSSMT- 19), DMI-St. Eugene University, Lusaka, Zambia, South- Central Africa. ISBN: 978-81-940502-3-0

22. Chemical Reactivity and Site Selectivity studies of 1-(2-Methyl-5-nitro-1H-imidazol-1-yl)acetone using DFT Technique.
    C. Anzline
    National Conference on research in recent scenario 2019, RVS Educational Trust's group of institutions, Dindigul.

Seminars and Workshops Attended

1. State Level Seminar on **"Thin films and their applications"**, 20th February 2009, Lady Doak College, Madurai.

2. State level seminar on **"Synthesis and characterization of Nano materials"**, 18th March 2009, Sri Parasakthi college for women, Courtallam.

3. National Level Workshop on **"Computational Methods in Physics"** under UGC Autonomy grant on 16th March 2012, S. Vellaichamy Nadar College, Madurai.

4. **"Asian Charge Density Workshop"**, 23 to 26 February 2015, Department of Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore.

5. Workshop on **"Crystal and Molecular Structure Determination from X-ray Diffraction Measurements"**, 28 and 29 March 2016, Periyar University, Salem.

6. State level seminar on **"Nano Technology & its Applications"**, 01st February 2019, Madurai Sivakasi Nadars PioneerMeenakshi Women's College, Poovanthi.

7. National workshop on **"Recent Technological Innovations in Teaching, Learning and Evaluation for Quality Higher Education"**, 18th and 19th of March 2019, Nesamony Memorial Christian College, Marthandam.

8. Attended a course on **"Science and Christian Faith"**, from 25th to 27th of November 2019 conducted by The Faraday Institute for science and religion.

9. Two days E-Workshop on **"Virtual Labs in Physics & Electronics"**, 3rd and 4th July 2020, Aurora's Degree and PG college, Hyderabad.

10. Attended the three days Online Workshop on **"X-ray Diffraction"**, 30th, 31st July and 2nd August 2021, The American College, Madurai.

Webinars Attended

1. International Webinar on **"Spectroscopy",** 25th June 2020, Lekshmipuram College of Arts and Science, Neyyoor.

2. International Webinar on **"DFT, Molecular Dynamics Simulation and Molecular Docking Approach on Potential Pharmaceutical Compounds"**, 29th June 2020, Puratchi Thalaivar Dr. M.G.R Government Arts and Science College, Uthiramerur.

3. International Webinar on **"Advanced Materials for Sustainable Development"**, 2nd and 3rd July 2020, Kalasalingam Academy of Research and Education, Krishnankoil.

4. International Webinar on **"The Exciting Story of Exoplanets"**, 08th July 2020, Karunya Institute of Technology & Sciences, Coimbatore.

5. National online Webinar on **"Chemistry for Better Health"**, 08th July 2020, Government Arts College, Salem.

6. National level Webinar on **"Recent Trends in Crystal Growth"**, 10th July 2020, St.Xaviers College, Palayamkottai.

7. Online Lecture on **"Wave Optics – II: Polarization"**, 11th July 2020, organized by Indian Association of Physics Teachers and Delhi State Science Teacher's Forum.

8. Webinar on **"Lead the Life in Style"**, 01st February 2021, The American College, Madurai.

9. International Webinar on **"The Power to Change the World"**, 08th March 2021, The American College, Madurai.

10. National level Webinar on **"Recent Developments & Future Advancements in Nano-Technology"**, 05th May 2021, Nehru Institute of Technology, Coimbatore.

11. International Webinar on **"The Magnificient Sun – Our Star"**, 08th July 2021,, Karunya Institute of Technology & Sciences, Coimbatore.

12. National level Webinar on **"Mobile Astronomy"**, 28th July 2021, The American College, Madurai.

13. International Webinar on **"Promoting Ikigai to Arise & Shine"** 29th July 2021, The American College, Madurai.

Career Advancement Courses

1. Participated in **"Refresher course in experimental physics"** held by Indian Academy of Sciences (Bangalore), Indian National Science Academy (Delhi), National Academy of Sciences of India and Madurai Kamaraj University from 22 December 2008 to 7 January 2009 at Madurai Kamaraj University, Madurai.

2. Participated in UGC Sponsored **"Orientation Programme"** held from 03rd March 2015 to 30th March 2015, organized by UGC-Academic Staff College, Madurai Kamaraj University, Madurai.

3. Participated in UGC Sponsored **"Refresher Course in Physics"** held from 23rd November 2018 to 13th December 2018, organized by UGC-Human Resource Development Center, Bharathiar University, Coimbatore.

4. Participated in one-week Online Faculty Development Programme on **"The Use of Virtual Physics Labs – Creating Next Generation Teachers"** held from 20 to 24 May 2020, organized by Geethanjali College of Engineering & Technology in association with Indian Society for Technical Education.

5. Participated in **"Online Two-Week Interdisciplinary Refresher Course on Research Methodology"** held from 20 July 2021 to 03rd August 2021, organized by Teaching Learning Centre, Ramanujan College, University of Delhi, under the aegis of Ministry of Education Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching.

6. Participated in UGC Sponsored **"Online Refresher Course in Physics"** held from 16th September 2021 to 29th Septemner 2021, organized by UGC-Human Resource Development Center, Sambalpur University, Sambalpur.

7. Completed 12 week NPTEL Online Certificate course (July to October 2021) on **"Spectroscopic Techniques for Pharmaceutical and Biopharmaceutical industries"** with Elite certificate.

8. Obtained NPTEL – AICTE (Funded by the Ministry of HRD, Govt. of India) Faculty Development Programme certificate for completing the 12 week course $(1\frac{1}{2}\ FDP)$ **"Spectroscopic Techniques for Pharmaceutical and Biopharmaceutical industries"**

Guest Lecture

1. **"Waves and Optics**", on 15th March 2018 at Christian College of Engineering & Technology, Oddanchatram.

Best Paper Award for Oral Presentation

1. Molecular structure, vibrational spectroscopic and site selectivity studies in 5-amino-3-methyl-1,2-oxazole-4-carbonitrile using DFT technique.
   C. Anzline
   National Conference on Recent Trends in Quantum Chemistry-2014, Nesamony memorial Christian college, Marthandam.

2. Chemical Reactivity and Site Selectivity studies of 1-(2-Methyl-5-nitro-1H-imidazol-1-yl) acetone using DFT Technique.
   C. Anzline
   National Conference on research in recent scenario 2019, RVS Educational Trust's group of institutions, Dindigul.

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