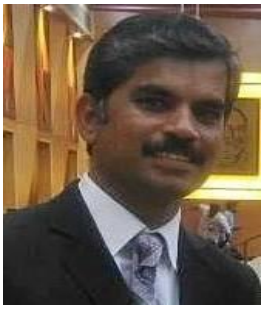
Dr. J. BALAJI



Dr. J. BALAJI
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PROFESSIONAL EXPERIENCE – 26 YEARS

1.	**Assistant Professor (Sl.Gr)** *Department of Physics,* *University College of Engineering Panruti,* *Panruti.*	30.09.2009 to till date
2.	**Assistant Professor** *Department of Physics,* *Krishnasamy College of Engineering and Technology,* *Cuddalore.*	2002 to 2009
3.	**Lecturer** *Department of Physics,* *Dr. Navalar Nedunchezhiyan College of Engineering, Tholudur.*	1999 to 2002

SUMMARY OF EDUCATION

1.	**Ph.D. (Physics)**	*Anna University, Chennai*	Highly Commended (2016)
2.	**M.Phil (Physics)**	Manonmaniyam Sundaranar University, Thirunelveli	I Class (2003)
3.	**M.Sc (Physics)**	Annamalai University, Chidambaram	I Class (1998)
4.	**B.Sc (Physics)**	St. Joseph's College of Arts and Science, Cuddalore	I Class (1996)

RESEARCH ACTIVITY

Research: Total Experience in Research : **18** Years

Number of Students

Ph.D : Completed : **2**

Doing : **4**

M.Phil., : Completed : **4**

Area of Specialisation : Crystal Growth, Materials Science & Nano Technology

S.No	Degree	Name of the Scholar	Reg. No.	Title of the Thesis	Viva Date
1.	Ph.D.	Ram Sri Nivas P M	17147597223	INVESTIGATIONS ON GROWTH AND CHARACTERIZATION OF NONLINEAR OPTICAL CRYSTALS OF ALDEHYDE AND HYDRAZIDE DERIVATIVES	13.09.2024
2.	Ph.D.	Cecily Maria Sneha X	17247597179	INVESTIGATIONS ON CRYSTAL GROWTH AND CHARACTERIZATION OF ORGANIC NONLINEAR OPTICAL CRYSTALS OF BENZOPHENONE DERIVATIVES	09.01.2026

H-index : **11**

Professional Membership : **Indian Association of Crystal Growth**
Indian Science and Technology Association.

PROJECT ACTIVITY

S.No	Title of the Research Project	Name of the Funding Agency/ Organization	Duration	Role of the Investigator	Amount	Status of the Project
1.	Growth and Characterization of Benzophenone NLO crystals and its derivatives	CTDT Anna University Chennai	One Year (2013-14)	Principal Investigator	50000	Completed

BOOK PUBLISHED

S.No	Title	Author's Name	Publisher	Year of Publication
1	Engineering Physics –I	**J.Balaji**, E.Pushparaj	SAI SAKTHI Publications, Chennai	2008
2	Physics for Engineers	**J.Balaji**	Charulatha Publications	2022 ISBN No: 978-93-5577-022-6
3	Physics for Electronics Engineering	**J.Balaji**	Charulatha Publications	2022 ISBN No: 978-93-5577-281-7

FDP(S)/WORKSHOPS/SEMINARS/CONFERENCES ORGANIZED		
S.No	**Title**	**Role**
1	Two day National level symposium on Progressive trends in renewable energy resources and effective communication skills in English. (KRISHCON).	**Co-Ordinator**
2	Seminar on Role of Basic Sciences in Engineering Applications.	**Co-Ordinator**
3	Seminar on Personality Development	**Co-Ordinator**

RESOURCE PERSON / INVITED TALK					
S.No	**Title of the Invited Talk/Lecture**	**Venue**	**Date**	**Role**	**Level**
1.	Dielectric Materials and its Applications	University College of Engineering Tindivanam	12.12.2014	Invited Talk	State Level FDP
2.	Engineering Physics and its Applications	St Annes College of Engineering and Technology	12.09.2018	Invited Talk	State Level
3.	Properties of Matter	St.Joseph's College of Arts and Science, Cuddalore	26.06.2019	Invited Talk	State Level
4.	Organic Nonlinear Optical Crystal for Laser Applications	Department Of Physics, Rajah Serfoji Government College, Thanjavur	12.03.2020	Invited Talk	UGC sponsored state level seminar
5.	Introduction to Research and Research Methods	AMET University, Chennai	17.01.2022	Invited Talk	National Level
6.	Learning Methodology	Idhaya Engineering College for Women, Chinnaselam	14.12.2022.	Invited Talk	State Level
7.	Learning Methodology	Immaculate College for Women, Cuddalore	14.07.2023	Chief Guest & Invited Talk	State Level
8.	Crystallography and its application- A bird's eye view	SASTRA, Kumbakonam	28.02.2025	Chief Guest & Invited Talk	State Level

ADMINISTRATIVE RESPONSIBILITY

1. Acting as Core-Committee member from 2022 to till date.
2. Acting as IPR Co-Ordinator from 2022 to till date.
3. Acted as Camp Officer for Central Valuation at Panruti for Apr/May 2021 University Examinations.
4. Acted as Chief Superintendent & Examination Co-Ordinator for University Examinations from 2009 to 2012 and from March 2021 to Dec 2021 at UCEP, Panruti.
5. Acted as Research Development Co-Ordinator from 2018 to 2022.
6. Acted as First Year Co-Ordinator from 2013 to 2019 at UCEP, Panruti.
7. Acting as Science day Co-Ordinator from 2009 to till date.
8. Acted as YRC programme officer from 2009 to 2012, at UCEP, Panruti.
9. Acted as Head of the Department of Physics from April 2019 to Dec 2019 UCEP, Panruti.
10. Acted as Anti-Ragging committee member from 2013 to 2019 at UCEP, Panruti.
11. Acted as Exam Co-Ordinator for TNPSC examination.
12. Acted as AICTE observer for JEE Exam.
13. Acted as a Verification Officer (Nominee of DOTE) for price less laptop distribution at Muthiah Polytechnic College Chidambaram.
14. Acted as Member for the Anna University Examination result passing board.
15. Question paper setter for the various engineering institution in Tamil Nadu.

CONFERENCES / SEMINARS: ATTENDED

1. Participated International conference on Nanomaterials and its applications at NIT Trichy during February 4-6, 2007.
2. Presented a paper at International Conference on Nanomaterials and Molecular Research on 8-9.12.2016 at St.Joseph's College of Arts and Science, Cuddalore.
3. Presented a paper at International conference on Recent Advances in Applied Physics at Annamalai University on 21 & 22.09.2017.
4. Presented a paper at UGC sponsored National seminar on Crystal Growth and Applications at National College, Trichy on 6-8 March 2017.
5. Presented a paper at UGC sponsored International conference on Material Physics on 29.01.2018 at Bishop Heber College, Tirchy.
6. Presented a paper at Nation Conference on Processing and Fabrication of Advanced Materials at SSN College of Engineering, Chennai on 1-2 March 2018.
7. Presented a paper at TNSCST sponsored International Conference on Molecular Structure of Nano and Bio Materials on 27 & 28.09.2018 at Arignar Anna Government Arts College, Cheyyar.
8. Presented a paper at TNSCST & S.N.Bose National Centre for Basics Sciences Kolkata sponsored National Conference on New Energy Materials for Secure and Sustainable Future on 01 & 02.11.2018 at Thiru Kolanjiappar Government Arts College, Vriddhachalam.

9. Presented a paper at National Conference on National Conference on Emerging Trends in Renewable Energy and Innovation in Materials Science on 15 &16.02.2019 at Thiru Kolanjiappar Government Arts College, Vriddhachalam.
10. Presented a paper at MHRD RUSA 2.0 sponsored International Conference on Advanced Materials for Sustainable Energy and Sensors on 16-17.09.2019 at Alagappa University, Karaikudi.
11. Presented a poster at International Conference on Physics of Advanced Materials and Molecules on 30 & 31.01.2020 at Dr.Ambedkar Government Arts College, Vyasarpadi, Chennai.
12. Presented a paper at International Conference on Growth of Crystals and their Technological Applications on 10-12.01.2022 at SSN College, Chennai.
13. Presented a paper at International Conference on Recent Advances in Materials and Radiation Measurements on 10-11.02.2022 at SSN College, Chennai.
14. Presented a paper at National Conference on Newer Materials for Energy and Environmental Applications on 22 and 23rd of September 2022.
15. Presented a paper in International Conference on Recent Trends in Applied Science and Technology at Annamalai University on 2 and 3 February 2024.
16. Presented a paper in International Conference at Government Arts College, Villupurum on March 2025.

Journals Published

1. Balaji, J, Prabu, S, Srinivasan, P, Srinivasan, T & Velmurugan, D 2015, 'Studies on the growth and characterization of a nonlinear optical crystal: 3 Hydroxy Pyridinium Tartrate Mono Hydrate (3HPTMH)', Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, vol.144, pp.139–147. ISSN: 1386-1425, (Annexure-I), IF-4.3. Q1.

2. Balaji, J, John Francis Xavier, J, Prabu, S & Srinivasan, P 2014, 'Crystal structure of (E)-N_-(4-chlorobenzylidene)-4-methylbenzene sulfonohydrazide: a hexagonal polymorph', Acta Crystallographica, E70, pp. 01250–01251, ISSN 1600-5368, (Annexure-II), IF-0.35.Q3

3. Balaji, J, Prabu, S, Xavier, JJF & Srinivasan, P 2015, 'Crystal structure of N'[(E)-(4-chlorophenyl)(phenyl)methylidene]-4-methylbenzenesulfonohydrazide', Acta Crystallographica, E71, pp. 045–046. ISSN 2056-9890, (Annexure-II), IF- 0.35.Q3

4. J Balaji, S Prabu, D Sajan, P Srinivasan,2017, Investigations on spectroscopic, dielectric and optical studies in 3-hydroxypyridinium 4-nitrobenzoate crystals, Journal of Molecular Structure 1137, 142-149., (Annexure-I). IF-4.0.Q2

5. J Balaji, S Prabu, P Srinivasan,2016, (E)-N′-(4-chlorobenzylidene)-4-methyl benzene sulfono hydrazide (4CBTH)–Synthesis and characterization of organic NLO crystal, Journal of Crystal Growth 452, 189-197, (Annexure-I). IF-1.7.Q2

6. J Balaji, S Prabu, P Srinivasan, P, 2017, Growth and Characterisation of 2′, 3, 4, 4′, 5-Pentamethoxychalcone (PMC)–For non linear optical applications', Journal of Molecular

Structure 1133, 135-143, (Annexure-I). IF-4.0.Q2

7. SR Ahamed, P Srinivasan, J Balaji, SG Raj, 2017, S Mohan, Structural, spectral, thermal, micro hardness, dielectric and etching studies of third order nonlinear optical material Cesium Sulfamate, Journal of Alloys and Compounds 701, 822-827. IF-5.8. Q1

8. S Rafi Ahamed, J Balaji, P Srinivasan, 2017, Growth and characterization of organometallic NLO material: cesium hydrogen tartrate, Materials Research Innovations, 294-301. IF-2.1. Q2

9. V Sasikala, D Sajan, L Joseph, J Balaji, S Prabu, P Srinivasan, 2017, Spectroscopic and DFT-based computational studies on the molecular electronic structural characteristics and the third-order nonlinear property of an organic NLO crystal:(E)-N′-(4-chlorobenzylidene)-4-methylbenzenesulfonohydrazide, Chemical Physics Letters 674, 11-27. IF-2.8. Q2.

10. Prabu, S, Nagalakshmi, R, Balaji, J & Srinivasan, P 2014, 'Synthesis, crystal growth, studies on Vibrational spectroscopy and Nonlinear optical Properties of 4-methoxy-4'-chlorochalcone', Material Research Bulletin, vol.50, pp.446-455, ISSN: 0025-5408, (Annexure-I), IF-5.3. Q1.

11. Prabu, S, Nagalakshmi, R, Balaji, J & Srinivasan, P 2014, 'Investigations on the Vibrational modes and Non-Linear Optical properties of 4-Fluoro Chalcone crystal', Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, vol. 129, pp. 114-120, ISSN: 1386-1425,(Annexure-I), IF- 4.3. Q1

12. S.Vijayakumar,P.Srinivasn, S. Dinagaran & J. Balaji,' Growth, Structural, Spectral and Nonlinear Optical investigations of 2,4-Dinitrochlorobenzene (DNCB) Crystals International Journal of Innovation and Scientific Research ISSN 2351-8014 Vol. 25, No. 2 Jul. 2016, pp. 492-500. IF-3.917.

13. Vijayakumar, S, Srinivasan, P, Dinagaran, S & Balaji, J, 2016, 'Growth and characterization of an organic nonlinear optical crystal: 1-iodo-3-nitrobenzene (INB) ' Journal of Advances in Chemistry, Vol. 12, no. 9, pp. 4364-4370, ISSN : 2321-807X (Annexure I). IF – 0.71.

14. Dinagaran, S, Srinivasan, P, Vijayakumar, S & Balaji, J, 2016, 'Growth and characterization of anthranilic acid crystals' Journal of Advances in Chemistry, Vol. 12, no. 11, pp. 4480-4487, ISSN : 2321-807X (Annexure I). IF – 0.71.

15. P.Sivakarthik, V.Thangaraj, K.Perumalraj & J.Balaji, 2016, Synthesis of Co-Doped Tin Oxide Nanoparticles for Photo Catalytic Degradation of Synthetic Organic Dyes, Journal of Nanomaterials and Biostructures, Vol11, No.3. pp.935-943. (Annexure I). IF-1.0. Q3

16. P.Srinivasan, S.Prabu, J.Balaji, 2014, Synthesis, Growth and Chracteriasation of Benzaldehyde 4-nitrophenylhydrozone crystals, No.1, pp.142-146. ISSN 2320-4338.

17. J. Balaji, P. Ramnivasmirtha 2018, Growth, Spectroscopic, Hyperpolarizability and Dielectric studies on 8-HydroxyQuinolinium Benzoate (8HQB) Crystal, International Journal of Modern Science and Technology, Vol. 3(1), pp. 17-26.

18. S Rafi Ahamed, P Srinivasan, J Balaji, C Balakrishnan, G Vinitha, 2018, Structural, theoretical, and third-order nonlinear optical investigations of N'-[(E)-(4-bromo phenyl) (phenyl)methylidene]–4-methylbenzenesulfonohydrazide, Journal of Molecular Crystals and Liquid Crystals, 665, 1,194-206. IF-0.7.Q3

19. J Balaji, P Srinivasan, S Prabu, Merin George, D Sajan, 2020, Growth and dielectric studies of toluidine tartrate single crystals: A novel organic NLO material, Journal of Molecular Structure, 1207, 127750. IF-4.0.Q2

20. Merin George, J Balaji, D Sajan, Priya Dominic, Reji Philip, G Vinitha, 2020, Synthesis and third order optical nonlinearity studies of toluidine tartrate single crystal supported by photophysical characterization and vibrational spectral analysis, Journal of Photochemistry & Photobiology A: Chemistry 393, 112413. IF-4.1. Q1

21. K.K.Saravanan, P.Sivakarthik, P.Ramnivasmirtha, J.Balaji, B.Rajeshkanna, 2020, A one-pot hydrothermal-induced PANI/SnO2 and PANI/SnO2/rGO ternary composites for high-performance chemiresistive-based H2S and NH3 gas sensors, Journal of Materials Science: Materials in Electronics, 31, 8825–8836. IF-2.8. Q2

22. P Ramnivasmirtha, J Balaji, X Cecily Maria Sneha, P Siva Karthik, D Gajalaskhmi, G Vinitha, 2020, Studies on growth, optical, dielectric, and third-order nonlinearity of 4-methyl N-(4-chlorobenzylidene) aniline (4CBT) crystal, Journal of Materials Science: Materials in Electronics, 31 (20), 18234-18247. IF-2.8. Q2

23. M Durairasan, PS Karthik, J Balaji, B Rajeshkanna, 2020, Design and fabrication of WSe2/CNTs hybrid network: A highly efficient and stable electrodes for dye sensitized solar cells (DSSCs), Diamond and Related Materials, 108174.IF-4.3. Q1

24. Thamizhazhagan, P., Sivakarthik, P., & Balaji, J. 2021, Photocatalytic reduction of CO2 into solar fuels using M-BTC metal organic frameworks for environmental protection and energy applications. Digest Journal of Nanomaterials & Biostructures (DJNB), 16(4) 1263-1275. IF-1.0. Q3

25. Cecily Maria Sneha X, Gajalakshmi D, Ram Sri Nivas P M, Indumathi C, Sabari Girisun T C, Siva Karthik P, Balaji J, 2022, Crystal Growth, Characterization and Third Order Nonlinear Optical Studies of N'-[(E)(4-Chlorophenyl)(phenyl)methylene]-4-methyl benzene sulfono hydrazide for Optical Applications. Applied Physics A (2022) 128:104, 1-14, IF-2.5. Q2.

26. Durairasan, M., Karthik, P. S., Balaji, J., & Rajeshkanna, B. (2021). Enhanced visible light photocatalytic performance of WSe2/CNT hybrid photocatalysts that were synthesized by a facile hydrothermal route. Ionics, 27(5), 2151-2158. IF-2.4 Q2.

27. Ram Sri Nivas, P.M., Balaji, J., Sabari Girisun, T.C. John Francis Xavier, J, Xavier S, (2024) Investigation on the growth and characterization of (E)-2-(1-(4-bromophenyl)ethylidene)-1-tosyl hydrazine crystals for optical limiting applications. J Mater Sci: Mater Electron 35, 1428 IF-2.8 Q2.

28. Nisha, U. M., Venkatesh, D., Vasanthan, S., Rajeswaran, P., Balaji, J., & Karthik, P. S. (2025). Interfacial coupling effects of chitosan integrated ZrO2/Bi2O3/CeO2 quaternary composite for efficient wastewater treatment and antimicrobial activity. Ionics, 1-18. IF-2.4 Q2

29. Pritha, Periyasamy, Govindarajalu Kishore, S. Xavier, Francis xavier Paularokiadoss, D. Bhakiaraj, and J. Balaji. "Graphene-based ZnO-ZrGO and ZnO-CeGO composites synthesized using S. swartzii for the removal of phenolic and pharmaceutical compounds from wastewater." Diamond and Related Materials (2025): 112451. IF-4.8, Q1.

30. Cecily Maria Sneha, X., **Balaji, J**., Sabari Girisun, T.C, Jeyaram S, Krishnakumar Muthusamy & John Francis Xavier J. Investigations on growth, X-ray, dielectric, Hirshfeld surface, and DFT analysis of E-ethyl 4-(4-chlorobenzylidene amino)benzoate crystals for optical limiting applications. J Mater Sci: Mater Electron 36, 1469 (2025). IF-2.8. Q2.

Faculty development programme / short term course / workshop / Seminar: Attended

S.No.	FDP Title	Duration		Institute Attended	No. of Days
1.	Orientation Course	20.05.014	16.06.2014	University of Madras, Chennai	Four weeks (28 days)
2.	Faculty Development Programme- On “Nanotechnology for Energy and Agriculture Sectors”	13.11.2017	26.11.2017	IFET College of Engineering, Villupuram.	Two weeks
3.	Refresher Course “Summer School in Nano-Science”	04.07.2018	24.07.2018	UGC-HRDC University of Madras, Chennai	Two weeks
4	Swayam Mooc course Transforming Instruction through Blended Classroom	29.10.2018	23.12.2018	MHRD Govt. of India (8 weeks Online)	One Week
5	Faculty Development Programme Nanotechnology, Science and Applications	29.07.2019	20.09.2019	NPTEL-AICTE (8 weeks online)	One week

6.	Faculty Development programme Ecology, Environment and Nanotechnology	03.02.2020	16.02.2020	DOTE sponsored GCT, Coimbatore	Two weeks
7.	Faculty Development Programme on Materials Science	21.06.2004	26.06.2004	Anna University, Chennai	One week
8	National seminar on Crystal Growth and Epitaxy	14.03.2016	15.03.2016	Crystal Growth Centre, Anna University Chennai	Two days
9	National level seminar on Nanobiophotonics: Imaging and Sensing	--	02.03.2019	CSIR sponsored IFET College of Engineering Villupuram	One day
10	Indo-Italian workshop on Molecular Nanophotonics	24.07.2013	26.07.2013	Embassy of Italy NewDelhi & Anna University Chennai	Three days
11.	National seminar on Crystal Growth	10.03.2010	12.03.2010	VIT University Vellore	Three days
12.	Bridge course on Physics	20.06.2014	21.06.2014	Anna University Chennai	Two days
13.	Bridge course on Physics	24.06.2015	25.06.2015	Anna University Chennai	Two days
14	Short term course on Recent Advances in Nano Sciene and Nano Technology	24.08.2020	28.08.2020	TEQIP III sponsored NIT Srinagar Jammu & Kashmir	One week
15	Industrial training Programme On Basic Science and Communication	08.06.2020	26.06.2020	BSNL (Online)	Three weeks
16	Indian summer school on Crystal Growth	14.05.2020	23.05.2020	SSN Research Centre, SSN, Chennai. (online)	Two weeks
17	Training programme on “ECR Ion Source Technology: Opportunities and Future Challenges”	05.11.2020	06.11.2020	Inter-University Accelerator Centre, New Delhi.	Two days
18	Two weeks Faculty Development programme on Advance Physics for Engineers	25.11.2020	08.12.2020	AICTE sponsored Department of Physics	Two weeks

				Thanthai Periyar Government Institute of Technology Vellore – 632002.(Online)	
19	On line 5 days FDP on UHV programme	14.03.2022	18.03.2022	AICTE	Five Days
20	International workshop on Thermoelectric materials and Applications (Online)	24.08.2022	25.08.2022	SERB, India at SSN College Chennai	Two Days
21	National workshop on Laser and Z-scan Experiments (Online)	--	26.08.2022	RUSA sponsored at Bharadhidasan University Tiruchirappalli	One Day
22	Refresher Course in Physics	06.12.2023	19.12.2023	UGC-HRDC Bharathiar University , Coimbatore	Two weeks
23	Professional Development Programme in Blended learning approaches for Engineering Education	26.05.2025	30.05.2025	NITTTR, Chennai	Five Days

Personal Profile

Age : 50 Years
Date of Birth : 27.07.1975
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Languages Known : English, Tamil, Telugu.
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Koothapakkam,
Cuddalore 607 002.
Phone No: (04142) 224349