

Dr. J.Balaji



Dr. J. BALAJI
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PROFESSIONAL EXPERIENCE - 21 YEARS

1.	Assistant Professor <i>Department of Physics, University College of Engineering Panruti, Panruti.</i>	30.09.2009 to till date
2.	Assistant Professor <i>Department of Physics, Krishnasamy College of Engineering and Technology, Cuddalore.</i>	2002 to 2009
3.	Lecturer <i>Department of Physics, Dr. Navalar Nedunchezhiyan College of Engineering, Tholudur.</i>	1999 to 2002

SUMMARY OF EDUCATION

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

RESEARCH ACTIVITY

Research: Total Experience in Research : **15** Years
Number of Students
 Ph.D : **3** (Doing)
 M.Phil., : **4** (Guided)
Area of Specialisation : Crystal Growth, Materials Science & Nano Technology

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

RESOURCE PERSON / INVITED TALK

S.No	Title of the Invited Talk/Lecture	Venue	Date	Role	Level
1.	Properties of Matter	St.Joseph's College of Arts and Science, Cuddalore	26.06.2019	Invited Talk	State Level
2.	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
3.	Dielectric Materials and its Applications	University College of Engineering Tindivanam	12.12.2014	Invited Talk	State Level FDP
4.	Engineering Physics and its Applications	St Annes College of Engineering and Technology	12.09.2018	Invited Talk	State Level

ADMINISTRATIVE RESPONSIBILITY

1. Acting as Chief Superintendent & Examination Co-Ordinator for University Examinations from 2009 to 2012 and from March 2021 to till date at UCEP, Panruti.
2. Acting as Research Development Co-Ordinator from 2018 to till date.
3. Acted as First Year Co-Ordinator from 2013 to 2019 at UCEP, Panruti.
4. Acting as Science day co-ordinator from 2009 to till date.
5. Acted as YRC programme officer from 2009 to 2012, at UCEP, Panruti.
6. Acted as Head of the Department of Physics from April 2019 to Dec 2019 UCEP, Panruti.
7. Acted as Anti-Ragging committee member from 2013 to 2019 at UCEP, Panruti.

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, Tiruchy.
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.

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-2.931.
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.
3. **Balaji, J**, Prabu, S, Xavier, JF & 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.
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-2.120.
5. **J Balaji**, S Prabu, P Srinivasan, 2016, (E)-N'-(4-chlorobenzylidene)-4-methyl benzene sulfonohydrazide (4CBTH)–Synthesis and characterization of organic NLO crystal, *Journal of Crystal Growth* 452, 189-197, (Annexure-I). IF-1.573.
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-2.120.
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-4.175.
8. S Rafi Ahamed, **J Balaji**, P Srinivasan, 2017, Growth and characterization of organometallic NLO material: cesium hydrogen tartrate, *Materials Research Innovations*, 1-8. IF-1.140.
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-1.901..
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-3.355.
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- 2.931.
12. S.Vijayakumar, P.Srinivasan, S. Dinakaran & **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, Dinakaran, 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. Dinakaran, **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.Sivakarthish, 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-0.638.
16. P.Srinivasan, S.Prabu, **J.Balaji**, 2014, Synthesis, Growth and Characterisation of Benzaldehyde 4-nitrophenylhydrazone 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-0.559.
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-2.120.
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-3.261.
21. K.K.Saravanan, P.Sivakarthish, 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-2.195.
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-2.195.
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-2.65.

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	28
2.	Faculty Development Programme- On "Nanotechnology for Energy and Agriculture Sectors"	13.11.2017	26.11.2017	IFET College of Engineering, Villupuram.	14
3.	Refresher Course "Summer School in Nano-Science"	04.07.2018	24.07.2018	UGC-HRDC University of Madras, Chennai	21
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	14 days
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 Science 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 Thanthai Periyar Government Institute of Technology Vellore – 632002.(Online)	Two Weeks

Personal Profile

Age : 45 Years
 Date of Birth : 27.07.1975
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 Languages Known : English, Tamil, Telugu.
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