

Curriculum vitae



Dr. A. ANTONY RAJ, M.Sc., Ph.D.

Personal Information

Name	A.ANTONY RAJ
Designation	Assistant Professor
Staff ID	18FPH02
Date of Birth	01-06-1988
E-Mail	antonyanji@gmail.com, drantonyanji@gmail.com ,
Mobile	+91-9790836611

Academic qualification

2015	Loyola College (Autonomous) affiliated to University of Madras , Chennai, India
Ph.D in Physics	
2011	Loyola College (Autonomous) affiliated to University of Madras , Chennai, India
M.Sc Physics	
2009	Loyola College (Autonomous) affiliated to University of Madras , Chennai, India
B.Sc Physics	

Ph.D Thesis	Development of NLO active and potential terahertz (THz) crystals of organic stilbazolium derivatives employing various benzene sulfonate counter ions
Exam Qualified	
2016	<ul style="list-style-type: none"> • Tamil Nadu State Eligibility Test (TNSET) for Assistant Professor
Research Interest	<ul style="list-style-type: none"> • Organic Crystals for terahertz (THz) emission, • Organo-metallic crystals for acousto-optics and Laser Industry, • Synthesis of nanomaterials • organic nanomaterials for nanophotonics/opto-electronics applications
Academic Position	
April 2015 – July 2015	<ul style="list-style-type: none"> • Assistant Professor in Physics at ACT College of Engineering and Technology, Kaanchipuram, Tamilnadu.
July 2015- May 2016	<ul style="list-style-type: none"> • Assistant Professor in Physics at AMET University, Kanathur, Chennai.
June 2016- May 2018	<ul style="list-style-type: none"> • Assistant Professor in Physics, Loyola College (Autonomous), Chennai-600034.
June 2018- Till Date	<ul style="list-style-type: none"> • Assistant Professor in Physics, St. Joseph's College (Autonomous), Tiruchirappalli-620 002
Distinctions	
2009-2010	<ul style="list-style-type: none"> • Rev. Dr. Injackel Medal - IV for proficiency in M.Sc Physics
2014	<ul style="list-style-type: none"> • Best paper and presentation award (National Conference on Nanophotonics) at Department of Physics, Bharathidasan University, Trichirapalli, India March, 6-7, 2014.
2007-2008	<ul style="list-style-type: none"> • Best tutor award by Loyola Empowerment and Outreach Programme

<p>Research Cum Administrative support Experience</p>	<ul style="list-style-type: none"> • Team member of the document preparation committee for University Grants Commission - College for Potential Excellence (UGC-CPE) program. • Team member of the document preparation committee for revaluation of DST-SIRO award at Loyola College. • Team member of the Proposal preparation committee for financial assistance from UGC, DRDO, DST-SERB, UGC-DAE CSR. • Team member of the document preparation committee for getting 175% income tax exemption (section 35 (1) of the Income-tax Act, 1961) in the case of University, College or other Institution. • YRCS university coordinator, AMET university , kanathur, Chennai
<p>Peer-reviewed Publications</p>	<ol style="list-style-type: none"> 1. A. Antony Raj, R. Gunaseelan and P. Sagayaraj, Investigation on third order nonlinear optical, electrical and surface properties of organic stilbazolium crystal of 4-N, N-dimethylamino-N'-methylstilbazolium p-methoxybenzenesulfonate, Optical Materials, 38 (2014) 102-107. (Impact Factor: 2.23) 2. A. Antony Raj and P. Sagayaraj, Bulk size crystal growth, spectroscopic, dielectric and surface studies of 4-N, N-dimethylamino-4-N'-methylstilbazolium m-nitrobenzenesulfonate (DSMNS): A potential THz crystal of stilbazolium family, Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 149 (2015) 957-964. (Impact Factor: 2.536)

3. R. Gunaseelan, **A. Antony Raj** and P. Sagayaraj, Investigation on growth of 4-N, N-dimethylamino-N'-methylstilbazolium p-chlorobenzene sulfonate: An efficient organic NLO crystal with potential THz properties, *Optik* 125 (2014) 3791-3797. (Impact Factor: 0.835)
4. **A. Antony Raj**, R. Gunaseelan, R. Jerald Vijay and P. Sagayaraj, Growth, spectral, optical and thermal studies of an organic single crystal 4-N,N'-dimethylamino-N-methylstilbazolium 4-amino toluene-3-sulfonate, *International Journal of ChemTech Research*, 6 (2014) 1538-1540. (Scopus Indexed)
5. S. John Sundaram, P. Sagayaraj, **A. Antony Raj**, E. R. A. Dravida Thendral and G. Usha, 4-((1E,3E)-4-[4-dimethylamino)phenyl]buta-1,3-dien-1-yl)-1-methylpyridin-1-ium iodide, *IUCrData* (2016). 1, x16146.(Scopus Indexed)
6. S. John Sundaram, **A. Antony Raj**, Jerald V. Ramaclaus, and P. Sagayaraj, Structural and electrical properties of organic stilbazolium single crystal of DSCHS, *AIP Conference Proceedings* 1731, 100004 (2016); doi: 10.1063/1.4948010
7. P. Ramesh Kumar, R. Gunaseelan, **A. Antony Raj**, S. Selvakumar and P. Sagayaraj, Unidirectional growth, rocking curve, linear and nonlinear optical properties of LPHCl single crystals, *American Institute of Physics, Conf. Proc.* 1447 (2012) 1255. (Scopus indexed)
8. R. Gunaseelan, **A. Antony Raj**, S. Selvakumar and P. Sagayaraj, Growth and characterization of 4-N, N-dimethylamino-4' N'-methylstilbazolium p-toluene sulphonate (DAST) crystal- A potential THz emitter, *Scienza Acta Xaveriana, An International Science Journal*, 3(1) (2012) 27- 44.
9. John Sundaram, **A. Antony Raj**, R. Jerald Vijay and P. Sagayaraj, Structural, elemental and dielectric properties of an organic stilbazolium single crystal of DAAS, *International Journal of Latest*

	<p>Research in Engineering and Technology (IJLRET), PIF Impact Factor (3.18), ISSN: 2454-5031, PP.58-60, 2016.</p> <p>10. Dominique, S. John Sundaram, R. Jerald Vijay, A. Antony Raj, P. Sagayaraj, Linear and Non-Linear Optical Properties of Environmentally Stable DASC Single Crystal , International Journal of Latest Research in Engineering and Technology (IJLRET), PIF Impact Factor (3.18) ISSN: 2454-5031, PP.14-16, 2016</p> <p>11. Priya Antony, A. Antony Raj S. John Sundaram, S. Mary Margaret, S. Dominique, N. Lawrence, P. Sagayaraj, Growth and Characterization Of A Novel Organic Stilbazolium Family Single Crystal: 4-(4-Methoxystyryl)-1-Methylpyridinium 4-Chlorobenzenesulfonate, International Journal of Scientific Research in Science and Technology (IJSRST), Vol.3, pp. 33-37, 2017, PIF Impact Factor (3.18) ISSN : 2395-6011</p>
<p>Paper Presented (Conference/ Seminar)</p>	<p>1. A. Antony Raj, John Sundaram, Priya Antony and P. Sagayaraj, Optical and spectroscopic Properties of environmentally stable organic stilbazolium single crystal of DAAS, International conference on materials for energy and environment (ICMEE), Loyola Institute of Frontier Energy (LIFE), Loyola College, Chennai, February, 22-23rd , 2018.</p> <p>2. A. Antony Raj, R. Gunaseelan, S. Selvakumar, R. Venkatachalam and P. Sagayaraj, Optical and dielectrical properties of a potential THz crystal of 4-N, N-dimethylamino-4-N'-methyl stilbazolium 4-aminotoluene-3-sulfonate (DAAS), International conference on physics of material science and technology- ICON 2018, Government Arts College For Men, Nandanam, Chennai, 13th February, 2018.</p> <p>3. R. Gunaseelan, A. Antony Raj, S. Selvakumar and P. Sagayaraj, High order NLO properties of an organic Stilbazolium single crystal of DASC: High power THz emitter, Government Arts College For Men,</p>

Nandanam, Chennai, International conference on physics of material science and technology- ICON 2018, Government Arts College For Men, Nandanam, Chennai, 13th February, 2018

4. R.Gunaseelan, V.Venkatachalam and **A.Antony Raj**, In-situ Microwave irradiation synthesis of ZnO-Graphene nanocomposite for high-performance supercapacitor applications. 62nd DAE Solid state physics symposium, Bhabha Atomic Research centre, Mumbai, December 26-30, 2017.
 5. R.Gunaseelan, V.Venkatachalam and **A.Antony Raj**, S.M. Ravikumar and S. Selvakumar, Graphene-ZnO Nanocomposite for high performance pseudocapacitor: Facile synthesis and effect of different electrolytes on electrochemical properties, National conference on preparation and characterization of materials (NCPCCM), Government Arts College, Tiruvannamalai, Tamil Nadu, 5-6 september, 2017
 6. Priya Antony, **A. Antony Raj** S. John Sundaram, S. Mary Margaret, S. Dominique, N. Lawrence, P. Sagayaraj, Growth and Characterization Of A Novel Organic Stilbazolium Family Single Crystal: 4-(4-Methoxystyryl)-1-Methylpyridinium-4-Chlorobenzene sulfonate, **International Conference on Advanced Materials**, Department of Physics, St. Joseph's College, Trichy, Tamilnadu, India , 14, 15 December 2017,
 7. **A. Antony Raj**, R. Gunaseelan, S. John Sundaram, P. Sagayaraj, Higher order NLO properties of an ionic organic stilbazolium derivative, 4-N,N-dimethylamino-N'-methyl stilbazolium m-nitrobenzenesulfonate (DSMNS), DAE-BRNS National Laser Symposium (NLS-25), KIIT University, Bhubaneswar, December 20-23, 2016.
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8. **A. Antony Raj**, R. Gunaseelan, S. John Sundaram and P. Sagayaraj, "Crystal growth and characterizations of 4-N, N-dimethylamino-4-N'-methylstilbazolium m-nitrobenzene sulfonate (DSMNS): A stilbazolium family crystal for THz applications, DAE-BRNS National Laser Symposium (NLS-23), Department of Physics, Sri Venkateswara University, Tirupati, Andhra Pradesh, December 3-6, 2014.
 9. **A. Antony Raj**, R. Gunaseelan and P. Sagayaraj, Growth, structural, linear and nonlinear optical properties of an organic stilbazolium derivative of DAAS for potential THz applications, DAE-BRNS (NLS-22), Dept. of Atomic and Molecular Physics, Manipal University, Karnataka, January 8-11, 2014.
 10. **A. Antony Raj** and P. Sagayaraj, "Growth of organic DAST crystal using capillary force technique", National Conference on Nanophotonics (NCNP-2014), School of Physics, Bharathidasan University, Tiruchirapalli, March, 6-7, 2014. (Best Paper and Presentation Award)
 11. **A. Antony Raj**, S. John Sundaram, R. Gunaseelan and P. Sagayaraj, "Structural, linear and nonlinear optical properties of 4-N, N-dimethylamino-N-methyl stilbazolium p-chlorobenzene sulfonate organic crystal grown using modified capillary force technique", National Conference in Advanced Materials and Its Applications (NCAMA-14), Engineering Physics Section Faculty of Engineering and Technology, Annamalai University, April 4-5, 2014.
 12. **A. Antony Raj**, R. Gunaseelan, S. Selvakumar and P. Sagayaraj, "Studies on the growth, spectral and optical properties of an organic stilbazolium NLO crystal of DAAS: A potential THz emitter" 2nd National Seminar on New Material Research and Nanotechnology-NSNMRN 2013, Govt. Arts College, Ooty, September 25-27, 2013.
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13. **A. Antony Raj**, R. Gunaseelan, S. Selvakumar, S.M. Ravi Kumar and P. Sagayaraj, Growth, structural and thermal studies of DMSI organic NLO crystal, 20th DAE-BRNS National Laser Symposium, Anna University, Crystal Growth Centre, Chennai, January 9-12, 2012.
 14. S. John Sundaram, **A. Antony Raj**, Dominique and P. Sagayaraj, Growth, Optical and Electrical Properties of DASC single crystal grown by adopting capillary rise technique, preparation and characterization of crystalline materials(NCPCCM), Government Arts College, Tiruvannamalai, Tamil Nadu, August 4-5, 2016.
 15. S. John Sundaram, **A. Antony Raj**, Jerald V. Ramaclaus and P. Sagayaraj, Structural and Electrical properties of Organic Stilbazolium single crystal of DSCHS, 60th DAE Solid State Physics Symposium, AMITY University, December 21-25, 2015.
 16. S. John Sundaram, **A. Antony Raj**, Jerald V. Ramaclaus and P. Sagayaraj, Structural, Electrical and Thermal properties of Organic Stilbazolium single crystal of DSCHS, 24th DAE-BRNS National Laser Symposium, RRCAT, Indore, December 2-5, 2015.
 17. R. Gunaseelan, **A. Antony Raj**, A. Devaraju, V. Venkatachalam and P. Sagayaraj, "Bulk size crystal growth and physicochemical properties of an organic THz crystal DASC", 2nd National Seminar on New Material Research and Nanotechnology-NSNMRN 2013, Govt. Arts College, Ooty, September 25-27, 2013.
 18. R. Gunaseelan, **A. Antony Raj**, A. Devaraju, S. Selvakumar and P. Sagayaraj, "Investigation on structural, optical and electrical properties of an organic stilbazolium NLO crystal of DSMOS", DAE-BRNS National Laser Symposium (NLS-22), Dept. of Atomic and Molecular Physics, Manipal University, Karnataka, January 8-11, 2014.
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19. R. Gunaseelan, **A. Antony Raj**, S. Selvakumar and P. Sagayaraj, "Investigation on growth, optical and morphological properties of an organic THz crystal of DSMOS", 2nd National Seminar on New Material Research and Nanotechnology-NSNMRN 2013, Govt. Arts College, Ooty, September 25-27, 2013.
 20. R. Gunaseelan, **A. Antony Raj**, S. Selvakumar, S. M. Ravikumar and P. Sagayaraj, "Investigation on the structural, optical and morphological behaviour of an organic stilbazolium NLO crystal of DAST", 2nd National Seminar on New Material Research and Nanotechnology-NSNMRN 2013, Govt. Arts College, Ooty, September 25-27, 2013.
 21. R. Gunaseelan, **A. Antony Raj**, S.M. Ravi Kumar and P. Sagayaraj, "Growth, structural and photoconductivity studies on DMSI organic NLO crystal", National Conference on Nanomaterials (NCONM), Dept. of Chemistry, Govt. Arts College, Thiruvannamalai, April 3-4, 2013.
 22. R. Gunaseelan, **A. Antony Raj**, S. Selvakumar, S.M. Ravi Kumar and P. Sagayaraj, "Structural and optical characterization of SNM grown DSMOS nonlinear optical crystal", National Conference on Nanomaterials (NCONM-2013), Department of Chemistry, Govt. Arts College, Thiruvannamalai, April 3-4, 2013.
 23. P. Ramesh Kumar, R. Gunaseelan, **A. Antony Raj**, S. Selvakumar and P. Sagayaraj, "Unidirectional growth, rocking curve, linear and nonlinear optical properties of LPHCl single crystals", 56th DAE Solid State Physics Symposium, SRM University, Chennai, December 19-23, 2011.
 24. R. Gunaseelan, **A. Antony Raj**, G. Ramalingam, R. Jerald Vijay and P. Sagayaraj, "Third-order nonlinear optical properties of 4-N,N-dimethylamino-4'-N'-methyl-stilbazolium iodide (DMSI) single crystal", National Seminar on Recent Trends in Nonlinear Optical
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	<p>Materials and Characterization, Post Graduate Dept. of Physics, Sacred Heart College, Chalakudy, Kerala, March 10-11, 2011.</p> <p>25. R. Gunaseelan, A. Antony Raj, R. Jerald Vijay, M. Antony Arockiaraj and P. Sagayaraj, "Growth, structural, optical and thermal properties of nonlinear optical 4-N, N-dimethylamino-4'-N'-methyl-stilbazolium iodide (DMSI) single crystal", National Conference on Recent Advancements in Science and Humanities RASH'11, UIT, Coimbatore, March 18-19, 2011.</p>
Books Published	<p>1. Investigation on the growth and characterization of potential organic terahertz crystals of DAST, DSMOS and DASC, Dr. R. Gunaseelan, Dr. A. Antony Raj and Dr. P. Sagayaraj, ISBN: 9-781947-099265</p>
Research Guidance	<p>PhD : -</p> <p>M. Phil : -</p> <p>M.sc Projects: 02</p>
Academic merits	<ul style="list-style-type: none"> Delivered invited lecture on "Physics for future" at St. Joseph's College (Autonomous), Tiruchirappalli-02.
Workshop/ Short course attended	<ol style="list-style-type: none"> UGC Sponsored Workshop on Laser Technology and its Applications, School of Science and Humanities, Dept. of Physics, B.S. Abdur Rahman University, Chennai, February 11, 2013. Short course on "Terahertz Physics" Conducted by Indian Laser Association (ILA), on January 6-7, 2014, Manipal University, Manipal, Karnataka. Faculty development program on e-learning solutions for instructional design and delivery, NITTTR, Government of India, Chennai, 19th September 2015.

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4. Faculty development program on Bridge course on Mathematics/physics/English, Centre for faculty development, Anna University, Chennai, 29-30th June 2015.
 5. Seven days training-cum-orientation workshop in faculty development, A.C.T initiatives for next generation (ACTING), Indra Gandhi college of Engineering and Technology (IGCET), chengalpattu from 19th -26th June, 2015.
 6. National Level workshop on dimensions of social exclusions (Education), Dr.Ambedkar centre for economic studies, University of Madras, Chennai, October 31st, 2016.
 7. National Workshop on theory and practice of powder X-Ray Diffraction Analysis, Centre for Nanoscience and Technology (CNST), Pondicherry University, 23 and 24, Pondicherry University, 23 and 24th December, 2017.
 8. Faculty development programme on Physics and Mathematical Sciences- An interdisciplinary Approach, Department of Physics and Mathematics, Loyola College (Autonomous), Chennai, 10th and 17th January, 2018.
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