



8. Academic Qualifications (From Highest Degree to High School):

Examination	Board / University	Year	Division/ Grade	Subjects
PhD	Pondicherry University			
MSc	Pondicherry University			
BSc	University of Madras			

9. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/Institution	From	To

10. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To

11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
2009	Young Scientist Fellowship	Department of Science and Technology (DST)
2007	Japan Society for the promotion of Science (JSPS)	Ministry of Education, Culture, Sports, Science and Technology, Japan

## 12. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)

## 13. Details of Academic Work

- (i) Curriculum Development- Photonics
- (ii) Courses taught at Postgraduate and Undergraduate levels
  - a. Atomic and molecular spectroscopy
  - b. Laser and applications
  - c. Radiography
  - d. Material characterisation techniques
  - e. Advanced lab-MSc
  - f. Engineering Physics

Projects guided at Postgraduate level- M. Tech Students - 35 (with external students 37)  
M.Sc Students - 35 (with external students 40)

- (iii) Other contribution(s)

## 14. Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed
Synthesis and exciton dynamics study on semiconductor quantum dot nanocomposite polymers	<i>DST- FAST Track</i>			Completed

Optical power limiting studies on ag and cu nano wire composite glasses	<b>Defense Research and Development Organisation</b>			Completed
Synthesis, exciton and phonon properties of nio nanotube composite polymer films	<b>Council of Scientific and Industrial Research</b>			Completed
Multiple Exciton Harvesting at Zero-Dimensional/Two-Dimensional (ZnO/MoS <sub>2</sub> )–Polymer Heterostructures	DST, (SERB)			Completed

#### 15. Number of PhDs guided

Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co-Supervisor)	Year of Award
T. Pandiyarajan	Doping and polymer covering induced optical, vibrational properties of zno nanostructures	Supervisor	2013
R. Udhayabaskar	Optical and nonlinear optical properties of some metal and metal oxide nanostructures	Supervisor	2014
S. Muthumariappan	Metal/metal oxide decorated reduced graphene oxide for ammonia vapour sensing applications	Supervisor	2017

S. Hariharan	Nanomaterials based fluorescence sensing, excited state energy Transfer and photonic logic gates	Supervisor	2019
Neena Prasad	Optical and Raman spectral probe on different polar zns nanostructures for uv photodetector applications	Supervisor	2019
R. Venkadesh Kumar	Investigation on optical, nonlinear optical and photocatalytic Properties of reduced graphene oxide/XO <sub>3</sub> (X=W, Mo) nanocomposites	Supervisor	2021
Anoop Sunny	Raman spectral probe on laser power, particle size and magneticorder induced phonon and magnon properties of NiO nanoparticles	Supervisor	2021

16. Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)

Date (s)	Title of Activity	Level of Event (International/ National/ Local)	Role (Participant/ Speaker/ Chairperson, Paper presenter, Any other)	Event Organized by	Venue
12-07-2008	Induction Training program	National	Participant		Indian Institute of Technical Teachers Training

					& Research, Chennai
14 to 24 June 2011	Thermodynamics in mechanical engineering	National	Participant	ISTE	IIT Bombay
IIT-Bombay	FDP on advanced nanomaterials: Process, Characterization and Applications	National	Participant		NIT-Calicut

17. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convenor / Co-Convenor)

Title of Activity	Level of Event (International/ National/ Local)	Date (s)	Role	Venue
ISNT National Conference on NDE for Research Scholars and Students-IGNIT 2019	National	25-26 September 2019	Co-ordinator	NIT Trichy
Training program on optical spectroscopy of semiconductor nanomaterials	Local	08 March 2022	Convenor	NIT Trichy

18. Invited Talks delivered

Topic	Date	Inviting Organization
Optical nonlinearity and excited electron dynamics in noble metal nanoparticles	2006	Raman Research Institute, Bangalore
Light and metallic nanoparticles	25-28 February 2009	PRIST University

Light and nanomaterials	23 <sup>rd</sup> Aug. 2010	St. Josephs College of Arts and Science, Cuddalore
Material science and its applications	2020	Meenakshi college of arts and Science Pudukkottai
Novel materials	2020	Government college of engineering Thanjavur
Lasers and nano-optics	2020	NITT-OSA & NITT- SPIE student chapters
Nondestructive materials testing methods	2021	M R Government Arts College - Mannargudi
Emerging trends in photonics	2021	IIT DM Kurnool
emerging trends in materials	2021	University of Kerala

#### 19. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member )	Organization	Membership No. with date
Life member	Indian Society for Non-destructive Testing	

#### 20. Academic Foreign Visits

Country	Duration of Visit	Programme
Singapore	10 days	
United States of America	10 days	
Malaysia	10 days	

#### 21. Publications

(A) Refereed Research Journals:



Author(s)	Title of paper	Journal	volume	Page no	Year	Impact factor
Anoop Sunny, <b>Karthikeyan Balasubramanian</b>	Phonon, magnon and magnetic properties of Cu doped NiO nanoparticles	Journal of Raman Spectroscopy			2022	2.727
Sivalingam Muthu Mariappan, Sung Jun Hong, Byungchan Han, Mohd. Shkir, Elangovan Vinoth, Stella Mary, Janani Archana, <b>Balasubramanian Karthikeyan</b> , H. Algarni, and S. AlFaify	slow Excitonic Carrier Cooling in Sr-doped PbS Nanocrystals for Hot Carrier Devices: Integrated Experimental and First-principles Approach	Journal of Materials Chemistry C	10	6634-6645	2022	8.067
Janani Archana K, Christy preetha, <b>Karthikeyan Balasubramanian</b>	Influence of Urbach energy in enhanced photocatalytic activity of Cu doped ZnO nanoparticles	Optical Materials	127	112245	2022	3.754

Janani Archana K, <b>Karthikeyan Balasubramanian</b>	Probing nanometal surface energy transfer between nanocopper and MoS2 for glutathione sensing	Journal of Physics D: Applied Physics	55	265101	2022	3.409
Arjun K, <b>Balasubramanian, Karthikeyan</b>	Flexible Ultraviolet Photodetector based on flower-like ZnO/PEDOT:PSS nanocomposites	Applied Physics A	<b>128</b>	449	2022	2.98
Swati; <b>Balasubramanian, Karthikeyan</b>	"Multiple Exciton Dynamics in MoS2 Nanosheet/ Poly(Methyl Methacrylate)/Polyaniline Composites and Nonlinear Optical Properties: Implications for Saturable Absorber Applications"	ACS Applied Nano Materials	5	4823–4832	2022	6.140

<p>Susmitha Balagopalan , I. Abdul Rasheed Hemant Sharma, Inder Mohan Chhabra, Mahender Kumar Gupta, P. Manimaran, <b>B. Karthikeyan</b></p>	<p>Fractal and Multifractal analysis on Fused Silica Glass formed by Bound abrasive grain mediated grinding using diamond grits</p>	<p>Journal of Non-Crystalline Solids</p>	<p>581</p>	<p>121418</p>	<p>2022</p>	<p>4.458</p>
<p>Ramar, Venkadeshkumar; <b>Balasubramanian, Karthikeyan</b></p>	<p>Reduced Graphene Oxide/WO<sub>3</sub> Nanorod Composites for Photocatalytic Degradation of Methylene Blue under Sunlight irradiation</p>	<p>ACS applied nanomaterials</p>	<p>4</p>	<p>5512–5521</p>	<p>2021</p>	<p>6.140</p>
<p>Sivalingam Muthu Mariappan, E. Mathan Kumar, Udo Schwingenschlögl, Thangeeswari Thamar, Elangovan Vinoth, Mohd. Shkir5, Zafar Said, <b>Balasubramanian Karthikeyan</b></p>	<p>Impact of Reducing Agents on the Ammonia Sensing Performance of Silver Decorated Reduced Graphene Oxide: Experiment and First Principles</p>	<p>Applied Surface Science</p>	<p>558</p>	<p>149886</p>	<p>2021</p>	<p>6.707</p>

	Calculations					
<b>Karthikeyan Balasubramanian</b>	Raman spectral probed electron-phonon and phonon lifetime properties of Ni-doped CuO nanoparticles	Applied Physics A	127	205	20 21	2.5 84
Anoop Sunny, <b>Karthikeyan Balasubramanian</b>	Laser induced phonon and magnon properties of NiO Nanoparticles : A Raman study	Journal of Raman Spectroscopy	52	833-842	20 21	3.1 33
Ramar, Venkadeshkumar; <b>Karthikeyan Balasubramanian</b>	Effect of reduced graphene oxide on the sun light-driven photocatalytic activity of rGO/h-MoO <sub>3</sub> nanocomposites	Journal of Physics D: Applied Physics	54	155502	20 21	3.2 07
Madhumidha, <b>B.Karthikeyan</b>	Enhanced UV photodetection behavior of	Optical Materials	110	110492	20 20	3.0 8

	Cr doped wurtzite ZnO crystalline nanorods					
Anoop Sunny, <b>Karthikeyan Balasubramanian</b>	Plasmon induced enhancement of surface phonon and magnon properties of NiO nanoparticles : Raman spectral probe	Physical Chemistry Chemical Physics	22	22815 - 22822	20 20	3.6 76
S, Aravindh; <b>B, Karthikeyan</b>	Graphene oxide - Polymethyl methacrylate coatings for Corrosion protection of aerospace aluminium alloy 7075 – T651 surfaces	Engineering Research Express	2	035034	20 20	1.1
Swatipaul, <b>B. Karthikeyan</b>	Charge transfer induced excitons and nonlinear optical properties of ZnO/PEDOT :PSS nanocomposite films	Spectrochimica Acta Part A : Molecular and Biomolecular Spectroscopy	245	118901	20 20	4.8 31

M.Manjula, <b>B. Karthikeyan</b> , D.Sastikumar	Cu-doped zinc oxide fiber optic sensor for acetone detection at room temperature	Applied Physics A	126	718	20 20	2.5 84
Jananni Archana K, <b>B. Karthikeyan</b>	Thermally Influenced, Optical and fluorescence properties of Zinc Oxide nanoparticles for Glutathione sensing	Applied Physics A	126	602	20 20	2.5 84
Venkadeshkumar Ramar, <b>Karthikeyan Balasubramanian</b>	Unravelling the synergistic effect of reduced graphene oxide on optical, phonon and optical power limiting properties of rGO/ $\alpha$ -MoO <sub>3</sub> nanohybrids	Applied Physics A	126	565	20 20	2.5 84
A.Kalaipriya, Anoop Sunny, <b>B. Karthikeyan</b> , D.Sastikumar	Optical, Spectroscopic and Fiber Optic Gas Sensing of Potassium Doped	Optical Fiber Technology	58	10230 4	20 20	2.5 3

	$\alpha$ -Fe <sub>2</sub> O <sub>3</sub> Nanostructures					
Sunny, Anoop; <b>Balasubramanian, Karthikeyan</b>	Raman Spectral Probe on Size Dependent Surface Optical Phonon Modes and Magnon Properties of NiO Nanoparticle	The Journal of Physical Chemistry C	124	12636-12644	2020	4.126
Venkadeshkumar Ramar, <b>Karthikeyan Balasubramanian</b>	Strong violet emission and optical power limiting properties of rGO/MoO <sub>3</sub> synergistic composites	Journal of Applied Physics	127	193102	2020	2.877
Anoop Sunny, T. Arun, <b>B. Karthikeyan</b>	Laser induced fano scattering, electron-phonon coupling, bond length and phonon life time of $\alpha$ -Fe <sub>2</sub> O <sub>3</sub> nanostructure	Physical Chemistry Chemical Physics	22	2001-2009	2020	3.676

<b>Karthikeyan Balasubramanian</b>	Optical, Phonon and Fluorescence properties of PVA-GO-ZnO free standing films	Applied Physics A	125	847	20 19	2.5 84
Venkadeshkumar Ramar, <b>Karthikeyan Balasubramanian</b>	Optical and Highly Enhanced Solar Light-driven Photocatalytic Activity of Reduced Graphene Oxide Wrapped $\alpha$ -MoO <sub>3</sub> Nanoplates	Solar Energy	194	1--10	20 19	5.7 42
<a href="#">Madhumidha, B.Karthikeyan</a>	Effect of Laser power on force constant and phonon lifetime of stretching and bending vibration of Cu-doped WO <sub>3</sub> nanostructures	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	225	11751 4	20 19	4.8 31
Prasad, Neena; <b>Karthikeyan, Balasubramanian</b>	Phase dependent structural, optical,	Nanotechnology	30	48570 2	20 19	3.8 74



	phonon and UV sensing properties of ZnS nanoparticles					
S. Hariharan , <b>B.Karthikeyan</b>	Fluorescence ON-OFF Switching, Boolean logic gates like behavior of Carbon Quantum Dots and highly sensitive bovine serum albumin sensing	Journal of Applied Physics	126	084503	2019	2.877
<a href="#">S.Nandhini</a> , S.Muniyappan, VenkadeshkumarRamar, Karthikeyan <b>Balasubramanian</b> , P.Murugakoothan	Quantum chemical analysis on supramolecular assemblies of guanidinium tetrafluoroborate (GFB) crystal structure: Emission and NLO behaviour	Journal of Molecular Structure	1198	126859	2019	3.196
<a href="#">R.Udayabhaskar</a> , <a href="#">R.Suresh</a> , <a href="#">R.V.Mangalaraja</a> , <a href="#">JorgeYáñez</a> , <a href="#">B.Karthikeyan</a>  <a href="#">DavidContreras</a>	Unraveling the synergistic influences of graphene and CuO on the	Carbon	152	766-776	2019	9.594

	structural, photon and phonon properties of graphene:CuO nanocomposites					
Jit Sarkar, Shankar G Menon, Neena Prasad, <b>B. Karthikeyan</b> , N. Kamaraju	Ultrafast Carrier Dynamics of Undoped and Ho <sup>3+</sup> Doped $\alpha$ -Bismuth Oxide Micro-Rods	J. Phys. Chem. C	123	10007-10012	2019	4.126
R.Udayabhaskar.V.Mangalaraja, .... <b>B.Karthikeyan</b> , DavidContreras, M.A.Gracia-Pinilla	Modulation of Optical and Photocatalytic Properties by Morphology and Microstrain in Hierarchical Ceria Nanostructures	Solar Energy Materials and Solar Cells	195	106-113		7.267
<b>B. Karthikeyan</b> , S. Hariharan, Arya Sasidharan, V. Gayathri, T. Arun, Ali Akbari-Fakhrabadi, C. Madhumitha	Optical, vibrational and fluorescence recombination pathway properties of nano SiO <sub>2</sub> -PVA	Optical materials	90	139-144	2019	3.08

	composite films					
Prasad, Neena; <b>Karthikeyan, Balasubramanian</b>	Raman Spectral Probe on Polar w-ZnS Nanostructures and Surface Optical Phonon Modes in Nanowires	Nanoscale	11	4948-4958	2019	7.79
Prasad, Neena; <b>Karthikeyan, Balasubramanian</b>	Tunable bandgap and blue emission of ZnS nanoparticles induced by controlled S vacancies	Journal of Applied Physics	125	085702	2019	2.877
Prasad, Neena; <b>Karthikeyan, Balasubramanian</b>	Tunable bandgap and blue emission of ZnS nanoparticles induced by controlled S vacancies	Journal of Applied Physics	125	085702	2019	2.877
S. Hariharan , <b>B.Karthikeyan</b>	Design of "Turn-ON and Turn-OFF" Fluorescence Switching based Photonic Logic Gates through Multiple	Journal of Colloid and Interface Science	540	258-264	2019	8.128

	Input-Output Models by MoS2 Quantum Dots					
Jit Sarkar, Shankar G Menon, C. Madhumitha, <b>B. Karthikeyan</b> , N. Kamaraju	Ultrafast electron hole plasma dynamics in chemically pristine and Ag-doped ZnO nanorods	Journal of Applied Physics	124	243103	2018	2.877
Venkadeshkumar Ramar, <b>Karthikeyan Balasubramanian</b>	Charge transfer induced tunable bandgap and enhanced saturable absorption behavior in rGO/WO3 composites	Applied Physics A	124	779	2018	2.584
Anoop Sunny, Neena Prasad, Devendiran Subbaiyan, Sastikumar Dillibabu, <b>Balasubramanian Karthikeyan</b>	Optical, phonon and fiber optic gas sensing properties of Hematite microparticles	Applied Physics A	124	10	2018	2.584
<b>Karthikeyan Balasubramanian</b>	Tuneable fluorescent, recombination pathways of biogenic Au - SiO2	Optical Materials	88	223-228	2018	3.08

	nanospheres from rice husk: An Optical study					
R.Udayabhaskar R.V.Mangalarajaa, S.F. Sahlevani V.T.Perarasu , <b>B.Karthikeyan</b> , D. Contrerese, M.A.G. Pinillag	Graphene induced band gap widening and luminescence quenching in ceria:graphene nanocomposites	Journal of Alloys and Compounds	770	1221-1228	2018	5.316
Prasad, Neena; <b>Karthikeyan, Balasubramanian</b>	Resonant and Off-Resonant Phonon Properties of Wurtzite ZnS: Effect of Morphology on Fröhlich Coupling and Phonon Lifetime"	J. Phys. Chem. C	12231	18117-18123	2018	4.126
Neena Prasad, <b>Balasubramanian Karthikeyan</b>	Effect of morphology on optical and efficiently enhanced electrical properties of W-ZnS for UV sensor Applications	Journal of Applied Physics	124	045702	2018	2.877
M. Manjula, <b>B. Karthikeyan</b> , D. Sastikumar	Sensing characteristics of clad-	Optical Fiber	45	35-39	2018	2.53

	modified (Ho-doped Bi <sub>2</sub> O <sub>3</sub> nanoparticles) fibre optic gas sensor	Technology				
<b>B. Karthikeyan</b> , S. Hariharan, R.V. Mangalaraja, T. Pandiyarajan, R. Udayabhaskar, P. Sreekanth	Optical and optical limiting studies on NiO-PVA composite films for opto-electronics	IEEE Photonic Technology Letters	30	1539 - 1542	20 18	2.4 86
Venkadeshkumar Ramar; shaheer Moothattu; <b>Karthikeyan Balasubramanian</b>	Metal free, sunlight and white light based photocatalysis using Carbon quantum dots from Citrus grandis: A green way to remove pollution.	Solar Energy	169	120-127	20 18	5.7 42
Neena Prasad, <b>Balasubramanian Karthikeyan</b>	Broad band and enhanced photocatalytic behaviour of Ho <sup>3+</sup> -doped Bi <sub>2</sub> O <sub>3</sub> micro-rods	Applied Physics A: Materials Science & Processing	124	421	20 18	2.5 84
C. Madhumidha, <b>B.Karthikeyan</b>	Dopant induced Local	Spectrochimica Acta	199	322-327	20 18	4.0 98

	Vibrational Modes and Fano scattering in Ag doped ZnO microrods	Part A: Molecular and Biomolecular Spect				
S. Hariharan , <b>B.Karthikeyan</b>	Förster resonance energy transfer between MoS2 quantum dots and polyaniline for turn-on bovine serum albumin sensing	Sensors & Actuators: B. Chemical	264	337-343	2018	8.417
<b>B.Karthikeyan</b> , S. Hariharan	Highly sensitive sensing of glutathione based on Förster resonance energy transfer between MoS2 donors and Rhodamine 6G acceptors and its insight	Sensors & Actuators: B. Chemical	259	980-989	2018	8.417
S. Hariharan, <b>B.Karthikeyan</b>	Environment dependent enhanced	Spectrochimica Acta	193	344-348	2018	4.831

	photoluminescence and Boolean logic gates like behavior of Bi <sub>2</sub> O <sub>3</sub> and Ag:Bi <sub>2</sub> O <sub>3</sub> nanostructures.	Part A: Molecular and Biomolecular Spectroscopy				
<b>Balasubramanian Karthikeyan</b>	Optical, phonon properties of ZnO-PVA, ZnO-GO-PVA nanocomposite free standing polymer films for UV sensing	Journal of Materials Science: Materials in Electronics	29	365–373	2017	2.478
R. Udayabhaskar; Mangalaraja, R. V.; T. Pandiyarajan; <b>B. Karthikeyan</b> , M. Héctor D	Spectroscopic investigation on graphene-copper nanocomposites with strong UV emission and high catalytic activity	Carbon	124	256-262	2017	9.594
R. Udayabhaskar; Mangalaraja, R. V.; T. Pandiyarajan; <b>B. Karthikeyan</b> , M. Héctor D.	High catalytic activity of monometallic Ag, Cu nanostructures in degradation of Acid Blue 113 dye: an	Mater. Res. Express	4	095002	2017	1.941



	electron relay effect					
Swaminathan Hariharan; Ramar Venkadeshkumar; <b>Karthikeyan Balasubramanian</b>	Excited State Electron, Energy Transfer Dynamics between 2D MoS2 and GO/RGO for Turn ON BSA/HSA Sensing	J. Phys. Chem. C	121	12585 - 12592	20 17	4.1 26
T. Pandiyarajan, R V Mangalaraja, <b>B. Karthikeyan</b> Héctor D. Mansilla M. A. Gracia-Pinilla	Spectroscopic Investigation on rGO:ZnO Composites Nanostructures	Recent Trends in Materials Science and Applications	189	63-69	20 17	-
M. Manjula, <b>B. Karthikeyan</b> , D. Sastikumar	Sensing characteristics of nanocrystalline bismuth oxide clad-modified fiber optic gas sensor	Optics and Lasers in Engineering	95	78-82	20 17	5.6 66
Neena Prasad, <b>B. Karthikeyan</b>	Cu-doping and annealing effect on the optical properties and enhanced photocatalytic activity of	Vacuum	146	501-508	20 17	3.6 27

	ZnO nanoparticles					
<b>Karthikeyan Balasubramanian</b>	Förster resonance energy transfer between $\alpha$ -Bi <sub>2</sub> O <sub>3</sub> nanorods and rhodamine 6G in aqueous media and for turn off Glucose sensing application.	Journal of Physics D : Applied Physics	50	145107	2017	3.207
T. Arun, Pranesh Sengupta, P.V.Satyam,.. <b>B. Karthikeyan</b>	Ion beam radiation effects on natural Halite crystals	NIMB Proceedings	209	216-220	2017	1.377
T. Pandiyarajan, R.V. Mangalaraja... <b>B. Karthikeyan</b>	Ultrasound assisted synthesis of morphology tuneable rGO:ZnO hybrid nanostructures and their optical and UV-A light driven photocatalysis	Journal of Luminescence	186	53-61	2017	3.599
S. Hariharan, <b>B. Karthikeyan</b>	Band bending effect induced non-enzymatic	Journal of Luminescence	183	1-6	2017	3.599

	highly sensitive Glucose sensing in ZnO nanoparticles					
S. Hariharan, <b>B.Karthikeyan</b>	Optical and surface band bending mediated fluorescence sensing properties of MoS <sub>2</sub> quantum dots	RSC Advances RSC Adv	6	101770-101777	2017	4.036
<b>B.Karthikeyan</b>	Förster resonance energy transfer and excited state life time reduction of rhodamine 6G with NiO nanorods in PVP films	Spectrochimica Acta Part A: Mol. and Biomolecular Spect.	173	301–306	2017	4.098
Neena Prasad, <b>B.Karthikeyan</b>	Optical, Phonon and Efficient visible and infrared photo Optical, Phonon and Efficient visible and infrared photocatalytic activity of Cu doped ZnS micro crystals	Spectrochimica Acta Part A: Mol. and Biomolecular Spect.	173	687–694	2017	4.098

Pandiyarajan T, Saravanan R, <b>Karthikeyan B</b> , Gracia F, Héctor D. Mansilla, M.A. Gracia- Pinilla, Mangalaraja R	Sonochemical synthesis of CuO nanostructures and their morphology dependent optical and visible light driven photocatalytic properties	Journal of Materials Science: Materials in Electronics,	28	2448–2457	2017	2.478
<b>B.Karthikeyan</b> , R.Udayabaskar, S. Hariharan	Tuning optical and three photon absorption in Graphene oxide - Polyvinylalcohol free standing films	Applied Physics Letters	109	021904	2016	3.971
S. Muthu Mariappan, <b>B. Karthikeyan</b>	Morphological tuned preparation of ZnO:reduced Graphene composites for non-enzymatic fluorescence glucose sensing and enhanced photocatalysis	Applied Physics A	122	694	2016	2.584
Neena Prasad , V.M.M. Sai pavithra , S. Hariharan , T. Pandiyarajan, R.V. Mangalaraja, <b>B.Karthikeyan</b>	Micro stress, strain, band gap tuning and photocatalytic properties of	Applied Physics A	122	590	2016	2.584

	thermally annealed and Cu doped ZnO nanoparticles					
I. Abdul Rasheed, V. Atchiah Naidu, Mahender Kumar Gupta, Inder Mohan Chhabra, and <b>B. Karthikeyan</b>	Improvement in the performance of laser based optical rotational sensor by reducing the stress coefficient of optical component	AIP Conference Proceedings			2016	0.402
S. Muthu Mariappan, <b>B. Karthikeyan</b>	Optical and vibrational properties of Ag nano metal enhanced blue light emitting GrapheneOxide-Polyvinyl pyrrolidone polymer composites films	Plasmonics	12	171–177	2016	2.404
Neena Prasad, <b>Balasubramanian Karthikeyan</b>	Raman spectral probe on increased Local Vibrational Modes and Phonon lifetimes in Ho <sup>3+</sup> doped Bi <sub>2</sub> O <sub>3</sub> Micro-rods	Journal of Raman Spectroscopy	47	1266–1270	2016	3.133

Udayabhaskar Rednam, Sreekanth P; <b>Karthikeyan B</b>	Optical and nonlinear optical limiting properties of AgNi alloy nanostructures	Plasmonics	11		20 16	2.4 04
S. Hariharan, R. Udayabaskar, T.R. Ravindran, <b>B. Karthikeyan</b>	Surfactant assisted control on optical, fluorescence and phonon lifetime in $\alpha$ -Bi <sub>2</sub> O <sub>3</sub> micro rods	Spectrochimica Acta Part A: Mol. and Biomole. Spectroscopy	152	485–490	20 16	4.0 98
<b>B. Karthikeyan</b> , T. Pandiyarajan, S. Hariharan, Muhamed Shafi Ollakkan	Wet chemical synthesis of diameter tuned NiO microrods: micro structural, optical and optical power limiting applications	CrystEngComm	18	601 - 607	20 16	3.5 45
T. Pandiyarajan, R.V. Mngalaraja, .... <b>B. Karthikeyan</b> ,	Microstructure, vibrational and visible emission properties of low frequency ultrasound (42 kHz) assisted ZnO nanostructures	RSC Advances	6	20437 - 20446	20 16	4.0 36

Gururaj M. Neelgund, <b>B. Karthikeyan</b> , S.A. Shivashankar , Aderemi Oki	Single-step, size-controlled synthesis of colloidal silver nanoparticles stabilized by octadecylamine	Applied Surface Science	356	30	20 15	6.7 07
T. Pandiyarajan, R.V. Mangalaraja, <b>B. Karthikeyan</b> , P. Sathishkumar, H. D. Mansilla, D. Contreras, R. José, M.A. G. Pinilla	Morphology controlled synthesis of Sm doped ZnO nanostructures for photodegradation studies of Acid Blue 113 under UV-A light	Journal of Materials Science: Materials in Electronics,	26	8784	20 15	2.4 78
<b>. Karthikeyan</b> , T. Pandiyarajan, R.V. Mangalaraja	Enhanced blue light emission in transparent ZnO:PVA nanocomposite free standing polymer films	Spectrochimica Acta Part A: Mol. and Biomol. Spectroscopy,	152	485-490	20 15	4.0 98
Siva Chidambaram, Ganga Gnanasekaran , G. Mohan Kumar, Baraneedharan Pari , <b>Karthikeyan Balasubramanian</b> , Sivakumar Muthusamy	Colloidal synthesis and electrical behaviour of n-ZnGdO/p-Si heterojunction diodes	Journal of Colloid and Interface Science	452	169	20 15	8.1 28

. Pandiyarajan, R. V. Mangalaraja, <b>B. Karthikeyan</b>	UV-A light induced photodegradation of Acid Blue 113 in the presence of Sm doped ZnO nanostructures	Applied Physics A	119	487–495	2015	2.584
T. Pandiyarajan, R. V. Mangalaraja, <b>B. Karthikeyan</b>	Enhanced ultraviolet fluorescence in surface modified ZnO nanostructures: Effect of PANI	Spectrochimica Acta Part A	147	280-285	2015	4.098
R. Udayabhaskar, <b>B. Karthikeyan</b>	Enhanced fluorescence and local vibrational mode in near-white light emitting ZnO:Mg nanorods system	Journal American Ceramic Society	98	1807-1811	2015	3.784
R. Udayabhaskar, <b>B. Karthikeyan</b> , P. Sreekanth and Reji Philip	Enhanced multi-phonon Raman scattering and nonlinear optical power limiting in ZnO:Au nanostructures	RSC Adv.	5	13590-13597	2015	4.036



R.Udayabhaskar, R. V. Mangalaraja, <b>B. Karthikeyan</b>	Enhanced fluorescence, Raman scattering and higher order Raman modes in ZnO:Ag nanorods	Plasmonics	10	893–899	2015	2.404
<b>B. Karthikeyan</b> , R.Udayabhaskar, Priya Rose T., T. Pandiyarajan, Reji Philip	Sol-gel prepared Cu <sub>2</sub> O microspheres : Linear and nonlinear optical properties	RSC Adv.	4	39541	2014	4.036
R. Udayabhaskar, <b>B. Karthikeyan</b>	Role of micro-strain and defects on band-gap, fluorescence in near white light emitting Sr doped ZnO nanorods	Journal of Applied Physics	116	094310	2014	2.877
<b>Balasubramanian Karthikeyan</b> , R. Udayabhaskar, Ashwin Kishore	Optical and phonon properties of Sm doped $\alpha$ -Bi <sub>2</sub> O <sub>3</sub> microrods	Applied Physics A	117	1409–1414	2014	2.584
J. L. Noel, R. Udayabhaskar, B. Renganathan, S. Muthu Mariappan, D.Sastikumar, <b>B. Karthikeyan</b>	)Spectroscopic and fiber optic ethanol sensing properties Gd doped ZnO nanoparticles	Spectrochimica Acta Part A	132	634-638	2014	4.098

R. Udayabhaskar, <b>B. Karthikeyan</b>	Optical and phonon properties of ZnO:CuO mixed nanocomposite	Journal of Applied Physics	115	154303	2014	2.877
R. Udayabhaskar, <b>B. Karthikeyan</b> , Muhamed Shafi Ollakkan	Optical and saturation behavior of thermally surface Plasmon tuned Cu nanorod composite glasses	Plasmonics	9	553–559	2014	2.404
R. Udayabhaskar, <b>B. Karthikeyan</b> , Muhamed Shafi Ollakkan, R.V. Mangalaraja, M. L. Baesso	Enhanced fluorescence and optical power limiting in Ag-nanocomposite glasses	Chemical Physics Letters	593	1-6	2014	2.328
R. Udayabhaskar, Muhamed Shafi Ollakkan, <b>B. Karthikeyan</b>	Preparation, optical and non-linear optical power limiting properties of Cu, CuNi nanowires	Applied Physics Letters	104	013107	2014	3.971
V. Bharathi, M. Sivakumar, R. Udayabhaskar, Hiromichi Takebe, <b>B. Karthikeyan</b>	Optical, structural, enhanced local vibrational and fluorescence	Applied Physics A	116	395–401	2014	2.584

	properties in K doped ZnO nanostructures					
T. Pandiyarajan, M. L. Baesso, <b>B. Karthikeyan</b>	Enhanced ultraviolet-blue emission and Raman modes in ZnO:Cr <sub>2</sub> O <sub>3</sub> composite nanoparticles	European Physical Journal D	68	28	2014	1.425
T. Pandiyarajan, <b>B. Karthikeyan</b>	Birth of room temperature Magnons and Raman line enhancement in ZnO nanostructures containing Cobalt oxide	Journal of Raman Spectroscopy	44	1534-1539	2013	3.133
R. Udayabhaskar, R.V. Mangalaraja, <b>B. Karthikeyan</b>	Thermal annealing induced structural and optical properties of Ca doped ZnO nanoparticles	Journal of Materials Science: Materials in Electronics	24	1045-1051	2013	2.478
T. Pandiyarajan, <b>B. Karthikeyan</b>	Optical properties of annealing induced post growth ZnO:ZnFe <sub>2</sub> O <sub>4</sub> nanocomposites	Spectrochimica Acta Part A	106	247-252	2013	4.098

T. Pandiyarajan, R. Udayabhaskar, <b>B. Karthikeyan</b>	Microstructure and enhanced exciton-phonon coupling in Fe doped ZnO nanoparticles	Spectrochimica Acta Part A	103	173–178	2013	4.098
T. Pandiyarajan, R. Udayabhaskar, S. Vignesh, R. Arthur James, <b>B. Karthikeyan</b>	Synthesis and concentration dependent antibacterial activities of CuO nanoflakes	Materials Science and Engineering	33	2020–2024	2013	
R. Udayabhaskar, R.V Mangalaraja, D. Manikandan, V. Arjunan, <b>B. Karthikeyan</b>	Room temperature synthesis and optical studies on Ag and Au mixed nanocomposite Polyvinylpyrrolidone polymer films	Spectrochimica Acta Part A	99	69–73	2013	4.098
Deepthi K R, T. Pandiyarajan Thangaraj, <b>B. Karthikeyan</b>	Vibrational, giant dielectric and ac conductivity properties of agglomerated CuO nanostructures	Journal of Materials Science: Materials in Electronics	24	1045–1051	2013	2.478

T. Pandiyarajan, <b>B. Karthikeyan</b>	Structural, thermal and optical properties of PVP capped ZnO films	Advanced Materials Research	678	253-257	2013	-
M. Hussain Beevi, S. Vignesh, T. Pandiyarajan, P. Jegatheesan, R. Arthur James, N. V. Giridharan and <b>B. Karthikeyan</b>	Synthesis and antifungal studies on CuO nanostructures	Advanced Materials Research	666	488-489	2012	-
<b>B. Karthikeyan</b>	Optical studies on thermally surfaceplasm on tuned Au, Ag and Au:Ag alloy nanocomposite polymer films	Spectrochimica Acta Part A	96	456-600	2012	4.098
T. Pandiyarajan, R. Udayabhaskar, <b>B. Karthikeyan</b>	Role of Fe doping on structural and vibrational properties of ZnO nanostructures.	Applied Physics A	107	411-419	2012	2.584
T. Pandiyarajan, <b>B. Karthikeyan</b>	Cr doping induced structural, phonon and excitonic properties of ZnO nanoparticles	Journal of Nanoparticle Research	14	647	2012	2.253

R. Anitha, <b>B. Karthikeyan</b> , T. Pandiyarajan, S. Vignesh, Arthur James, K.Vishwanathan and B. M. Murari	Antifungal studies on bio-compatible polymer encapsulated Silver nanoparticles	International Journal of Nanoscience	10	1179-1183	2011	0.75
<b>B. Karthikeyan</b> , T. Pandiyarajan, K. Mangaiyarkarasi	Optical properties of sol-gel synthesized calcium doped ZnO nanostructures	Spectrochimica Acta Part A	82	97-101	2011	4.098
N.G.C. Astrath, L.C. Malacarne, J.H. Rohling, A.N. Medina, M.L. Baesso, A.Steimacher, C. Jacinto, <b>B. Karthikeyan</b>	Temperature dependence of the thermophysical properties of Neodymium doped borate glasses	Optical Materials 33	33	1563-1568	2011	3.08
<b>B. Karthikeyan</b>	Fluorescence quenching of Rhodamine-6G in Au nanocomposite polymers	Journal of Applied Physics	108	084311	2010	2.877
<b>B. Karthikeyan</b> , Suchand Sandeep C S., T. Pandiyarajan, P. Venkatesan, Reji Philip	Spectrally broadened excitonic oscillations and enhanced optical nonlinearities in Dy <sup>3+</sup>	Applied Physics A	306	231-234	2010	2.584

	doped ZnO nanoparticles					
<b>B. Karthikeyan, T. Pandiyarajan</b>	Simple room temperature synthesis and optical studies on Mg doped ZnO nanostructures	J. Luminescence	130	2317–2321	2010	3.08
Sunil Kumar, N. Kamaraju, <b>B. Karthikeyan</b> , M. Tondusson, E. Freysz, A. K. Sood	Terahertz Spectroscopy of Single-Walled Carbon Nanotubes in a Polymer Film: Observation of Low-Frequency Phonons	J. Physical Chemistry. C	114	12446–12450	2010	4.126
Sunil Kumar, N. Kamaraju, <b>B. Karthikeyan</b> , M. Tondusson, E. Freysz, A. K. Sood	Direct observation of low frequency confined acoustic phonons in silver nanoparticles : Terahertz time domain spectroscopy	Journal of chemical Physics	133	14502	2010	3.488
<b>B. Karthikeyan</b> , C. S. Suchand Sandeep, Reji Philip, M. L. Baesso	Study of optical properties and effective three-photon absorption in	Journal of Applied Physics	106	114304	2009	2.877

	Bi-doped ZnO nanoparticles					
<b>B. Karthikeyan</b> , T. Pandiyarajan, P. Venkatesan, C.S. Suchand Sandeep, and Reji Philip	Optical and nonlinear absorption properties of Na doped ZnO nanoparticle dispersions	Applied Physics Letters	95	023118	2009	3.971
T. Pandiyarajan, <b>B. Karthikeyan</b> , P. Venkatesan, M. Ashok, S. Anandan, N.V.Giridharan	Simple synthesis and spectroscopic studies on cobalt added ZnO nanocrystals	Spectrochimica Acta Part A	74	84	2009	4.098
C. Jacinto, T. Catunda, S. M. Lima, <b>B. Karthikeyan</b>	Thermal lens and interferometric method for glass transition and thermo physical properties measurements in Nd <sub>2</sub> O <sub>3</sub> doped sodium zincborate glass	Optics Express	16	21248	2008	3.894
N Kamaraju, Sunil Kumar, <b>B. Karthikeyan</b> , Bhalchandra Kakade, Vijayamohan K. Pillai, A. K. Sood	Ultrafast switching time and third order nonlinear coefficients of microwave	Journal of Nanoscience and Nanotechnology	9	5550-4	2009	1.354



	treated single walled carbon nanotube suspensions					
<b>B. Karthikeyan</b>	Fluorescent glass embedded silver nanoclusters: An optical study	Journal of Applied Physics	103	114313	2008	2.877
N. Kamaraju, Sunil Kumar, <b>B. Karthikeyan</b> , Alexander Moravsky, R. O. Loutfy, and A. K. Sood	Ultrafast electron dynamics and cubic optical nonlinearity of freestanding thin film of double walled carbon nanotubes	Applied Physics Letters	93	091903	2008	3.971
<b>B. Karthikeyan</b> , Suchand Sandeep C.S. Jaemine Cha, Hiromichi Takebe, Reji Philip, S. Mohan	Optical properties and ultrafast optical nonlinearity of Yb <sup>3+</sup> doped Sodium Borate and Bismuthate glasses	Journal of Applied Physics	103	103509	2008	2.877
<b>B. Karthikeyan</b> , M. Anija, C.S. Suchand Sandeep, T.M. Muhammad Nadeer, Reji Philip	Optical and nonlinear optical properties of copper	Optics Communications	281	2933	2008	2.31

	nanocomposite glasses annealed near the glass softening temperature					
<b>B. Karthikeyan, M. Anija, P. Venkatesan, C.S. Suchand Sandeep, Reji Philip</b>	Ultrafast optical power limiting in free-standing Pt - polyvinyl alcohol nanocomposite films synthesized in situ	Optics Communications	280	482	2007	2.31
<b>B. Karthikeyan, Jinto Thomas, R. Kesavamoorthy</b>	Optical limiting with off-resonant excitations in Ag nanocomposite glasses: A z-scan study	Journal of Non-Crystalline Solids	353	1346	2007	3.531
<b>B. Karthikeyan</b>	Spectral studies on Cu <sup>2+</sup> doped sodium leadbismuthate glasses	Spectrochimica Acta A	66	860	2007	4.098
<b>B. Karthikeyan</b>	Novel synthesis and optical properties of Sm <sup>3+</sup> doped Au-polyvinyl alcohol nanocomposite films	Chemical Physics Letters	432	513	2006	2.328

<b>B. Karthikeyan, S. Mohan, S. P. Jose</b>	Optical Studies on Nd <sup>3+</sup> doped sodium bismuthate glass	Spectrochimica Acta A	65	1134	2006	4.098
<b>B. Karthikeyan, M. Anija, Reji Philip</b>	In Situ synthesis and nonlinear optical properties of Au:Ag nanocomposite polymer films	Applied Physics Letters	88	053104	2006	3.971
<b>B. Karthikeyan</b>	FTIR spectral analysis on heavy metal borate glasses	Modern Physics Letters	20	1	2006	2.066
<b>B. Karthikeyan, Jinto Thomas, Reji Philip</b>	Optical Nonlinearity in glass-embedded silver nanoclusters under ultrafast laser excitation	Chemical Physics Letters	414	346	2005	2.328
<b>B. Karthikeyan, Reji Philip, S. Mohan</b>	Optical and Nonlinear optical properties of Nd <sup>3+</sup> -doped heavy metal borate glasses	Optics Communications	246	153	2005	2.31
<b>B. Karthikeyan</b>	Spectroscopic studies on	Physica B:	364	328	2005	2.988

	Ag/polyvinyl alcohol nanocomposite films	Condensed Matter				
<b>B. Karthikeyan and S. Mohan</b>	Spectroscopic and glass transition investigations on Nd <sup>3+</sup> -doped NaF-Na <sub>2</sub> O-B <sub>2</sub> O <sub>3</sub> glasses	Materials Research Bulletin	39	1507	2004	5.600
<b>B. Karthikeyan, S. Mohan and M. L. Baesso</b>	Spectroscopic and glass transition studies on Nd <sup>3+</sup> -doped sodium zincborate glasses	Physica B: Condensed Matter	337	249	2003	2.988
<b>B. Karthikeyan and S. Mohan</b>	Optical and EPR studies on Cu <sup>2+</sup> -doped sodium borobismuthate glasses	Materials Letters	57	3789	2003	3.423
<b>B. Karthikeyan and S. Mohan</b>	Structural, optical and glass transition studies on Nd <sup>3+</sup> -doped lead bismuth borate glasses	Physica B: Condensed Matter	334	298	2003	2.988

(B) Conferences/Workshops/Symposia Proceedings

Author(s)	Title of Abstract/ Paper	Title of the Proceedings	Page numbers	Conference Theme	Venue	Year
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(C) Books & Monographs

Author(s)	Title of Book/Monograph	Name of Publishers	Year of Publication	ISSN/ISBN Number