Curriculum Vitae

Brief Profile: 1-2 paragraphs (not exceeding 500 words)

Dr. B. Karthikeyan received his Ph.D degree from Pondicherry University in the year 2003. He pursued his postdoctoral fellowship in Raman Research Institute, Bangalore and Indian Institute of Science, Bangalore till the year 2007 and also he received Japan society for the promotion of science (JSPS) fellowship in the same year. He obtained young scientist fellowship from Department of Science and Technology in the year 2009. Currently he is an Assistant Professor in Department of Physics, National institute of Technology-Trichy, India since 2007. His research interest is to study the optical (steady state and ultrafast) and nonlinear optical properties of materials. He is an expert in Raman spectroscopy field also. He also has an interest to study the nanomaterials for bio sensing applications through optical characterization and fabricating FRET based sensors. He is one of the persons who took initiative to develop the sophisticated instrument facility (SIF) at NITT. He purchased Micro Raman spectrometer (around 1 crore) and Time resolved spectrometer (around 1 crore) under SIF. Two students have completed Ph.D. under his guidance and currently he is supervising five research scholars. And also he has guided 13 M.Tech (NDT) students and 15 M.Sc.(Physics) students to complete their project work. He has handled course papers and Lab sessions for B.Tech, M.Tech (NDT) and M.Sc. (Physics). He has published 77 research papers in international journals and his 16 papers appeared in conference proceedings. He has delivered lectures in many international and national level events.

National Institute of Technology, Tiruchirappalli:
Performa for CV of Faculty/ Staff Members

1. Name — Dr. B. Karthikeyan
2. Designation: — Assistant professor
3. Office Address: — Department of Physics, NITT
4. Telephone (Direct) (Optional) — 0431 250 3612
   Mobile: 9488392825
5. Email (Primary):bkarthik@nitt.edu — Email (Secondary) :balkarin@gmail.com
6. Field(s) of Specialization: — Nanophotonics.Nonlinear optics, Ultrafast spectroscopy,
   Nanomaterials

7. Employment Profile

Job Title	Employer	From	To
Post doctoral fellow	Raman Research Institute, Bangalore, India	June 2003	May 2006
Post doctoral fellow	Indian Institute of Science, Bangalore, India	May 2006	June 2007
Assistant Professor	NIT- Tiruchirappalli	June 2007	Till

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

Examination	Board / University	Year	Division/ Grade	Subjects
SSLC	SSLC Tamil Nadu Board		First Class	Physics, Mathematics & Chemistry, Biology, Tamil, English
HSc	Higher Secondary Tamil Nadu		First Class	Physics, Mathematics & Chemistry Biology, Tamil, English
BSc	University of Madras	1996	First class	Physics main with Mathematics & Chemistry subsidiaries
MSc	Pondicherry University	1998	First class	Physics
PhD	Pondicherry University	2003		Thesis title is "**Optical studies on technologically important Nd^{3+} doped lasing borate glasses.**"

9. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/Institution	From	To
B.Tech Coordinator	Physics	2010	2013
M.Sc Coordinator	Physics	2013	2015
M.Sc. Electronics lab incharge	Physics	2014	Till
M.Sc. Programming lab lincharge	Physics	2014	Till
Purchase Initiator - SIF	Micro Raman Spectrometer	2014	Till
Purchase Initiator - SIF	Time Resolved Fluorescence	2014	Till

10. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To

11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization

12. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/ Year)
2009	Young Scientist Fellowship	Department of Science and Technology (DST)	2009	2012
2007	Japan Society for the Promotion of Scince (JSPS) fellowship	Department of Science and Technology (DST)- Japan	2007	2010

13. Details of Academic Work

(i) Curriculum Development

S.No	**Subject designed**	**Course**	**Year**	Semester
1	Nanophotonics	Ph.D	2010	ODD

(ii) Courses taught at Postgraduate and Undergraduate levels

S.No	**Subject Handled**	**Course**	**Year**	Semester
1	Physics 1	B.Tech	2007	ODD
2	Physics 2	B.Tech	2007	EVEN
3	Optical Communications	M.Sc Appiled electronics	2007	ODD
4	M.Sc Laboratory	M.Sc Appiled electronics	2007	EVEN
5	Physics 1	B.Tech	2008	ODD
6	Physics 2	B.Tech	2008	EVEN
7	Atomic and Molecular Physics	M.Sc Applied Physics	2008	ODD
8	Lasers and Application	M.Sc Applied Physics	2008	EVEN
9	M.Sc Laboratory-I year	M.Sc Appiled Physics	2008	ODD
10	M.Sc Laboratory-II year	M.Sc Appiled Physics	2008	
11	Physics 1	B.Tech	2009	ODD
12	Physics 2	B.Tech	2009	EVEN
13	Atomic and Molecular Physics	M.Sc Physics	2009	ODD
14	Lasers and Application	M.Sc Physics	2009	EVEN
15	Physics 1	B.Tech	2010	ODD

16	Physics 2	B.Tech	2010	EVEN
17	Atomic and Molecular Physics	M.Sc Physics	2010	ODD
18	Lasers and Application	M.Sc Physics	2010	EVEN
19	Physics 1	B.Tech	2011	ODD
20	Physics 2	B.Tech	2011	EVEN
21	Atomic and Molecular Physics	M.Sc Physics	2011	ODD
22	Lasers and Application	M.Sc Physics	2011	EVEN
23	Physics 1	B.Tech	2012	ODD
24	Physics 2	B.Tech	2012	EVEN
25	Atomic and Molecular Physics	M.Sc Physics	2012	ODD
26	Lasers and Application	M.Sc Physics	2012	EVEN
27	Physics 1	B.Tech	2013	ODD
28	Physics 2	B.Tech	2013	EVEN
29	Radiography and radiation safety	M.Tech	2013	ODD
30	Physics 1	B.Tech	2014	ODD
31	Physics 2	B.Tech	2014	EVEN
32	Radiography and radiation safety	M.Tech	2015	ODD
33	Lasers and Application	M.Sc	2015	EVEN
34	M.Sc Laboratory-I year	M.Sc	2015	EVEN
35	M.Sc. Laboratory-II Year	M.Sc	2016	ODD
36	Radiography and radiation safety	M.Tech	2016	ODD

(iii)Projects guided at Postgraduate level

M. Tech Project guided

S.No	Student Roll No.	Title of the thesis	Year
1	Rajasimman M.		2008
2	Ch. Satya Rao (213107013)	Ultrasonic Tomographic reconstruction of concentrations in three phase slurry bubble column	2009
3	S. Sri Krishna Caithanya (213108008)	Pulsed Eddy current Testing for finding wall thickness at high stand off for different geometries	2010
4	Ganapati Rao kutikupala (213109014)	Low cycle fatigue damage study in pure iron using magnetic and advanced ultrasonic techniques	2010
5	Ravi Teja (213109026)	A study on single crystal materials using Linear and Nonlinear ultrasonic methods	2010
6	B. Reddy (213110018)	Inyeraction between fundamental LAMB modes and defects in plate	2011
7	ChintaGopi (213111010)	Improving the time resolution and signal to noise ratio of overlapped ultrasonic signals using wavelet transforms	2013
8	Rahul Kumar (213111008)	Characterizatio and correlation of defects of friction stir welding using phased array ultrasonic and TOFD techniques	2013
9	Dileep K (213112011)	Air coupled ultrasonic testing of composites	2014
10	Sachin Raj P V	Development of hybrid PZT system for defect detection using Ultrasonic time of flight diffraction technique	2014
11	D.Srinivas naik (213114025)	Non Destructive Evaluation of adhesive bonding using acrylic sheet	2015
12	Muhammed Rameez.VM (213114010)	Infrared thermography and Ultrasonic inspection of adhesive bonded structures	2016
13	Dungavath Srivasa naik (213114025)	Non destructive evaluation of defects in adhesive bonds	2016

M.Sc Project guided:

S.No	Student Roll No.	Title of the thesis	Year
1	Guganeeswaran S (PHA 0608)	Construction of Nonlinear rossler circuit for the application of secured communicatuions	2008
2	T. Pandiyarajan (213207009)	Synthesis and spectroscopic studies on Co doped ZnO nanostructures	2009
3	M. Hussain Beevi (213208010)	Synthesis of copper oxide micor particles and its antimicrobial applications	2010
4	K. Mangaiyarkarasi (213208007)	Synthsis and spectroscopic studies on Ca doped ZnO nanoparticles	2010

5	Deepthi K.R (213209002)	CuO-PVA films for flexible storage applications	2011
6	Ashwin Kishore M.R (213210012)	Synthesis and spectroscopic studies of samarium doped Bi_2O_3 Micro rods	2012
7	K.K. Ramesh Babu (213211017)	Bio synthesis and characterization of silver nanoparticles by tribuluslanuginosus leaves	2013
8	Paul Selvi (213212022)	Green synthesis of silver nanoparticles by citrus limetta fruit extract and their antimicrobial activity	2014
9	G. Aravinth (213212027)	Bio synthesis and characterization of Ag nanoparticles by citrus sinensis fruit	2014
10	Hariharan S (213212031)	Spectroscopic probe on surfactant assisted defect control in α-Bi_2O_3 micro rods	2014
11	V.M.M.Saipavitra (213213006)	Effect of Annealing and Cu doping on structural and optical properties of ZnO nanoparticles	2015
12	Arunkumar (213213015)	Facile synthesis and optical properties of Cr_2O_3:Bi_2O_3 nanostructures	2015
13	Sivakumar (213213016)	Biosynthesis and characterization of Silver nanoparticle by Musa Acuminata	2015
14	Anoop sunny (213214009)	Synthesis,optical and Fiber optic gas sensing application of Hematite(α-Fe_2O_3) nanoparticle	2016
15	Christy preetha (213214025)	Fiber optic gas sensing and photocatalytic properties of ZnO:Cu nanoparticles	2016

(iv) Other contribution(s)

Functioned as co guide for VIT University M.Tech Students – 3 Projects guided

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	Department of Science and Technology (DST- FAST Track)	2009	2012	Completed
OPTICAL POWER LIMITING STUDIES ON Ag AND Cu NANO WIRE COMPOSITE GLASSES	Defense Research and Development Organisation (DRDO)	2009	2012	Completed

SYNTHESIS, EXCITON AND PHONON PROPERTIES OF NIO NANOTUBE COMPOSITE POLYMER FILMS	Council of Scientific and Industrial Research (CSIR)	2013	2016	Completed

15. Number of PhDs guided: 2

Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co-Supervisor)	Year of Award
Dr. T. Pandiyarajan	Doping and Polymer covering induced optical, vibrational properties of ZnO nanostructures.	Supervisor	2013
Dr. R. Udayabhaskar	Optical and nonlinear optical properties of some metal and metal oxide nanostructures	Supervisor	2015

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
1997	Seminar on Astronomy and Astro Physics	Local	Participant	Pondicherry University	Pondicherry
2000	Work shop on Industrial and Medical Applications of lasers	National	Participant	Cochin university of science and technology, Cochin	Cochin,India
2000	Second National conference on Spectro physics	National	Participant	Pachiyappa's college, Chennai	Chennai

2000	International conference on Lasers and their Applications	International	Participant	St. Joseph's College, Tiruchirappalli	Tiruchirappalli
2001	National Symposium on Photonics and Spectroscopy	National	Paper Presenter	Pondicherry University. Pondicherry	Pondicherry
2002	Seminar on Computer Simulation in Physics	Local	Participant	M. K. University, Madurai	Madurai
2002	National Workshop on Fiber optics and its Applications	National	Participant	Cochin university of science and technology,Cochin.	Cochin
2002	National Conference on Recent Advances in Materials Science	National	Paper Presenter	Nehru Memorial college, Tirchirappalli	Tirchirappalli
2004	Indo –US workshop on nanomaterials: From science to technology	National	Paper Presenter	Institute of Physics, Puri.	Puri,India
2004	International conference on Photonics	International	Participant	Cochin university of science and technology, Cochin.	Cochin,India.
2006	Indo- French workshop on Laser Physics and Quantum Optics	International	Speaker	Raman Research Institute, Bangalore.	Bangalore
2006	International workshop on Nanoscience and technology	International	Paper Presenter	Anna University, Chennai.	Chennai

2006	Indo – Australian symposium on Nanoscience and Technology	International	Paper Presenter	Indian Institute of Science, Bangalore.	Bangalore
2006	International symposium on non – oxide glasses	International	Paper Presenter	Indian Institute of Science, Bangalore	Bangalore
2007	National Workshop on Non-Destructive Evaluation	National	Paper Presenter	NIT-Tiruchirappalli	Tiruchirapalli
2007	Research orientation programme for entrants (ROPE 07)	Local	Participant	NIT-Tiruchirapalli	Tiruchirapalli
2008	Awareness programme on Intellectual property rights	National	Participant	2nd Bangalore Nano, The Grand Ashok.	Bangalore
2008	Workshop on Nanostructures and Devices	Local	Participant	NIT-Tiruchirapalli	Tiruchirapalli
2008	Workshop on X-Ray Diffraction analysis & Intellectual Property Rights	Local	Participant	NIT-Tiruchirapalli	Tiruchirapalli
2009	One day workshop on Optics.	Local	Participant	NIT-Tiruchirapalli	Tiruchirapalli
2009	SPIE conference on Optics and Photonics.	International	Paper Presenter	San Diego, CA, USA.	USA

2009	International Conference on Photonics, Nanotechnology and computer applications	International	Paper Presenter	Tanjore.	Tanjore.
2010	International conference on Recent Trends in Materials Science & Technology	International	Participant		
2011	Workshop on experimental techniques on Nonlinear optics	National	Participant	Raman Research Institute, Bangalore.	Bangalore.
26-28 Feb 2012	International conference on Key Engineering materials	International	Paper presenter	International association of computer science and information technology	Singapore
2012	4th International Conference of Solid State Science and Technology, ICSSST2012.	International	Paper Presenter	Holiday Inn Malacca, Malaysia	Malaysia.
2013	7th International Conference on Materials for Advance Technologies (ICMAT-2013)	International	Paper Presenter	Singapore	Singapore
7-8th Oct 2014	Short term program on nanostructured materials– processing and characterization	Local	Speaker	NIT-Tiruchirapalli	Tiruchirapalli

2015	Conclave on Academic Reforms (CAR2015).	Local	Paper Presenter	NIT-Tiruchirapalli	Tiruchirapalli
18-19 Mar 2016	Second National conference on Nanophotonics	National	Participant	School of Physics, Bharathidasan University	Tiruchirappalli.
25th June – 1st July 2016	Int. Conf. on Materials Engineering and Smart Materials (ICMESM 2016)	International	Participant	Science and Engineering Institute	Singapore

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
Two days workshop & Three days National seminar and Exhibition on Non Destructive Evaluation (NDE 2009)	National	10 to 12 Dec 2009	Technical committee member	National Institute of Technology-Tiruchirappalli.
Short term course on Post graduate level physics problem solving	Local	1-6 Jun 2012	Convener	National Institute of Technology-Tiruchirappalli.
Short term course on "Optical and Ultrasonic methods in NDE"	Local	16- 20 Oct 2013.	Convener	National Institute of Technology-Tiruchirappalli.
Short term course on waves and oscillations in science and technology	Local	7-8 Oct 2014	Convener	National Institute of Technology-Tiruchirappalli.
Workshop on Future Non-destructive technological methods	Local	15-16 Sep 2016	Convener	National Institute of Technology-Tiruchirappalli.

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	23rd Augugust 2010	St.Josephs College of Arts and Science,Cuddalore.
Light and nanomaterial interaction (ICOPMA)	27-28 February 2015	Sastra university, Tanjore Tamil Nadu
Light-Matter Interaction in Science(Spectrum 2015)	30-31 October 2015	Central University of Tamilnadu, Tiruvarur.Tamil Nadu
Metalic nanoparticles under ordinary and high intense light	March 18-19, 2016	School of Physics, Bharathidasan University Tiruchirappalli, Tamil Nadu, India

19. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member)	Organization	Membership No. with date
Life Member	ISNT	
Ordinary Member	SPIE, USA	

20. Academic Foreign Visits

Country	Duration of Visit	Programme
Singapore	One day	Micro systems laboratory , NTU Singapore
Singapore	One day	IMRE (A STAR), Singapore

21. Publications
(A) Refereed Research Journals:

Author(s)	Title of Paper	Journal	Volume (No.)	Page numbers	Year	Impact Factor of the Journal (Optional)
B. Karthikeyan and S. Mohan	Structural, optical and glass transition studies on Nd^{3+}-doped lead bismuth borate glasses	Physica B: Condensed Matter	334	298-302	2003	1.352
B. Karthikeyan and S. Mohan	Optical and EPR studies on Cu2+-doped sodium borobismuthate glasses	Materials Letters	57	3789-3792	2003	2.437
B. Karthikeyan, S. Mohan and M. L. Baesso	Spectroscopic and glass transition studies on Nd3+-doped sodium zincborate glasses	Physica B: Condensed Matter	337	249-254	2003	1.352
B. Karthikeyan and S. Mohan	Spectroscopic and glass transition investigations on Nd3+-doped NaF?Na2O?B2O3 glasses	Materials Research Bulletin	39	1507–1515	2004	2.435
B. Karthikeyan	Spectroscopic studies on Ag?polyvinyl alcohol nanocomposite films	Physica B: Condensed Matter	364	328-332	2005	1.352
B. Karthikeyan, Reji Philip, S. Mohan	Optical and Nonlinear optical properties of Nd3+-doped heavy metal borate glasses	Optics Communications	246	153–162	2005	1.480
B.Karthikeyan, Jinto Thomas, Reji Philip	Optical Nonlinearity in glass-embedded silver nanoclusters under ultrafast laser excitation	Chemical Physics Letters	414	346-350	2005	1.860
B. Karthikeyan	FTIR spectral analysis on heavy metal borate glasses	Modern Physics Letters B	20	533-538	2006	0.56
B. Karthikeyan, M. Anija, Reji Philip	In Situ synthesis and nonlinear optical properties of Au:Ag nanocomposite polymer films	Applied Physics Letters	88	053104-053107	2006	3.142

B. Karthikeyan, S. Mohan, S. P. Jose	Optical Studies on Nd3+ doped sodium bismuthate glass	Spectrochimica Acta A	65	1134-1137	2006	2.653
B. Karthikeyan	Novel synthesis and optical properties of Sm3+ doped Au- polyvinyl alcohol nanocomposite films	Chemical Physics Letters	432	513-517	2006	1.860
B. Karthikeyan	Spectral studies on Cu2+ doped sodium leadbismuthate glasses	Spectrochimica Acta A	66	860	2007	2.653
B. Karthikeyan, Jinto Thomas, R. Kesavamoorthy	Optical limiting with off-resonant excitations in Ag nanocomposite glasses: A z-scan study	Journal of Non-Crystalline Solids	353	1346-1349	2007	1.825
B. Karthikeyan, M. Anija, P. Venkatesan, C.S. Suchand Sandeep, Reji Philip	Ultrafast optical power limiting in free-standing Pt - polyvinyl alcohol nanocomposite films synthesized in situ	Optics Communications	280	482–486	2007	1.480
B. Karthikeyan, M. Anija, C.S. Suchand Sandeep, T.M. Muhammad Nadeer, Reji Philip	Optical and nonlinear optical properties of copper nanocomposite glasses annealed near the glass softening temperature	Optics Communications	281	2933–2937	2007	1.480
B. Karthikeyan, Suchand Sandeep C.S. Jaemine Cha, Hiromichi Takebe,Reji Philip, S. Mohan	Optical properties and ultrafast optical nonlinearity of Yb3+ doped Sodium Borate and Bismuthate glasses	Journal of Applied Physics	103	103509	2008	2.101
N. Kamaraju, Sunil Kumar**, B. Karthikeyan,** 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_1 - 091903_3	2008	3.142

B. Karthikeyan	Fluorescent glass embedded silver nanoclusters: An optical study	Journal of Applied Physics	103	114313	2008	2.101
N Kamaraju, Sunil Kumar, **B. Karthikeyan,** Bhalchandra Kakade, Vijayamohanan K. Pillai, A. K. Sood	Ultrafast switching time and third order nonlinear coefficients of microwave treated single walled carbon nanotube suspensions	Journal of Nanoscience and Nanotechnology	9	5550-5554	2009	1.338
N. G. C. Astrath, A. Steimacher, J. H. Rohling, A. N. Medina, A. C. Bento, M. L. Baesso, C. Jacinto, T. Catunda, S. M. Lima**, B. Karthikeyan**	Thermal lens and interferometric method for glass transition and thermo physical properties measurements in Nd2O3 doped sodium zincborate glass	Optics Express	16	21248	2008	3.33
T. Pandiyarajan, **B. Karthikeyan**, P. Venkatesan, M. Ashok, S. Anandan, N.V.Giridharan	Simple synthesis and spectroscopic studies on cobalt added ZnO nanocrystals	Spectrochimica Acta Part A	74	84-86	2009	2.653
B. Karthikeyan, 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	3.142
B. Karthikeyan, C. S. Suchand Sandeep, Reji Philip, M. L. Baesso	Study of optical properties and effective three-photon absorption in Bi-doped ZnO nanoparticles	Journal of Applied Physics	106	114304	2009	2.101
Sunil Kumar, N. Kamaraju, **B. Karthikeyan**, 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	014502	2010	1.758

Sunil Kumar, N. Kamaraju**, B. Karthikeyan,** 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	4.46
B. Karthikeyan, T. Pandiyarajan	Simple room temperature synthesis and optical studies on Mg doped ZnO nanostructures	J. Luminescence	130	2317–2321	2010	2.693
B. Karthikeyan, Suchand Sandeep C S., T. Pandiyarajan, P. Venkatesan, Reji Philip	Spectrally broadened excitonic oscillations and enhanced optical nonlinearities in Dy3+ doped ZnO nanoparticles	Applied Physics A	306	231-234	2010	1.444
B. Karthikeyan	Fluorescence quenching of Rhodamine-6G in Au nanocomposite polymers	Journal of Applied Physics,	108	084311_1-084311-5	2010	2.101
N.G.C. Astrath, L.C. Malacarne, J.H. Rohling, A.N. Medina, M.L. Baesso, A.Steimacher, C. Jacinto, **B. Karthikeyan**	Temperature dependence of the thermophysical properties of Neodymium doped borate glasses	Optical Materials	33	1563–1568	2011	2.183
B. Karthikeyan, T. Pandiyarajan, K. Mangaiyarkarasi	Optical properties of sol–gel synthesized calcium doped ZnO nanostructures	Spectrochimica Acta Part A	82	97– 101	2011	2.653
R. Anitha, **B. Karthikeyan,** 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	

T. Pandiyarajan, **B. Karthikeyan**	Cr doping induced structural, phonon and excitonic properties of ZnO nanoparticles	Journal of Nanoparticle Research	14	647	2012	2.101
T. Pandiyarajan, R. Udayabhaskar, **B. Karthikeyan**	Role of Fe doping on structural and vibrational properties of ZnO nanostructures.	Applied Physics A	107	411-419	2012	1.444
B. Karthikeyan	Optical studies on thermally surfaceplasmon tuned Au, Ag and Au:Ag alloy nanocomposite polymer films	Spectrochimica Acta Part A	96	456-460	2012	2.653
M. Hussain Beevi, S. Vignesh, T. Pandiyarajan, P. Jegatheesan, R. Arthur James, N. V. Giridharan and **B. Karthikeyan**	Synthesis and antifungal studies on CuO nanostructures	Advanced Materials Research	666	488-489	2012	0.23
T. Pandiyarajan, **B. Karthikeyan**	Structural, thermal and optical properties of PVP capped ZnO films	Advanced Materials Research	678	253-257	2013	0.23
Deepthi K R, T. Pandiyarajan Thangaraj, **B. Karthikeyan**	Vibrational, giant dielectric and ac conductivity properties of agglomerated CuO nanostructures	Journal of Materials Science: Materials in Electronics	24	1045-1051	2013	1.798
R. Udayabhaskar, R.V Mangalaraja, D. Manikandan, V. Arjunan, **B. Karthikeyan**	Room temperature synthesis and optical studies on Ag and Au mixed nanocomposite Polyvinylpyrrolidone polymer films	Spectrochimica Acta Part A	99	69–73	2012	2.653
T. Pandiyarajan, R. Udayabhaskar, **B. Karthikeyan**	Microstructure and enhanced exciton-phonon coupling in Fe doped ZnO nanoparticles	Spectrochimica Acta Part A	103	173–178	2013	2.653

T. Pandiyarajan, **B. Karthikeyan**	Optical properties of annealing induced post growth ZnO:ZnFe2O4 nanocomposites	Spectrochimica Acta Part A	106	247–252	2013	2.653
T. Pandiyarajan, R. Udayabhaskar, S. Vignesh, R. Arthur James, **B. Karthikeyan**	Synthesis and concentration dependent antibacterial activities of CuO nanoflakes	Materials Science and Engineering: C	33	2020–2024	2013	3.420
R. Udayabhaskar, R.V. Mangalaraja, **B. Karthikeyan**	Thermal annealing induced structural and optical properties of Ca doped ZnO nanoparticles	Journal of Materials Science: Materials in Electronics	24	3183-3188	2013	1.798
T. Pandiyarajan, **B. Karthikeyan**	Birth of room temperature Magnons and Raman line enhancement in ZnO nanostructures containing Cobalt oxide	Journal of Raman Spectroscopy	44	1534-1539	2013	2.53
T. Pandiyarajan, M. L. Baesso, **B. Karthikeyan**	Enhanced ultraviolet-blue emission and Raman modes in ZnO:Cr2O3 composite nanoparticles	European Physical Journal D	68	28	2014	1.208
V. Bharathi, M. Sivakumar, R. Udayabhaskar, Hiromichi Takebe, **B. Karthikeyan**	Optical, structural, enhanced local vibrational and fluorescence properties in K doped ZnO nanostructures	Applied Physics A	116	395	2014	1.444
R. Udayabhaskar, Muhaned Shafi Ollkkan, **B. Karthikeyan**	Preparation, optical and non-linear optical power limiting propertiesof Cu, CuNi nanowires,	Applied Physics Letters	104	013107	2014	3.142

R. Udayabhaskar, **B. Karthikeyan,** 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	1.860
R. Udayabhaskar, **B. Karthikeyan**, Muhamed Shafi Ollakkan	Optical and saturation behavior of thermally surface Plasmon tuned Cu nanorod composite glasses	Plasmonics	9	553-559	2014	2.19
R. Udayabhaskar, **B. Karthikeyan**	Optical and phonon propeprties of ZnO:CuO mixed nanocomposite (Accepted)-2014	Journal of Applied Physics	115	154303	2014	2.101
J. L. Noel, R. Udayabhaskar, B. Renganathan, S. Muthu Mariappan, D.Sastikumar,**B. Karthikeyan**	Spectroscopic and fiber optic ethanol sensing properties Gd doped ZnO nanoparticles	Spectrochimica Acta Part A	99	69-73	2014	2.653
B. Karthikeyan, R. Udayabhaskar, Ashwin Kishore	Optical and phonon properties of Sm doped α-Bi2O3 microrods	Applied Physics A	117	1409-1414	2014	1.444
R. Udayabhaskar, **B. Karthikeyan**	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	2.101
B. Karthikeyan, R.Udayabhaskar, Priya Rose T., T. Pandiyarajan, Reji Philip	Sol-gel prepared Cu2O microspheres: Linear and nonlinear optical properties	RSC Advances	4	39541-39546	2014	3.06

R.Udayabhaskar, R. V. Mangalaraja, **B. Karthikeyan**	Enhanced fluorescence, Raman scattering and higher order Raman modes in ZnO:Ag nanorods	Plasmonics	10	893-899	2015	2.19
R Udayabhaskar, **B Karthikeyan**, P Sreekanth, Reji Philip	Enhanced multi-phonon Raman scattering and nonlinear optical power limiting in ZnO: Au nanostructures	RSC advances	5	13590-13597	2015	3.06
Rednam Udayabhaskar, **Balasubramanian Karthikeyan**	Enhanced Fluorescence and Local Vibrational Mode in Near-White-Light-Emitting ZnO: Mg Nanorods System	Journal of the American Ceramic Society	98	1807-1811	2015	2.787
T Pandiyarajan, RV Mangalaraja, **B Karthikeyan**	Enhanced ultraviolet fluorescence in surface modified ZnO nanostructures: Effect of PANI	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	147	280-285	2015	2.653
Thangaraj Pandiyarajan, Ramalinga Viswanathan Mangalaraja, **Balasubramanian Karthikeyan**, Panneerselvam Sathishkumar, Héctor D Mansilla, David Contreras, José Ruiz	UV-A light-induced photodegradation of Acid Blue 113 in the presence of Sm-doped ZnO nanostructures	Applied Physics A	119.	487-495	2015	1.444

Siva Chidambaram, Ganga Gnanasekaran , G. Mohan Kumar, Baraneedharan Pari , **Karthikeyan Balasubramanian**, Sivakumar Muthusamy	Colloidal synthesis and electrical behaviour of n-ZnGdO/p-Si heterojunction diodes	Journal of Colloid and Interface Science	452	169–173	2015	3.782
Karthikeyan B, T Pandiyarajan, RV Mangalaraja	Enhanced blue light emission in transparent ZnO: PVA nanocomposite free standing polymer films	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	152	485-490	2016	2.653
T. Pandiyarajan ,R.V. Mangalaraja, **B. Karthikeyan**, P. Sathishkumar, Héctor D. Mansilla, M.A. Gracia Pinilla, David Contreras, José Ruiz	Morphology controlled synthesis of Sm doped ZnO nanostructures for photodegradation studies of Acid Blue 113 under UV-A light	J Mater Sci: Mater Electron	26	8784–8792	2015	1.798

Gururaj M. Neelgund, **B. Karthikeyan**, S.A. Shivashankar , Aderemi Oki	Single-step, size-controlled synthesis of colloidal silver nanoparticles stabilized by octadecylamie	Applied Surface Science	356	726-731	2015	3.150
Thangaraj Pandiyarajan, Ramalinga Viswanathan Mangalaraja, **Balasubramanian Karthikeyan**, Selene Sepulveda-Guzman, Héctor D Mansilla, David Contreras, Néstor Escalona, MA Gracia-Pinilla	Microstructure, vibrational and visible emission properties of low frequency ultrasound (42 kHz) assisted ZnO nanostructures	RSC Advances	6	20437-20446	2016	3.06
B. Karthikeyan, T . Pandiyarajan, S. Hariharan, Muh amed Shafi Ollakkan	Wet chemical synthesis of diameter tuned NiO microrods: micro structural, optical and optical power limiting applications	Cryst Eng Comm	18	601 - 607	2016	3.849
S. Hariharan, R. Udayabaskar, T.R. Ravindran, **B. Karthikeyan**	Surfactant assisted control on optical, fluorescence and phonon lifetime in <alpha>-Bi2O3 micro rods	Spectrochimica Acta Part A: Mol. and Biomole. Spectroscopy	152	485–490	2016	2.653
R Udayabhaskar, P Sreekanth, **B Karthikeyan**	Optical and Nonlinear Optical Limiting Properties of AgNi Alloy Nanostructures	Plasmonics	11	1461–1466	2016	2.19

Neena Prasad, **Balasubramanian Karthikeyan**	Raman spectral probe on increased Local Vibrational Modes and Phonon lifetimes in Ho3+ doped Bi2O3 Micro-rods	Journal of Raman Spectroscopy	47	1266–1270	2016	2.53
S. Muthu Mariappan, **B. Karthikeyan**	optical and vibrational properties of Ag nano metal enhanced blue light emitting GrapheneOxide-Polyvinyl pyrrolidone polymer composites films	Plasmonics		1-6	2016	2.19
I. Abdul Rasheed, V. Atchaiah Naidu, Mahender Kumar Gupta, Inder Mohan Chhabra, and **B. Karthikeyan**	Improvement in the performance of laser based optical rotational sensor by reducing the stress co-efficient of optical component	AIP Conference Proceedings		020455-1–020455-7	2016	
Neena Prasad , V.M.M. Sai pavithra , S. Hariharan , T. Pandiyarajan, R.V. Mangalaraja, **B. Karthikeyan**	Micro stress, strain, band gap tuning and photo catalytic properties of thermally annealed and Cu doped ZnO nanoparticles	Applied Physics A	122		2016	1.444
S. Muthu Mariappan, **B. Karthikeyan**	Morphological tuned preparation of ZnO:reduced Graphene composites for non-enzymatic fluorescence glucose sensing and enhanced photocatalysis	Applied Physics A	122		2016	1.444

B.Karthikeyan, R.Udayabaskar, S. Hariharan	Tuning optical and three photon absorption in Graphene oxide - Poly vinylalcohol free standing films	Applied Physics Letters	109	021904	2016	3.142
Pandiyarajan T, Saravanan R, **Karthikeyan 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		1-10	2016	1.798
Neena Prasad, **B.Karthikeyan**	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	2.653

B.Karthikeyan	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	2.653
S. Hariharan, **B.Karthikeyan**	Optical and surface band bending mediated fluorescence sensing properties of MoS2 quantum dots	RSC Advances	6	101770-101777	2016	3.06
S. Hariharan, **B.Karthikeyan**	Band bending effect induced non-enzymatic highly sensitive Glucose sensing in ZnO nanoparticles	Journal of Luminescence	183	1-6	2016	2.693

(B) Conferences/Workshops/Symposia Proceedings

Author(s)	Title of Abstract/ Paper	Title of the Proceedings	Page numbers	Conference Theme	Venue	year
S.Sri Krishna chaithanya, **B.Karthikeyan**, Krishna balasubramanium	The effect of liftoff effects on the pulsed eddy current signal strength	Non destructive evaluation	68	NDE in power industry	BHEL&NIT	2009
T.Pandirajan **B.Karthikeyan**	Optical morphological studies on cobalt added ZnO nano crystals	54th DAE Solid state physics symposium	137	Solid state physics		2009

B.Karthikeyan, Suchand sandeep CS, Reji Philip	Optical and nonlinear properties of cobalt doped ZnO nanocrystals	SPIE		Nano photonics material VI		2009
B.Karthikeyan, Suchand sandeep CS, Reji Philip	Ultrafast light transmission behavior of surface Plasmon excited Maxwell-Garnet Ag nano composite polymer	SPIE		Plasmonics: metallic nanostructure and their optical properties VII		2009
T.Pandirajan **B.Karthikeyan**	Optical, phonon and structural analysis of Na doped ZnO nano structures	SPIE		Nano photonic material VIII		2011
T.Pandirajan , R.Nagalakshmi , **B.Karthikeyan**	Optical and vibrational studies of surface modified ZnO nanostructures	SPIE		Nano photonic material VIII		2011
B.Karthikeyan, T.Pandiyarajan	Vibrational and optical studies on sodium doped ZnO nanoparticles	ICMST	1.77	Recent trends in materials science and technology	Thiruvanantha purram	2010
B.Karthikeyan	Light and glass embedded silver nanclusters	ICOPNAC		International conference on photonics, nanotechnology and computer applications	Thanjavur	2009

R.Anitha, **B.Karthikeyan**, S.Vignesh, R.Arthur james	Antifungal studies on bio-compatible polymer encapsulated silver nanoparticles	ICONSAT		International conference on nonoscience and technology	Mumbai	2010
K.Vishwanathan, Bhaskar mohan murari, P.Jagatheesan, T.Prasada rao, M.C.Santhosh kumara, **B.Karthikeyan**	Study on electrical glucose sensing by using ZnO thin films	ICE	231	International conference on electroceramics	Delhi	2009
T.Pandiyarajan, **B.Karthikeyan**	1.Fabrication of bio sensor using doped and undoped ZnO nanostructures 2.synthesis and characterization of Co doped ZnO nanoparticles	ICOPNAC		Computer applications	Thanjavur	2009
R.Nithya, P.Jagatheesan, T.Pandiyarajan, N.V.Giridharan, Bhaskar mohan murari,**B.Karthikeyan**	Sol-gel synthesis and characterization of calcium pyro phosphate ceramics	ICN		International conference on nanomaterial synthesis characterization and application	Kerala	2010
K.Vishwanathan, Bhaskar mohan murari, P.Jagatheesan, T.Prasada rao, M.C.Santhosh kumara, **B.Karthikeyan**	A potentiometric based glucose detection by using 600 Nm thick ZnO thin films					

R.Anitha, **B.Karthikeyan**, Bhaskar mohan murari, R.Arthur james	Antimicrobial activity of polymer caped Ag nanoclusters					
Sachin rao PV, R.Dhayalan,Anish kumar, B.Purnachandra rao and **B.Karthikeyan**	Development of hybrid EMAT-PZT system for defect detection using ultrasonic time of flight diffraction technique	ICNDT		Asia pacific conference on non destructive testing	Mumbai	2013
Dileep K, **B.Karthikeyan**, Krishnan Balasubramanium	Air coupled ultrasonic testing of composites using lamb waves					

(C) Books & Monographs

Author(s)	Title of Book/Monograph	Name of Publishers	Year of Publication	ISSN/ISBN Number
B. Karthikeyan Jinto Thomas, Reji Philip	Chapter 46 Nanoscale materials from science to Technology	NOVA Science Publishers	2006	1-59454-910-9