

## **DR.K.GOKULAKRISHNAN**

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**Web Page:** <https://sites.google.com/view/gokulakrishnan/home?authuser=0>

**Google Citations:** <https://scholar.google.co.in/citations?user=d2cDP9IAAAA&hl=en&authuser=1>

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### ➤ **Research Area:**

- Optical Communication
- Image Processing
- Soft Computing
- Wireless Sensor Networks/Internet of Things

### ➤ **Educational Qualifications:**

Qualification	Department	Year (From -To)	Class
SSLC	-	1993-94	I
HSC	-	1995-96	I
B.E	ECE	1997-01	I
M.E	Optical Communication	2002-05	I
PH.D	ICE	2011-15	

### ➤ **Experience:**

Name of Company / Institutions	Designation of Post	Experience in Year
Anna University Regional Campus- Tirunelveli	Assistant Professor	9 Years 09 Months
VIT Consultancy Pvt Ltd	Senior Test Analyst	1 Year 9 Month 24 Days
ACCET, Karaikudi	Graduate Trainee	3 Years

➤ **Awards:**

Sl.No.	Organization	Role	Year
1	Tirunelveli Medical College Hospital	Blood Donor	2011
2	Tirunelveli Medical College Hospital	Blood Donor	2012
3	Anna University, Tirunelveli Region & Rotary Club Tirunelveli	Expert Member	2013
4	Anna University, Tirunelveli Region - NCCC-2014	Organizing Secretary	2014
5	Anna University, Tirunelveli Region - NCCC-2015	Organizing Secretary	2015
6	Anna University, Tirunelveli Region - FDP on Data Warehousing & Data Mining	Resource Person	2016
7	University College of Engineering, Nagercoil - FDP on Communication Theory	Resource Person	2016
8	NASSCOM - Anna University, Chennai	Master Trainer	2016
9	University VOC College of Engineering, Thoothukudi	Resource Person	2016
10	Anna University, Tirunelveli Region - FDP on Signals and Systems	Resource Person	2017
11	Jayaraj Annapackiam CSI College of Engineering	Resource Person	2017
12	Sri Vidya College of Engineering & Technology	Resource Person	2018
13	Rajas Engineering College	Resource Person	2018

➤ **Additional / Academic Responsibilities at University:**

Sl.No.	Organization	Role	From	To
1	Anna University of Technology, Tirunelveli	Deputy Controller of Examinations	17/09/2010	31/07/2012
2	Anna University of Technology, Tirunelveli	Deputy Warden	9/5/2011	19/08/2013
3	Anna University Tirunelveli Region	Faculty in Charge Placement & Training	7/8/2014	15/09/2017
4	Anna University Tirunelveli Region	Member-AU-DRDO	4/7/2016	Till Date

➤ **Professional Activities:**

- Reviewer- NPTEL Content Translation
- Chairperson for Class Committee.
- Doctoral Committee Member
- Scrutiny Committee Member for TNEA-2018.
- NRI Scrutiny Committee Member.
- Inspection Committee Member –Affiliation.
- Faculty in-Charge Cultural Activities.
- Scrutiny Committee Member – Research.
- Ph.D Research Supervisor.
- Question Setter for Anna University Examinations and various other University Examinations.
- Squad Member/ University Representative for Anna University Examinations.
- External Examiner for Practical /Project Viva-voce Examinations
- Additional Chief Superintendent – TANCET-2019.

➤ **Membership of Scientific and Professional Societies:**

- Photonic Society of India
- The Indian Society of Technical Education
- The Optical Society of America

➤ **Completed B.E/M.E Projects:**

- a. Number of ME Projects Completed: **>35 Nos**
- b. Number of BE Project Completed: **- NIL**

➤ **PhD Research Projects (Ongoing):**

- Load Balancing Strategy to improve efficiency in clusters
- Performance measures of DWDM system under the impact of nonlinearities
- All Optical Design and Analysis of Quaternary Combinational Logic Unit using SOA

➤ **List of Seminar / Short Term Course /FDP/ Workshop attended: (Within India)**

S.No	Topic	Organization	Programme	Year
<b>ORGANIZED</b>				
1	Analog Electronics - Workshop Coordinator	IIT Kharagpur	ISTE MHRD NMEICT	2013
2	Signals & Systems - Workshop Coordinator	IIT Kharagpur	ISTE MHRD NMEICT	2014
3	Introduction to Soft Computing Techniques & Its Applications	AURC -Tirunelveli	Workshop	2013
4	Introduction to Wavelets & Its Application	AURC -Tirunelveli	Workshop	2014
5	Signals & Systems - Workshop Coordinator	CFD, Anna University, Chennai	Workshop	2017
6	Electromagnetic Fields - Workshop Coordinator	CFD, Anna University, Chennai	Workshop	2018
<b>ATTENDED</b>				
1	Quantum Optics	CUSAT, Cochin.	UGC Workshop	2010
2	Recent Trends in Fiber Optics & its Applications	CUSAT, Cochin.	UGC Workshop	2011
3	Recent Trends in Photonics	CUSAT, Cochin.	UGC Workshop	2012
4	Aakash for Education	NMEICT- MHRD	ISTE Workshop	2012
5	Medical and Industrial Applications of Photonics	CUSAT, Cochin.	UGC Workshop	2013
6	National Programme on Technology Enhanced Learning	IIT Madras	NPTTEL Workshop	2013
7	Analog Electronics - Coordinator's Workshop	IIT Kharagpur	ISTE Workshop	2013
8	Database Management Systems - Teaching Assistant	IIT Bombay	ISTE Workshop	2013
9	Signals & Systems - Coordinator's Workshop	IIT Kharagpur	ISTE Workshop	2013
10	Technical Communication	IIT Bombay	ISTE Workshop	2015
11	RF & Microwave System Design	GCE, Tirunelveli.	Workshop	2011
12	Advanced Digital Image Processing and Pattern Recognition Using Matlab	Scientific Computing Solutions, Chennai	Workshop	2012
13	Research Methodology & Optimization Techniques	ACCET, Karaikudi	TEQIP FDP	2012

14	Sensor Interface and Integration in R&D Work	PSG Tech., Coimbatore	DST Workshop	2013
15	Digital Image Processing & Its Applications Using Matlab	Einstein College of Engineering, Tirunelveli	DRDO Workshop	2013
16	R&D Project Proposals-Awareness, Needs and Benefits	CTDT, Anna University, Chennai	Workshop	2013
17	Hands on Training Program on LabVIEW	AURC , Tirunelveli	Workshop	2013
18	Hands on approach to Proficient Document Writing using LaTeX	AURC , Tirunelveli	Workshop	2013
19	Research Expansion in Digital Image Processing	AURC , Tirunelveli	Seminar	2014
20	High Impact Journal Writing and Publishing	AURC , Tirunelveli	Seminar	2014
21	Foundation Skills in Integrated Product Development- FSIPD	AURC , Tirunelveli	Workshop	2016
22	Data Analytics Concepts and Techniques for Business Intelligence	NIT, Tiruchirappalli	TEQIP Workshop	2016
23	Multicore Architecture and Programming	CFD, Anna University, Chennai	Workshop	2016
24	Employability Skill Enhancement for Engineering Graduates	CUIC,Anna University, Chennai	Workshop	2017
25	Research perspectives and challenges in instrumentation aspects of IoT	NEC, Kovilpatti	AICTE Seminar	2017
26	Data Science Research and Big Data Analytics	NEC, Kovilpatti	AICTE FDP	2017
27	Entrepreneurship	AURC , Tirunelveli	FDP	2018
28	Fusion 360 – Autodesk	UCEN, Nagercoil	FDP	2019

➤ **Book Chapters:**

1. Jesu Vedha Nayahi J., Gokulakrishnan K., Medical Image Classification, Medical Image Processing for Improved Clinical Diagnosis, (pages 59-80), ISBN: 9781522558767.
2. Nirmalan R., Gokulakrishnan K., Jesu Vedha Nayahi J., Load Balancing in Heterogeneous Cluster Cloud Computing, Novel Practices and Trends in Grid and Cloud Computing, ISBN: 9781522590231.

➤ **Publications :**

1. Gokulakrishnan, K, Suresh, P, Sivasubramonia Pillai, TV & Rajesh, KB 2014, 'To construct a stable and a tunable optical trap in the focal region of high numerical aperture lens', SPIE – Optical Engineering, 53 (5), 055106-6, (Impact factor – 1.078).
2. Gokulakrishnan, K, Suresh, P, Mariyal, C, Sivasubramonia Pillai, TV & Rajesh, KB 2014, 'Tight focusing effect of annular obstructed incident beam in the focal region of high NA lens', Elsevier – Optik, vol. 125, pp. 4652–4654 (Impact factor – 0.769).

3. Gokulakrishnan, K, Suresh, P, Mariyal, C, Sivasubramonia Pillai, TV and Rajesh, KB, "Tight focusing effect of annular obstructed Bessel-modulated Gaussian beam," Elsevier – Optik (IJLEO – Accepted, Impact factor – 0.769).
4. Gokulakrishnan, K, Suresh, P, Jeyamurugan, A, Pillai, TVS, Rajesh, KB & Vijayaraj, M, 'Effect of annular apodization and pupil beam parameter in the focal region of high NA lens', Elsevier – Optik, vol. 125. Issue 19, pp. 5529-5531 (Impact factor – 0.769).
5. Suresh, P, Thilagavathi R, Gokulakrishnan, K, Rajesh, KB. & Pillai, TVS 2014, 'Focusing properties of a 4Pi configuration system under the illumination of double ring shaped LG11 beam', Springer – Optical and Quantum Electronics, 1-6, (Impact factor – 0.978).
6. Suresh, P, Mariyal, C, Gokulakrishnan, K, Rajesh, KB. & Pillai, TVS 2013, 'Tight Focusing of Circularly Polarized Beam over high NA Lens Axicon with a Diffractive Optical Element', Elsevier – Optik, vol. 124. Issue 20, pp. 4389-4392 (Impact factor – 0.769).
7. Suresh, P, Gokulakrishnan, K, Mariyal, C, Rajesh, KB & Sivasubramonia Pillai, TV 2013, 'Effect of binary phase plate on incident radially polarized hollow Gaussian beam', Elsevier – Optik, vol. 124, pp. 5350-5352 (Impact factor – 0.769).
8. P.Anuja, K.Gokulakrishnan, J.Jesu Vedha Nayahi, 'A Hybrid Solution for Resource Discovery Problem in Grid Networks', International Journal of Scientific & Engineering Research Volume 3, Issue 7, July-2012.
9. C.Kanchana Devi, K.Gokulakrishnan, K.B.Rajesh, 'Generation of Novel Focal Pattern for Nanolithography', International Journal of Scientific & Engineering Research Volume 3, Issue 7, July-2012.
10. S.Sumathi, K.Gokulakrishnan, K.B.Rajesh, 'Tight focusing of circularly polarized light beam for the fabrication of NEMS', International Journal of Scientific & Engineering Research Volume 3, Issue 7, July-2012.
11. I.Dhasan Aswin Raj, K. Gokulakrishnan, 'Performance Measure of FSO by Modified AND Subtraction Method', International Journal of Scientific Engineering and Research (IJSER), Volume 3 Issue 5, May 2015.
12. P. Syed Ali Fathima Aasia, K. Gokulakrishnan, J. Jesu Vedha Nayahi, 'Supervised Learning Approach for Performance Evaluation of Digital Fundus Image Quality ', International Journal of Scientific Engineering and Research (IJSER), Volume 3 Issue 5, May 2015.
13. A.Nandhini, K. Gokulakrishnan, 'Design of Ultra High Capacity DWDM System with Different Modulation Formats', International Journal of Scientific Engineering and Research (IJSER), Volume 3 Issue 5, May 2015.
14. S.Esther Jenifa, K. Gokulakrishnan, 'Performance Measures of DWDM System under the Impact of Four Wave Mixing ', International Journal of Scientific Engineering and Research (IJSER), Volume 3 Issue 5, May 2015.

15. K. Gokulakrishnan, S.B. Allwin Deva Saghayam, 'Breath Acetone Based Noninvasive Blood Glucose Monitoring System for Diabetes Using SVM', CiiT International Journal of Artificial Intelligent Systems and Machine Learning, Vol 5, No 3 (2013)
16. S.Vigneswaran, T. Nathiyaa, Arul Teen, K. Gokulakrishnan, K.B. Rajesh, 'Study on Propagation Properties of Higher Order Bessel- Gaussian Beam through Different Optical System in Free Space Optical Communication', CiiT International Journal of Digital Signal Processing, Vol 4, No 7 (2012)
17. O.Ganeshbabu, M.C.Sashikkumar, M.Vijayaraj, K.Gokulakrishnan, N.Sakthieswaran, 'Assessment of Groundwater Quality in the District of Erode, Tamil Nadu, India', International Journal of Advanced Engineering Technology, Vol. VII, Issue II, April-June, 2016
18. K.B. Rajesh, N.VeerabaguSuresh, P.M.Anbarasan, K.Gokulakrishnan, G.Mahadevan, 'Tight focusing of double ring shaped radially polarized beam with high NA lens axicon', Optics & Laser Technology 43 (2011) 1037-1040
19. K. Tamilarasan, J. Rajesh Banu, C. Jayashree, K.N. Yogalakshmi, K. Gokulakrishnan, 'Effect of organic loading rate on electricity generating potential of upflow anaerobic microbial fuel cell treating surgical cotton industry wastewater', Journal of Environmental Chemical Engineering 5 (2017) 1021-1026
20. K. Gokulakrishnan, T. V. Sivasubramonia Pillai, 'Investigation of Azimuthally Polarized Bessel-modulated Gaussian Beam with Annular Obstruction', J. Environ. Nanotechnol, Volume 4, No.1 (2015) pp. 32-36

➤ **Conferences**

Sl.No.	Title	Conference Name	Year
<b>INTERNATIONAL LEVEL</b>			
1	All – optical magnetic recording using high NA lens axicon	CTOO, IIST	2011
2	Generation of novel focal patterns using double ring shaped radially polarized beam for optical trapping applications	CTOO, IIST	2011
3	Generation of High Efficiency Longitudinally Polarized Beam using High NA Lens Axicon and dedicated Phase Filter	Optics 11, NIT	2011
4	Effect of Spherical Aberration on tightly focused Hypergeometric-Gaussian beam	Optics 11, NIT	2011
5	Effect of tightly focused QBG beam in the focal region of high NA lens combined with annular obstruction	IRDE Proceedings of ICOL	2014
6	Survey on Map Reduce Scheduling Algorithms in Hadoop Heterogeneous Environments	Proceedings of ICICT	2018
7	Impacts of non-linear effects in DWDM based Fiber Optic Communication System	Proceedings of ICCBI	2018
8	Bluetooth Enabled electronic gloves for hand gesture Recognition	Proceedings of ICCBI	2018
<b>NATIONAL LEVEL</b>			
1	A Study on high density optical interconnections using Bessel beam	Proceedings of NCMOC	2010
2	Fusion –based similarity search approach for biomedical image retrieval	Proceedings of ICICN	2012
3	Speckle removal from SAR images via pixel characteristic based local	Proceedings of ICICN	2012
4	Hybrid mining for prediction of mobile behavior in location-based service environments	Proceedings of NCCSA	2012
5	Tight focusing of azimuthally polarized beam with pure phase plate and a high numerical aperture lens axicon	Proceedings of ICNA	2012
6	Tight focusing of double ring shaped azimuthally polarized beam using high NA lens axicon	Proceedings of ICNA	2012
7	Width measurement from true retinal blood vessels	Proceedings of NCCC	2014
8	Detection of fault localization in passive optical networks using OTDR trace correlation analysis	Proceedings of NCCC	2014
9	Detection of optic disc in retinal images	Proceedings of NCCC	2014
10	Detection of micro aneurysms in color fundus images	Proceedings of NCCC	2014
11	Performance analysis of various parameters in free space optical communication system	Proceedings of NCCC	2015
12	Performance of WDM/TDM PON using radio over fiber technique	Proceedings of NCCC	2015
13	Ophthalmic disease prediction system	Proceedings of NCCC	2015
14	Design of high speed optical wireless network for inter satellite communication	Proceedings of NCCC	2015
15	Data aggregation technique using WRP scheme in wireless sensor network	Proceedings of NCCC	2015



