

Dr. Narayan. K. B.E., MTech., Ph.D. (IISc), Senior Member IEEE, IEEE-Photonics, IEEE-EMBS, IEEE-CIS and IEEE CE Societies



IEEE Membership No: 90286363, IEEE Member Since 13 Years

Date of Birth: 31-10-1981; Age: 37 Years

Address: No:15, S.F.S (208) Houses, 4th Phase (Opp. Mother Dairy)

Yelahanka New Town, Bangalore 560064, Karnataka, India

Phone: (080) 28460476, +919980893447

email:- ; narayank101@gmail.com; deanrnd@saividya.ac.in ; narayan.k.phd@ieee.org

Total Experience: 12 Years (Teaching and Research), Administration: 1 Year

Strengths: Excellent Communication Skills, Brilliant Student Motivator, and Team Builder

Sponsored Research Projects: Rs. 58,55,000/- (Rupees Fifty-Eight Lakhs and Fifty-Five Thousand Only)

Publications:

SCI /SCIE Indexed Journals: 08

Indexed International Conference Proceedings (held abroad): 15

Indexed International Conference Proceedings (held in India): 16

Total Indexed Publications (verified by Publons) 39

Total Publications Indexed in **Scopus** 35

Certified Peer Reviews (**Web of Science** Indexed Journals) 20

Patents Filed: 03

Ph.D. Research Scholars Guidance: 07 (03 Submitted)

Web of Science Researcher ID: [U-6564-2019](https://orcid.org/0000-0003-2418-8418)

Scopus Author ID: 54787719900
<https://www.scopus.com/authid/detail.uri?authorId=54787719900>

Google Scholar Citations: <https://scholar.google.com/citations?user=ZR-hg2gAAAAJ&hl=en>

Research Gate Score: 11.73 https://www.researchgate.net/profile/Narayan_Krishnaswamy

ORCiD ID: <https://orcid.org/0000-0003-2418-8418>

IEEE Collabratec: <https://ieee-collabratec.ieee.org/app/p/narayank>

LinkedIn Profile: <https://www.linkedin.com/in/narayan-k-8a4b8a71/>

Area of Specialization: Photonics, and Micro-Opto-Electro-Mechanical Systems (MOEMS)

About Myself: Presently working as Dean (R&D), Professor and Head, Department of Electronics and Communication Engineering at Sai Vidya Institute of Technology, Bangalore. **I did doctorate from the prestigious Indian Institute of Science, Bangalore in the year 2012.** My research interest includes Photonics and Integrated Optics applications for Lab-on-a-chip Sensor Systems.

I am the recipient of prestigious Start-up Research Grant for Young Scientist under Science and Engineering Research Board DST-SERB, Government of India for FY15-16 and Seed Money to Young Scientist for Research (SMYSR) by Vision Group on Science and Technology, Department of IT, BT and S&T, Government of Karnataka for FY14-15. I have been instrumental in guiding and motivating students to conduct research-oriented projects in the area of photonics and presenting the work in top international conferences held abroad. **Under my guidance fifteen UG students have presented their work as papers at top International Conference proceedings held abroad (in USA, Portugal, Czech Republic and Macau China).** Students have received international and national travel grant, under my guidance. Two UG students had received 4000 USD as travel grant from IEEE Photonics Society. Apart from the technical activities I am extremely student friendly, like to always interact with students, a good motivational speaker and I have also conducted personality development classes for the students for improving their personality, communication skills apart from career counselling.

Qualifications

1. **Doctorate from Indian Institute of Science (IISc) Bangalore (2012).**
Specialization: Photonics and MOEMS (Micro-Opto-Electro-Mechanical-Systems).
2. M. Tech in Biomedical Engineering from Manipal Institute of Technology, Manipal, Karnataka, (2007) with **9.94 out of 10 CGPA.**
3. B.E (Electrical & Electronics) from Sir. M. Visvesvaraya Institute of Technology, Bangalore (2004), India (Affiliated to Visvesvaraya Technological University, Belgaum, Karnataka, India) with First Class with Distinction (FCD) **77.54% Aggregate.**

Experience in setting up research labs:

I have set up Photonics and MOEMS modeling and simulation research laboratory at Sai Vidya Institute of Technology with the help of Grants received from DST and VGST Grants. I also have experience in setting up thermal evaporation systems, and vacuum systems. These systems are essential for setting up Thin-Film fabrication facility for fabricating MEMS Devices. I have taken active part in setting up the multisource thermal evaporation system for the fabrication of Organic Light Emitting Diodes during my doctoral study at Indian Institute of Science, Bangalore.

Major Accomplishments, Awards and Recognitions: -

- **Elevated to IEEE Senior Membership Grade with effect from 28-6-2019** for following societies: IEEE Photonics, IEEE EMBS, IEEE Computational Intelligence and IEEE Consumer Electronics Societies.
- In a first of kind guided two French Intern students Graduate Students of Bachelor at Istia school of the engineering of the University of Angers (France) for their Research Internship for a period of three months starting May 2019.
- Recipient of prestigious Start-up Research Grant for Young Scientist under Science and Engineering Research Board DST-SERB, Government of India for FY15-16
- Recipient of Seed Money to Young Scientist for Research (SMYSR) by Vision Group on Science and Technology, Department of IT, BT and S&T, Government of Karnataka for FY14-15.
- Under my guidance my Ph.D. research Scholar Ms. Chaya B M has been selected for research grant of Rupees Five lakhs under Research Grant for Scientist/ Faculty (RGS/F) by Vision Group on Science and Technology, Dept. of IT, BT and S&T, Government of Karnataka” for FY18-19.
- Received outstanding reviewer recognition from Sensors & Actuators: B. Chemical Journal. August 2018.
- Global Outreach Research Award 2019 as Outstanding researcher in Electronics and Communication Engineering awarded by Global Outreach Research and Education Association registered under Ministry of Micro, Small, & Medium Enterprises, Govt. of India. <http://www.gorea.org/awards/research/third-list-of-global-outreach-research-award-recipients-2019/>
- Mentor IEEE Photonics Society, Bangalore Chapter, mentored 15 UG Students for paper publications in top International Conferences held abroad
- Conducted Photonics Internship Entitled “Photonic Integrated Circuits” in partnership with Lumerical Inc, a Canadian based Photonics Company under Commitment to University Education Program during Jan-March 2019. <https://photonicsic.blogspot.com/>
- Reviewer of following Journals/Conferences
 1. Sensors and Actuators B Chemical -Elsevier
 2. Optical Materials Express -OSA Publisher
 3. Optics Express -OSA Publisher
 4. Photonics Research -OSA Publisher
 5. Optics Letters -OSA Publisher
 6. IEEE Sensors Journal -IEEE
 7. IEEE Sensors Conference 2019 -IEEE

Total Experience: 12 Years (Teaching and Research), Administration: 1 Year

Employment history along with roles and responsibilities:

Sl. No.	Organization/Institution	Position	Date of joining	Date of leaving	Duration	Experience Type
1.	BMS Institute of Technology, Bangalore-560064	Lecturer	01-02-2007	13-07-2007	5 Months	Teaching
2.	Indian Institute of Science, Bangalore	Ph.D. Research Scholar	01-08-2007	31-07-2012	5 years	Research
2.	BITS-Pilani Hyderabad Campus	Assistant Professor	20-09-2012	17-12-2012	3 Months	Teaching
3.	Sai Vidya Institute of Technology, Bangalore-560064	Associate Professor	08-02-2013	04-02-2014	11 Months	Teaching
		Professor	05-02-2014	Till Date	5 Years and 04 Months	Teaching & Research
		Dean (R&D)	08-06-2014	Till Date	5 Years	Research & Teaching
		Head of Department	01-06-2018	Till Date	1 Year and 3 Months	Teaching & Administration
	Total				12 Years	

Sponsored Projects Undertaken: (Principal Investigator)

Sl. No	Sponsoring Agency	Title of Project	Amount of grant in Rupees	Period	Co-investigator
1.	Under Seed Money to Young Scientist for Research (SMYSR) Vision Group on Science and Technology, Dept. of IT, BT and S&T, Government of Karnataka for FY14-15.	Design and Analysis of Integrated MOEMS based Opto - Fluidic Lab-on-a-Chip Device for Sensing Applications	4,00,000/-	One year 07-09-2015 to 28-05-2016 (Completed)	NIL
2.	Start-up Research Grant for Young Scientist under Science Education and Research Board DST-SERB, Govt of India. FY 15-16	Design, Analysis and Modelling of an Opto-Fluidic Bio-Sensor	24,55,000/-	Three Years Project Started on 01-02-2016 to 25-09-2019 (Completed) Grading “Good”	NIL
3.	Establishment of Centre of Innovative Science & Engineering Education (CISEE) by Karnataka Science and Technology Promotion Society (KSTepS) Department of Science & Technology, Government of Karnataka for FY15-16	Design and Modelling of Micro-Opto-Electro-Mechanical Systems (MOEMS) based Bio-Sensors for Lab-on-a-Chip Applications	30,00,000/-	Three Years Project Started on 15-06-2016 (Ongoing)	NIL
Total in Rupees			58,55,000/-		

List of Publications: (Total: 49)

- a. SCI/SCIE Indexed Journals: 08
- b. Indexed International Conference Proceedings (held abroad): 15
- c. Indexed International Conference Proceedings (in India): 16
- d. Papers in published in other refereed International Journals: 02
- e. Papers in presented/published in other conference proceedings 08

a. Papers in published in refereed international journals (SCI/SCIE indexed): 08 Nos

1. Shwetha M, and **Narayan K**, "Improvement in quality factor of double microring resonator for sensing applications," *J. Nanophoton.* 13(2), 026014 (2019), DOI: 10.1117/1.JNP.13.026014. <http://dx.doi.org/10.1117/1.JNP.13.026014>. **I.F: 1.429**
2. Venkatesha M, P K Pattnaik, and **Narayan K** "Modeling and Analysis of SOI Gratings-based Opto-Fluidic Biosensor for Lab-on-a-Chip Applications", *Photonics* **2019**, 6, 71. DOI: [10.3390/photonics6020071](https://doi.org/10.3390/photonics6020071)
3. Venkatesha M, Chaya B M, Pattnaik P K and **Narayan K**, "Modeling and Analysis of an Opto-Fluidic Sensor for Lab-on- a-Chip Applications", *Micromachines* **2018**, 9(3), 134; DOI:[10.3390/mi9030134](https://doi.org/10.3390/mi9030134). **I.F: 2.426**
4. Chaya B. M, Venkatesha M, K. Yellaeswara Rao, and **Narayan K**, "Modeling of enhancement effect of moth-eye antireflective coating on an organic light-emitting diode," *J. Nanophoton.* **12**(4), 046021 (2018), DOI: <http://dx.doi.org/10.1117/1.JNP.12.046021> **I.F: 1.429**
5. **Narayan K**, T. Srinivas, G. Mohan Rao and M. Manoj Varma, "Analysis of integrated optofluidic lab-on-a-chip sensor for refractive index and absorbance sensing", *IEEE Sens. J.* Vol. 13, No.5, 1730-1741, May 2013. ISSN: 1530-437X. DOI: [10.1109/JSEN.2013.2243429](https://doi.org/10.1109/JSEN.2013.2243429) **I.F: 3.07. Citations: 6**
6. **Narayan K**, G. Mohan Rao, S. Varadharajaperumal, M. Manoj Varma and T. Srinivas, "Effect of thickness variation of hole injection and hole blocking layers on the performance of fluorescent green organic light emitting diodes ", *Curr. Appl. Phys.*, Vol. 13, 18-25 (2013). ISSN: 1567-1739. DOI: [10.1016/j.cap.2012.06.004](https://doi.org/10.1016/j.cap.2012.06.004). **I.F: 2.010. Citations: 29**

7. Poorna Lakshmi U, Balasubramanian M , **Narayan K** , P K Pattnaik, “Electrostatically Tunable MOEMS Waveguide Bragg Grating based DWDM Optical Filter” *J. Micro/Nanolith. MEMS MOEMS* **18**(1), 015503 (2019) DOI: <http://dx.doi.org/10.1117/1.JMM.18.1.015503>. **I.F: 1.193**
8. U. Poorna Lakshmi, M. Balasubramanian, **Narayan .K**, P .K Pattnaik, “MEMS tunable SOI waveguide Bragg grating filter with 1.3 THz tuning range for C-band 100 GHz DWDM optical network” *Photon Netw Commun* **38**(2), 280-288 (2019) DOI: <https://doi.org/10.1007/s11107-019-00849-9>. **I.F: 1.328**

**b. Papers in published in other journals top international conference proceedings (Abroad):
15 Nos**

1. Shwetha M., Raksha V, and **Narayan K.**, "Analysis of ring resonator structure with quality factor enhancement," SPIE Optics + Optoelectronics, 2019, **Prague, Czech Republic**, Proc. SPIE 11031, Integrated Optics: Design, Devices, Systems, and Applications V, 1103116 (26 April 2019); DOI:10.1117/12. <https://doi.org/10.1117/12.2520946>
2. Chaya B.M., Umme Kulsum, and **Narayan K.**, "FDTD modelling and simulation of organic photo detector using photonic crystals," SPIE Optics + Optoelectronics, 2019, **Prague, Czech Republic**. Proc. SPIE 11028, Optical Sensors 2019, 1102836 (11 April 2019); DOI:10.1117/12.2520863 <https://doi.org/10.1117/12.2520863>
3. Shwetha M, Sampritha NS, Vijeth V, and **Narayan K**, “Design and Analysis of Optical Ring Resonator for Bio-Sensing Application”, **SPIE Photonics West**, 2-7 February 2019 San Francisco, California USA. Proc. SPIE 10875, Microfluidics, BioMEMS, and Medical Microsystems XVII, 108750W (4 March 2019); DOI: 10.1117/12.2510201; <https://doi.org/10.1117/12.2510201>
4. Chaya M., Sharon C., Vinith P, and **Narayan K**. “Modeling and Analysis of Double Layer Motheye Anti Reflective Coatings on Organic Light Emitting Diode”, In Proceedings of the 7th International Conference on Photonics, Optics and Laser Technology - Volume 1: PHOTOPTICS, 190-195, 2019, Prague, Czech Republic DOI: [10.5220/0007385201900195](https://doi.org/10.5220/0007385201900195)
5. Venkatesha.M, Vismya K R, Medha Vyshnavi, Prashanth A U and **Narayan K** (2018) Modeling and Analysis of SOI Grating Coupler for Bio-sensing Applications, **31st Annual Conference of IEEE Photonics Society (IPC 2018)**, 30th Sep-4th Oct, held at Reston VA, USA., Pages 1-2, DOI: [10.1109/IPCCon.2018.8527226](https://doi.org/10.1109/IPCCon.2018.8527226)

6. Venkatesha.M, Sai Preethi Jatta, Vaibhav L Shah and **Narayan K** (2018) Design and Analysis of Graphene-based Single Mode SOI Integrated Optical Sensor , **31st Annual Conference of IEEE Photonics Society (IPC 2018)**, 30th Sep-4th Oct, held at Reston VA, USA., Pages 1-2, DOI: [10.1109/IPCon.2018.8527297](https://doi.org/10.1109/IPCon.2018.8527297)
7. Shwetha M, Navya Krishna Reddy, Prasant Kumar Pattnaik and **Narayan K** (2018), “Design and Analysis of Silicon Ring Resonator for Bio-sensing Application”, **SPIE - Optical System Design** , held at Frankfurt, Germany, 14-17 May 2018. Pg.1-6 Vol: 10690 DOI: <https://doi.org/10.1117/12.2313477>
8. Chaya B M, M. Venkatesha, Shruthi Neduri and **Narayan K** (2018) “FDTD Modeling and Simulation of Organic Light Emitting Diode with improved extraction efficiency using Moth-eye Anti Reflective Coatings”, **PHOTOPTICS 2018, held at Funchal, Madeira - Portugal, 25 – 27 January 2018, SCITEPRESS**, In Proceedings of the 6th International Conference on Photonics, Optics and Laser Technology, Pg. 266-272; DOI: [10.5220/0006651702660272](https://doi.org/10.5220/0006651702660272).
9. Chaya B.M., Venkatesh M, Ananya N and **Narayan K**, (2017) “Improved Light Extraction Efficiency of Organic Light Emitting Diode using Photonic crystals”, **PHOTOPTICS 2017, held at Porto, Portugal, 27 Feb to 1 March 2017, SCITEPRESS**, In Proceedings of the 5th International Conference on Photonics, Optics and Laser Technology, pages 256-259, DOI: [10.5220/0006153902560259](https://doi.org/10.5220/0006153902560259).
10. N. Samyuktha, P. Maneesha, B.R. Sreelakshmi, P. K. Pattnaik and **Narayan K** (2015) “Simulation of MEMS based Capacitive Sensor for Continuous Monitoring of Glucose”, **IEEE TENCON 2015, held at Macau**, 1-4 Nov 2015, DOI: [10.1109/TENCON.2015.7372771](https://doi.org/10.1109/TENCON.2015.7372771).
11. Jatin Kashyap, Samyukta Nagesh, **Narayan K** and P. K. Pattnaik, (2015) “Design and Simulation of a novel 3D MEMS Fabrication/Micro cutting facility by Thermally Actuated MEMS device”, **IEEE TENCON 2015, held at Macau**, 1-4 Nov 2015, Pg. 1-4. DOI: [10.1109/TENCON.2015.7373004](https://doi.org/10.1109/TENCON.2015.7373004).
12. **Narayan K**, P.K. Pattnaik., D.B Ghare., and T. Srinivas, (2014) “Analysis of Optofluidic Coupling for Integrated Lab-on-a-chip Applications”, Healthcare Innovations and Point-of-Care Technologies Conference(HICPT'14) held in Renaissance Seattle Hotel, **Seattle, WA, USA** on October 8-10, Pg. 18-21, **2014**. (DOI):[10.1109/HIC.2014.7038864](https://doi.org/10.1109/HIC.2014.7038864).

13. **Narayan K**, T.Srinivas, and G. Mohan Rao, (2011) “Analysis of Integrated Optofluidic Lab-on-a-chip Fluorescence Biosensor Based on Transmittance of Light through a Fluidic Gap”, in proceedings of 33rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC '11), Aug-30 to Sep-3, Pg. 30-34 (2011). DOI: [10.1109/IEMBS.2011.6089889](https://doi.org/10.1109/IEMBS.2011.6089889). **This article has been indexed in PUBMED (ID: 22254243). PUBMED is a database of High Impact factor Journals pertaining to Biomedical research of US National library of Medicine of US Government.**
14. **Narayan K**, T. Srinivas, M. Manoj Varma, and G. Mohan Rao (2010) “Analysis of Mode Mismatch in An Optofluidic Waveguide Gap For Integrated Lab on Chip Sensor” Photonics Global Conference(PGC) Singapore, Dec 14-16, Pg 1-5 (2010). DOI: [10.1109/PGC.2010.5705958](https://doi.org/10.1109/PGC.2010.5705958). <https://ieeexplore.ieee.org/document/5705958>
15. Venkatesha M, Chaya B M, Pattnaik P K and **Narayan K**, “Modeling and Analysis of Opto-Fluidic Sensor for Lab-on- a-Chip Application”, *Preprints* **2017**, 2017110154 (doi:10.20944/preprints201711.0154.v1)<https://www.preprints.org/manuscript/201711.0154/v1>.

c. Papers in published in top international conference proceedings (held in India) : 16 Nos

1. Shwetha M, and **Narayan K** (2018), “Analysis of Micro-fluidic based Ring Resonator for Bio-Sensing Application”, Photonics 2018, 12th -15th Dec, 2018, IIT Delhi, India. (Presented).
2. Asha. K, Venkatesha .M, Suryanarayana N.K, Pattnaik P K and **Narayan K**, (2018) “Mathematical Modelling of ARROW Waveguide Structure for Sensing Application”, Photonics 2018, 12th -15th Dec, 2018, IIT Delhi, India. (Presented).
3. Asha K, Vini, Sanjana A, **Narayan K** (2018) “Modeling and Simulation of Photonic Crystal Cavity Quantum Dot LASER for Biosensing Application”. 2018 2nd International Conference on Trends in Electronics and Informatics (ICOEI), Pages : 955-957, DOI: [10.1109/ICOEI.2018.8553909](https://doi.org/10.1109/ICOEI.2018.8553909)
4. Asha K, Muddaluru Uma, Neveditha M, Srinivas G S, Shashank R, **Narayan K** (2018) “Modeling and Analysis of ARROW Waveguide for Point of Care Diagnostic Application”, 2018 2nd International Conference on Trends in Electronics and Informatics (ICOEI), Pages : 951-954, DOI: [10.1109/ICOEI.2018.8553860](https://doi.org/10.1109/ICOEI.2018.8553860)

5. Chaya B M, Navya K, Priyanga R, Rashmitha K.K, Pallavi N P, **Narayan K**,” Modeling and simulation of organic photodetector using Photonic crystals”, 2018 2nd International Conference on Electronics, Materials Engineering & Nano-Technology (IEMENTech) at IEM Gurukul Campus College , More, Saltlake, Kolkata, West Bengal during May 4th-5th, 2018. DOI: [10.1109/IEMENTECH.2018.8465291](https://doi.org/10.1109/IEMENTECH.2018.8465291)
6. Shwetha M and **Narayan K**, “A Ring Resonator with Liquid Crystal for Biosensing Application”, **IEEE WRAP 2017**, held at Mahindra Ecole Centrale, Hyderabad. India, 18-19 December, 2017. Pg 1-4, DOI: [10.1109/WRAP.2017.8468552](https://doi.org/10.1109/WRAP.2017.8468552)
7. Chaya B M, Venkatesha M and **Narayan K** "Effect of Moth eye Anti reflective coatings in extraction of Far field Intensity of an Organic Light Emitting Diode," **IEEE WRAP 2017**, held at Mahindra Ecole Centrale, Hyderabad. India, 18-19 December, 2017. Pg 1-4, DOI: [10.1109/WRAP.2017.8468556](https://doi.org/10.1109/WRAP.2017.8468556)
8. Venkatesha. M., Chaya B.M., Pattnaik P.K. and **Narayan K**. “Single Mode Graphene based Waveguide for Integrated Optical Biosensors at Visible Wavelength” Photonic 2016 held at IIT-Kanpur, 04 December-08 December 2016, Published in OSA Technical Digest DOI: <https://doi.org/10.1364/PHOTONICS.2016.Th3A.17>
9. Chaya B.M., Venkatesh .M., Pattnaik P.K., and **Narayan K** “Effects of 2D Photonic Crystals in light extraction efficiency of an Organic Light Emitting Diode” Photonic 2016 to be held in IIT-Kanpur, 04 December-08 December 2016, Published in OSA Technical Digest, DOI: <https://doi.org/10.1364/PHOTONICS.2016.Tu4A.45>
10. Poornalakshmi U, Balasubramanian Malayappan, **Narayan K**, Pattnaik P.K., “Analysis of SOI based MEMS Actuated Waveguide Bragg Grating for Sensing and Communication Applications”, Photonic 2016 held in IIT-Kanpur, December 2016, Published in OSA Technical Digest, DOI: <https://doi.org/10.1364/PHOTONICS.2016.Th3A.11>
11. M. Shwetha and **Narayan K**, "Mach-Zehnder interferometer for separation of platelets from red blood cells using dielectrophoretics", **AIP Conf. Proc.** 1715, 020068 (2016); DOI: <http://dx.doi.org/10.1063/1.4942750>
12. S. Chakraborty M. Sharath, **Narayan K** and P.K. Pattnaik “Modelling And Simulation Of Passive Lab-On-A-Chip (LOC) Based Micromixer For Clinical Application”, **AIP Conf. Proc.** 1715, 020013 (2016); DOI: <http://dx.doi.org/10.1063/1.4942695>
13. Shwetha M, Manoranjan Kumar and **Narayan K** “Modeling and Simulation of Opto-fluidic based Mach-Zehnder Interferometer for Biosensing Application”, IEEE WARP 2015

- (Workshop on recent advances in Photonics) held at IISc, Bangalore on 16-17 Dec 2015
Pages: 1 - 4, DOI: [10.1109/WRAP.2015.7806021](https://doi.org/10.1109/WRAP.2015.7806021)
14. U. Poorna Lakshmi, M. Balasubramanian, **Narayan K** and P.K. Pattnaik, “Tunable SU-8 Waveguide Grating Filter using Electrostatic Actuation for DWDM Optical Network”, (ICMOCE) International Conference on Microwave, Optical and Communication Engineering, held in Bhuvaneshwar, Odisha 18-20, Pg 49-51 Dec 2015. DOI: [10.1109/ICMOCE.2015.7489688](https://doi.org/10.1109/ICMOCE.2015.7489688)
 15. S. Chakraborty, M Sharath, M Srujana, **Narayan K**, P. K. Pattnaik, “Modelling and Analysis of Microfluidic Micromixer for Lab-On-a-Chip(LoC) Application” IEEE INDICON 2015, Dec 17-20, Jamia Millia Islamia New Delhi. DOI: [10.1109/INDICON.2015.7443325](https://doi.org/10.1109/INDICON.2015.7443325)
 16. **Narayan K**, T.Srinivas, G. Mohan Rao, and M. Manoj Varma, “Sensitivity Analysis Based on Mode Mismatch for an Optofluidic Lab on a Chip Biosensor”, OPTICS: Phenomena, Materials, Devices, and Characterization: OPTICS 2011: International Conference on Light Kerala, (India), 23–25 May 2011 , **AIP Conf. Proc.** 1391, 356 (2011).<http://dx.doi.org/10.1063/1.3643548>

d. Papers in published in other refereed International Journals :02 Nos

1. Asha. K, Suryanarayana N.K., Venkatesha.M and **Narayan K.**, “A Liquid Core ARROW Waveguide Structures for Biomedical Application” *Jour of Adv Research in Dynamical & Control Systems*, Vol. 10, P-331-334, 12-Special Issue, 2018. Scopus Indexed
2. C. K. Anjali, M. S. Navya Gayatri, M. Kumudha, H. S. Yoganand, **Narayan K.**, B. Daruka Prasad, “Magnetic Nano Particles for Medical Applications”, **International Journal of Biomedical and Clinical Engineering**, 2(2), 56-61, July-December 2013. ISSN: 2161-1610. [DOI: 10.4018/ijbce.2013070105](https://doi.org/10.4018/ijbce.2013070105).

e. Papers in presented/published in other international conference proceedings (in India):08

1. Shwetha M, Prajwal P, Praveen N M and **Narayan K**, “Modeling and Analysis of Micro-ring Resonator for Bio-sensing Applications”, 3rd IEEE International Conference on Recent Trends in Electronics, Information and Communication Technology (RTEICT’18), 18-19 May 2018, Bengaluru, India.
2. Venkatesha M, Bhavya M G, Divyashree R, Arpitha S, **Narayan K** ” Modelling and Analysis of SOI grating Coupler for Lab-on-a Chip Biosensing Applications”, presented at

- International Conference on Recent Trends in Computational Engineering and Technologies (ICTRCET'18), May 17-18, 2018, Bangalore, India
3. Chaya B M, Shruthi Neduri, Prashanth A U, Poojith T, Jayashree S, **Narayan K** " Improvement in far field intensity of organic light emitting diode using Nano grating structure to reduce surface plasmon losses", presented at International Conference on Recent Trends in Computational Engineering and Technologies (ICTRCET'18), May 17-18, 2018, Bangalore, India
 4. **Narayan K**, G. Mohan Rao, T. Srinivas M. Manoj Varma and A. Prashanth " Integrated Microfluidic Lab-On-Chip Sensor Based on Fluoresence Detection" ICEDSP 09, Manipal, Dec 10-12, pg 121-125 (2009).
 5. **Narayan K**, T. Srinivas, G.Mohan Rao, M. Manoj Varma, and A. Prashanth "Fully Integrated Optical Lab-On-Chip For Point Of Care Diagnostics". International Conference on Optics and Photonics (ICOP 2009). Chandigarh, Oct 30-Nov1 (2009).
 6. **Narayan K**, Gopalakrishna Prabhu .K and N. S. Kumar " Electrowetting Based Digital Microfluidic Lab On Chip (LOC) Device" National Conference on Biomedical Engineering Manipal, Karnataka Pg. 229-233 (2007).
 7. K. Asha, N. K. Suryanarayan, and **Narayan K** "Analysis and simulation of Electron Cyclotron Resonance Heating in a Plasma", Emerging Trends in Nano-Application, NCETN 2015, Bangalore Mar 27-28, Pg. 978-81-928203-8-5, 2015.
 8. K. Asha, N. K. Suryanarayan, P. K. Pattnaik and **Narayan K** "Design and Modelling of Microfluidic Channel in a Dielectric Plannar Waveguide using COMSOL Multiphysics", International Conference on Emerging Research in Computing, Information, Communication and Application, ERCIC 2015, Bangalore 31st July – 1st Aug 2015.

f. Books/Chapters in books

1. K. Asha, N.K. Suryanarayana, K. Narayan and P.K. Pattnaik "Design and Modeling of Microfluidic Channel in a Dielectric Planar Waveguide Using Cosmol Multiphysics", Emerging Research in Computing, Information, Communication and Applications ERCICA 2015, Volume 2, Pg. 79-88, Springer, ISBN 978-81-322-2553-9 (eBook) DOI: 10.1007/978-81-322-2553-9

Certified Peer Reviews: 20, Performed 20 reviews for journals including Sensors and Actuators B: Chemical and Optics Express; placing in the 88th percentile for verified review contributions on Publons up until August 2019.

Patents Filed: 03

Sl. No	Title of Patent	Patent Number	Award Date
1.	Analysis of Graphene based SOI Sensor at 540nm	Indian Patent Filed Application Number: 20181026041	Patent Filed
2.	Dielectrophoretic Separation of Platelets and RBC using Microfluidic channel	Indian Patent Filed Application Number: 201941000637	Patent Filed
3.	Far Field Analysis of Organic Light Emitting Diode using Photonic Crystals to Reduce Interface Loss	Indian Patent Filed Application Number: 201941017973	Patent Filed

New Projects Sanctioned (Co-Investigator):

Amount: Rupees Five Lakhs Only

Title: “Design, Modelling and Analysis of Organic Light Emitting Diode for Bio-Sensing Applications” under **Research Grant for Scientist/ Faculty (RGS/F)** by Vision Group on Science and Technology, Dept. of IT, BT and S&T, Government of Karnataka for FY18-19

Role: Co-investigator (My Ph.D Scholar Ms. Chaya is the Principal Investigator)

Research Guidance: 07

Details of Ph.D. Students (Guided and Ongoing):

Sl. No	Name of Student	Year of Registration	Title of the Thesis	Status (Completed/ Ongoing)	Principal Guide & Co- Guide if any
1.	Venkatesha. M.	Dec. 2014	Modeling and analysis of photonic crystal based MOEMS (Micro-Electro-opto-mechanical-systems)	Thesis Submitted	Principal Guide

			devices for Bio- Sensing Applications.		
2.	Chaya B.M	Feb. 2016	Modelling of OLED with improved light extraction efficiency for sensor application.	Thesis Submitted	Principal Guide
3.	Shwetha M	Oct. 2013	Design, Modeling and. Analysis of Integrated Optical Biosensors.	Thesis Submitted	Principal Guide
2.	Manoranjan Kumar	Oct 2013	Analysis of silicon nitride based integrated optical devices for sensing application	Ongoing Comprehensive Exam Completed	Principal Guide
3.	Asha .K.	Dec. 2014	Mathematical Modeling, Analysis, and Simulation of MOEMS (Micro Opto Electro Mechanical System) for a Lab-On-a-Chip application.	Ongoing Comprehensive Exam Completed	Principal Guide
6.	Suryanaraya N K	Feb 2016	Analysis of SPR based Biosensors	Course work completed	Principal Guide
7.	Pavithra G S	July 2019	Modeling and Analysis of Nano photonic structures for bio-sensing applications.	Course work in progress	Principal Guide

Courses Taught

Sl. No.	Title of course taught	Postgraduate/ Undergraduate	Sole instructor or with others	Year	Remarks
1.	Micro and Smart Systems Technology	Undergraduate	Sole Instructor	2012, 2013,2014,2015, 2016 2017, 2018 and 2019	Received 100% Results in VTU University Exams, Five Times in a row
2.	Electromagnetic Field Theory	Undergraduate	Sole Instructor	2015 and 2016	

3.	Antenna and Wave Propagation	Undergraduate	With Others	2014, 2016, 2017, 2018	90% Results achieved
4.	Nanoelectronics	Undergraduate	Sole Instructor	2018	100% Results achieved.

Membership of Professional Bodies/Organizations:

IEEE Membership no: 90286363, IEEE Member since past 12 Years. Elevated to IEEE Senior Membership with effect from 28-06-2019.

Sl. No.	Name of the Professional Body	Membership Status
1.	IEEE	Senior
2.	IEEE Photonics Society	Senior
3.	IEEE Engineering in Medicine and Biology	Senior
4.	IEEE Consumer Electronics Society	Senior
5.	IEEE Computational Intelligence Society	Senior

Following IEEE Volunteer Positions is presently being held

1. Advisor, IEEE Engineering in Medicine and Biology, Sai Vidya Institute of Technology Student Chapter, EMB18 From May 2017 - Present
<https://ieeestudentsecretary.wixsite.com/svitstudentbranch>
2. Advisor IEEE Photonics, Sai Vidya Institute of Technology, Student Chapter, PHO36 from Jun 2017 - Present

Past IEEE Volunteer Positions held

1. Chair, IEEE EMBS and IEEE Photonics Indian Inst of Science-Bangalore, Joint student chapter EMB18/PHO36, Dec 2009 - Dec 2011

Short-term Course/Workshop/Seminars etc. organized:

1. Organized a one-day workshop on Bio-Medical Applications of Optical Sensors at Sai Vidya Institute of Technology, Bangalore on 23rd September 2014. This workshop was technically sponsored by IEEE Photonics Society-Bangalore Section.

2. Was one of the organizing members for IEEE-WARP 2015 (IEEE-Workshop on recent advances in Photonics) held at Indian Institute of Science, Bangalore between 16 -17 December 2015.
3. Technical Program Committee Member of IEEE CRALT 2016 Conference on Recent Advances in Lightwave Technology, Bengaluru International Exhibition Centre to be held between 21-23 September 2016.

Other academic and corporate activities:

1. From February 2010 till June 2014, was the Chairman of IEEE Photonics and Engineering in Medicine and Biology joint society students' branch chapter of Indian Institute of science, Bangalore. Presently I am the Executive committee member and Mentor of IEEE Photonics Society, Bangalore Chapter.
2. I was instrumental in setting up the R&D Centre of Department of Electronics and Communication at Sai Vidya Institute of Technology which is recognized by Visvesvaraya Technological University, Belgaum.

Professional Reference:

- i. Prof. G. Mohan Rao.
Professor, Dept. of Instrumentation and Applied Physics,
Indian Institute of Science, Bangalore-560012;
Email:- gmrao2001@yahoo.com ; gmrao@iisc.ac.in ; Ph no: 080-2293 2349
2. Prof. T. Srinivas.
Associate Professor, Department of ECE, **Indian Institute of Science**, Bangalore-560012;
Email:- tsinu@iisc.ac.in ; Mob: +91 9483597945
3. Dr. G. K. Prabhu.
President Manipal University Jaipur;
Email:- gkprabhu@maipal.edu.

The above-mentioned statements are true to best of my knowledge

Place: Bangalore 560064

Date: 03-10-2019

Narayan.K.
Dr. Narayan K. Ph.D (IISc)