# Resume of Dr. Sanjeev Kumar Raghuwanshi Associate Professor, Electronics Engineering Department Indian Institute of Technology (ISM) Dhanbad

# 1. Name: Dr. Sanjeev Kumar Raghuwanshi

## 2. Mailing Address

Associate Professor Department of Electronics Engineering Indian Institute of Technology (ISM) Dhanbad-826004, Jharkhand, India Fax: +91-326- 2296563 Tel. No.: +91-326-2235615 Mobile no: +91-9471191354 Email: sanjeevrus@yahoo.com



#### **3.** Personal Details

(a) Date of Birth	23 July 1977
(b) Gender	Male
(c) Marital Status	Married
(d) Nationality	Indian
(e) Category	General
(f) Father's Name	Shri Saudan Singh Raghuwanshi
(g) Permanent Address	611/-7, Behind Jain hotel, Calay Bag, Bareth Road, In-front of SGS College, GanjBasoda, DisttVidisha (MP)Pin code: 464221
(h) Address for	Department of Electronics Engineering, Indian Institute of Technology (Indian
correspondence	School of Mines) Dhanbad, Jharkhand, India, Pin code: 826004

### 4. Educational Qualifications

Degree	Specialization / Discipline	College/University/Inst itute	Year of joining	Year of leavi ng	Percentage/ CGPA
B. E. (Bachelor of Engineering )	Electronics & Instrumentation Engineering	Shri GovindramSeksaria Institute of Technology and Science (S.G.S. I.T.S). Indore (Madhya Pradesh) (An Autonomous Institute of MP Gov.)	1995	1999	66.92%
M. Tech. (Master of Technology)	Solid State Technology	Indian Institute of Technology (IIT)Kharagpur, India	2000	2002	7.83/10 (CGPA) (Availed MHRD Scholarship)

Ph. D (Full Time) (Doctor of Philosophy)	Optical Fiber Communication(Electrical Communication Engineering Department)	Indian Institute of Science (IISc) Bangalore, India	2005	2008	6.3/8 (CGPA) (Availed MHRD Scholarship)
Post Doctorate Fellow (On Deputation Leave)	<b>Instrumentation and</b> <b>Sensor Technology</b> (School of Engineering and Mathematical Sciences)	City University London, Northampton Square EC1 V 0HB, UK	2014	2015	N.A. (1800 Euro per month scholarship availed from Erasmus Mundus European Project)

#### 4.1. About Ph.D. Work

i.	Ph.D. Thesis Title:	Analytical and Numerical Study of Propagation in Optical Waveguides and Devices in Linear and Nonlinear Domain
ii.	Research area of Ph.D. Thesis work:	Optical Fiber Communication
iii.	Month & Year of joining/registration of Ph.D. Program:	Jan. 2005
iv.	Date of Submission of Ph.D. Thesis:	22 July 2008
v.	Date of awarding of Ph.D. degree by IISc Senate:	7 July 2009
vi.	Name(s) of Thesis Supervisor(s):	Dr. Srinivas Talabattula, (Associate Professor ECE/I. I. Sc.)
vii.	No. of years of pre-doctoral work & area(s) of specialization	3 Years Integrated Optics
viii.	No. of years of post-doctoral work & area(s) of specialization	10 Years Optical fiber communication and Integrated Optics

## 4.2. Research Interest

Optical Dense wavelength division multiplexing (DWDM) systems have the potential to meet the demands of emerging needs of information technology. The main objective of my research is to examine the role of linear and nonlinear optical effects in DWDM optical communication systems with emphasis on pulse propagation characteristics. These effects are important and critically influence the performance of DWDM optical systems. The main contribution has been made to few main aspects of the problem:

- Accurate analysis of uniform/non-uniform optical waveguides with an arbitrary refractive index profile.
- Pulse propagation and distortion in DWDM Raman amplification systems.
- Use of non-uniform fiber Bragg grating to compensate for pulse distortion in DWDM systems.

Broadly my research is focused on the analytical and numerical methods for an analysis of optical waveguide and devices in linear and nonlinear domain. Currently, I am focusing on the following areas of research work:

- The light wave properties of Photonics crystal fiber, Meta material structure, Plasmonic waveguide, Anisotropic medium, Air core fiber, Bragg fiber etc.
- Modelling of various types of optical waveguide and devices in linear and nonlinear domain
- Development of Analytical and Numerical method to analyze of a complicated optical waveguide structure and devices
- Study of various types of optical components like ring resonator, fiber Bragg grating, EDFA, MZI etc for DWDM applications.
- Finite element analysis of MEMS/MOEMS based optical devices.
- Study of nonlinear optical effects and in homogeneities of waveguide structure.

## 5. PhD thesis and M. Tech project Guidance

I have awarded 10 PhD degrees under my sole guidance. I have guided 18 M. Tech. thesis so far. Presently I am guiding 6 students for their PhD programs (2 full times and 4-part times). Till now I have guided 30 students for their B. Tech projects. I also guided 6 students for their summer and winter industrial training program.

#### 5.1. Present/Past M.Tech / Ph.D Students

Sl. No.	Name of student/ research scholar	Title of Thesis	Doctorate	Year of Completion	Co-guide (If any)
1	Santosh Kumar	Study of Optical waveguide and Switching Devices	Ph.D	2014	Nil
2	Ajay Kumar	Design and Implementation of Some Optical Logic Devices using Electro-optic Effect based Mach- Zehnder Interferometer Structure	Ph.D	2016	Nil
3	R.R. Pandey	Related to modeling of WDM components	Ph.D	2016	Prof. V. Kumar
4	Devendra Chack	Modeling of optical waveguides and devices for WDM applications	Ph.D	2017	Prof. V. Kumar
5	Sumit Kumar Jindal	MEMS based Optical Sensors	Ph.D	2017	Nil
6	Vikram Palodiya	Design and analysis of optoelectronics devices for optical communication system	Ph.D	2017	Nil
7	Reena Sharma	Design and Development of an Efficient Computer Model for EDFA Gain Dynamics with Multiple Functionality over C to L Band Using Novel Multi wavelength MATLAB Simulink Test Bed	Ph.D	2018	Nil
8.	Manish Kumar	Design and Analysis of Special featured Optical waveguide and surface plasmon resonance sensor for high sensitivity detection	PhD	2020	Nil
9. Nimish Kumar Srivastava		Photonic arbitrary chirp microwave waveform generation and its application in integrated photonic highly steerable beamforming system	Ph.D	2020	Nil
10.	Yadvendra Singh	Theoretical and experimental study of special featured fiber Bragg	Ph.D.	2021	

#### Ph. D. Completed

		gratings and surface plasmon resonance sensors for improved performance			Nil
11.	Ritesh Kumar	Photonic generation, processing, and distribution of arbitrary microwave waveform	Ph.D.	2022	Nil
12.	Purnendu Shekhar Pandey	Kretsch Mann configuration-based surface plasmon resonance sensor assisted by 2d materials for improved performance parameters	Ph.D.	Nov 2022	Nil
13.	Azhar Shadab	Design and development of 2D materials assisted Etched FBG sensor.	Ph.D.	July 2023	Prof. V. Kumar
14.	Md Danish Nadeem	Microwave Photonic Assisted Efficient Beam Forming System for Phased Array Antenna	Ph.D.	March 2024	Prof. R.K.Yadav

# Ph. D. Ongoing

Sl. No.	Name of student/ research scholar	Title of Thesis	Doctorate	Year of Completion	Co-guide (If any)
1.	Md Tauseef Iqbal Ansari	Design and Development of Deployable thin Film based Evanescent Field Sensor to Check the Quality of food from Adulteration	Ph.D	Ongoing	Nil
2.	Prashant Kumar	Wearable Biomedical sensor	Ph.D.	Ongoing	Nil
3.	Vikas Kumar	Grating Assisted SPR based sensor for chemical sensing	Ph.D.	Ongoing	Nil
4.	Chandan Kumar	Investigations on performance of microstrip antenna using metamaterial for wireless applications	Ph.D.	Ongoing	Prof. R.K.Yadav
5.	Tirbhuwan Narayan Yadav	Biomedical and PIC	Ph.D.	Ongoing	Nil

# M. Tech Completed

Sl. No.	Name of student/ research scholar	student/ Title of Thesis		Year of Completion	Co-guide (If any)
1 Ajay Kumar		Optical Filter Design and Analysis for the Signal Processing	M.Tech	2012	Nil
2	Mandeep Singh	Design of Microwave Photonic Filter	M.Tech	2013	Nil
3	Devi Prasad Panda	Design of Fiber Bragg grating Sensors	M.Tech	2014	Nil
4	Ankush Mahajan	Development of non-touch mode MEMS pressure sensor	M.Tech	2015	Nil
5	Shiv ganesh	Analytical modal to study of six wave fiber optical parametric amplifier	M.Tech	2015	Nil
6 Ritesh Kumar		Cross Talk Analysis in WDM Raman Amplification Systems	M.Tech	2016	Nil
7	Bidhanshel Singh Athokpam	Design and Analysis		2016	Nil
8 Alisha Priya Design & analysis of grating str sensing applications		Design & analysis of grating structure for sensing applications	M.Tech	2017	Nil

9	Saurabh Sambhav	Design of tapered optical microfiber based structure for sensing application	M.Tech	2017	Nil
10	Aditi	Design and Analysis of optical waveguide for DWDM application.	M.Tech	2017	Nil
11	Pankaj Chetry	Bandgap Analysis of Photonic Crystal fiber by Plane wave expansion method.	M.Tech	2018	Nil
12	Diganta Rahut	Analysis of Ideal 2D PCF fiber.	M.Tech	2018	Nil
13	Navneet Kr. Munshi	Mathematical modeling of Bragg Gradded fiber.	M.Tech	2018	Nil
14.	Gourav Chatterjee	Novel Method for Photonic Beam steering System working at Ku-band	M. Tech.	2019	Nil
15.	Mohan Kumar Paswan	Design and Development of Deployable thin Film based Evanescent Field Sensor to Check the Quality of food from Adulteration	M. Tech.	2019	Nil
16.	Archna Tripathi	Development of automatic System for Detection of Train through optical sensors and controlling the Gates at the unmanned Railway crossing by using Microcontroller NTPC (INTERNSHIP)	M. Tech.	2019	Nil
17.	Md Tauseef lqbal AnsariDesign and experimental analy metal coated etched FBG based ser detect the level of fuel adulteration		M.Tech	2020	Nil
18	Ahana sadhu	Development of Fiber Bragg Grating Based evanescent field Sensors for Chemical sensing	M.Tech	2020	Nil
19	Rajnish raj	Design and Development of Frequency Stable and High Q-Factor Optoelectronic Oscillator Assisted by Microwave Photonic Techniques	M.Tech	ongoing	Nil
20	20 Ankit Kumar Design of a webserver-based hybrid physiological sensor with optical cloth for real-time health specialist care		M.Tech	ongoing	Nil

# **Project SRF - Ongoing**

Sl. No.	Name of student/ research scholar	Title of Project	Project associated with	Year of Completion	Co-PI (If any)
1	Md Danish Nadeem	Design and Development of Frequency Stable and High Q-Factor Optoelectronic Oscillator Assisted by Microwave Photonic Techniques	DRDO	ongoing	Dr. Ritesh Kumar
2	Azhar Shadab	Design of a webserver-based hybrid physiological sensor with optical cloth for real-time health specialist care"	DST(SER B)	ongoing	Prof. V.K.Rai

# 5.2. Research experience

The following is my research experience:

Position held		Organization/	Date of	of Date of		eriod	Last Pay & Scale	
		Institute	Joining	Leaving	Years	Months	of Pay/ Pay Band	
1.	Research Engineer	IIT Bombay Powai- 400076	Feb. 2002	Oct 2004	2	3 months	6000/- Rs. (fix)	
2.	Research Scholar (Full Time)	IIT Bombay Powai- 400076	July 2002	Dec. 2004	2	5 months	MHRD scholarship Received	
3.	Research Scholar (Full Time)	IISc Bangalore -560 012	Jan 2005	July 2008	3	6	MHRD scholarship received	
4. Fe	Post Doctorate llow	City University London, Northampton Square EC1 V 0HB, UK	Oct 2014	April 2015	0	6	1800 Euro per month scholarship availed by Erasmus Mundus European Project	
5. Sc	Visiting ientist	National United University, Mialoi, Taipei Taiwan	June 2015	July 2015	0	1	6000 NTD (Taiwani Dollar) for an academic visit sponsored by NUU Taiwan	

# **5.3.** Academic visit:

S No.	Organization/ Institute	Duration		Purpose of Visit
1.	National United University, Mialoi, Taipei Taiwan	13/06/2014	13/07/2014	Visiting Professor (On deputation Leave) (Obtain 6000 NTD for academic visit by NUU Taiwan)

# 5.4. Project Details:

S.No	Ref. No.	Title	Principal	Co-PI	Duration	Cost	Funding	Status
•			Investigator				Agency	

1.	FRS	Performance Study of	of Dr. Sanjeev Nil		3 years (1	5.75	Indian	Completed
	(22)	some WDM optical	Kumar		April	Lakhs	School of	-
	/2010/2	network components	Raghuwans		2010-29		Mines	
	011/EC	_	hi		March		Dhanbad	
	Е				2013)			
2.	FRS	Photonic Microwave	Dr. Sanjeev	Nil	2 years	14.62	Indian Space	Completed
	(22)	Arbitrary Waveform	Kumar		(15 Dec.		Research	_
	/2010/2	Generation with	Raghuwans		2014-15		Organization	
	011/EC	Adjustable Chirp	hi		Dec.			
	Е	Parameter based on			2016)			
		Remote Sensing						
		Applications						
3.	N.A.	Experimental	Dr. Sanjeev	Nil	9 months	1.5	Technical	Completed
		Analysis of Mach	Kumar		(Oct	Lakhs	Education	_
		Zehnder Modulators	Raghuwans		2015-		Quality	
		(MZM) for	hi		June		Improvemen	
		Microwave			2016)		t Programme	
		Applications					(TEQIP)	
							Phase-II	
4.	ISRO/(1	A novel Mach-	Dr. Sanjeev	Nil	2 Years	20	Indian Space	Completed
	0)/2018	Zehnder Modulator	Kumar			Lakhs	Research	_
	-	based integrated	Raghuwans				Organization	
	2019/57 photonic		hi				-	
	1/ECE	highly steerable beam						
		forming system for						
		broad band satellite						
		communication link						
5.	34/14/1	Development of Field	Dr. Sanjeev	Nil	3 Years	34	DAE-BRNS	Completed
	5/2018-	Deployable Fiber	Kumar			Lakhs		
	BRNS	Bragg Grating-Based	Raghuwans					
	(DAE(6	Sensor for Monitoring	hi					
	)/2018-	of Hazardous Toxic						
	19/575/	Chemicals and Gases						
	ECE).	in an Underground						
		Mines						
6	CSIR	Design and	Dr. Sanjeev	Nil	3 Years	20	CSIR EMR-	Completed
	(32)/20	Development of	Kumar			Lakhs	II	
	19-	Deployable Thin film	Raghuwans					
	2020/66	based evanescent	hi					
	3/ECE	field sensor to check						
		the quality of food						
		from adulteration						
7.	1-	Generation of chirped	Mr. Ritesh	Sanjee	1.5 Years	14.92	Under	Completed
	574480	Arbitrary microwave	Kumar	v		Lakhs	Collaboratio	
	9099	waveform with	Assistant	Kumar			n Research	
	enhanced		Professor,	Raghu			Scheme	
		performance using	Madan	wanshi			TEQIP-	
		Photonic techniques					Phase-III	

		for Airbone	Malaviva					
		Applications	University					
		11	Technology					
			Gorakhpur-					
			273010 UP					
8.	DGTM/	Development of low	Dr.	Dr.	3 Years	Rs.	Defence	Ongoing
	ERIP/G	phase noise	Mandeep	Sanjee		30.04	Research	
	IA/21-	Optoelectronic	Singh	v		6	and	
	22/0359	Oscillator		Kumar		Lakh	Developmen	
	/009	with phase		Raghu			t	
		compensation		wanshi			Organisation	
		approach for radar					(DRDO)	
		application						
9.		Design and	Dr. Sanjeev	Dr.	3 Years	30.77	Defence	Ongoing
	DRDO(	Development of	Kumar	Ritesh		9	Research	
	19)2022	Frequency Stable and	Raghuwans	Kumar		Lakhs	and	
	-	High Q-Factor	hi				Developmen	
	2023/91	Optoelectronic					t	
	4/ECE	Oscillator Assisted by					Organisation	
		Microwave Photonic					(DRDO)	
		Techniques					Staring date-	
							October-	
							2022	
10.	DST(SE	Design of a	Dr. Sanjeev	Dr.	3 Years	40.16	Science and	Ongoing
	RB)(35	webserver-based	Kumar	Vineet		760	Engineering	
	6)/2022	hybrid physiological	Raghuwans	Kumar		Lakhs	Research	
	-	sensor with optical	hi	Rai			Board (DST-	
	2023/95	cloth for real-time					SERB)	
	5/ECE	health					Staring date-	
		specialist care					December-	
							2022	
11.	DST(SE	Generation of high	Dr. Sanjeev	Nil	3 Years	33.47	Science and	Ongoing
	RB)(35	chirp rate dual chirp	Kumar			320	Engineering	
	9)/2022	microwave waveform	Raghuwans			Lakhs	Research	
	-	in Ku band using	hi				Board (DST-	
	23/962/	novel microwave					SERB)	
	ECE	photonic techniques					Staring date-	
		tor high performance					December-	
		radar application					2022	

#### 5.6:Patents

#### Patent – 1

#### Patent Number: 201611010203

#### "A SYSTEM AND METHOD FOR COMPUTING SLEEP DURATION".

patented under Intellectual Property Rights of India, The present invention relates to detecting, measuring, and recording methods and systems, and more particularly to system and method to detect, measure and record sleeping time.

#### Patent - 2

## Patent Number: 201611042953 A "HYBRID DEVICE FOR THE BIO- MEDICAL INSTRUMENTATION FOR MONITORING THE PHYSIOLOGICAL PARAMETERS INTEGRATED WITH OPTICAL FIBER DISPLAY".

patented under Intellectual Property Rights of India, The present invention relates to a detecting, measuring, and recording of physiological parameters of a patient. More particularly, the invention relates to a device, method and system thereto, for detecting, measuring and recording the physiological parameters like EMG, ECG, EOG, EEG, Blood Pressure and diabetes, with help of a device wearable by a patient. The system for monitoring physiological parameters of a patient, said device comprising:an optical cloth wear;electrodes attached to an inner side of the optical cloth wear for monitoring wave forms for interpreting EEG, EMG, EOG, and ECG parameters of the patient;a waveform analysis system for evaluating EEG, EMG, EOG and ECG parameters of the patient, from the values obtained from the electrodes;comparing and analyzing the values of EEG, EMG, EOG and ECG parameters compared to a threshold value;alerting the patient or a medical supervisor if the values vary from the threshold values.

#### Patent-3

#### Reference No.- 201731016052 A

# "The present invention is particularly based on development of a system and an innovative method to generate a dual chirped arbitrary microwave waveform in a Ku band"

This invention relates to a system generates dual-chirped arbitrary microwave waveform in pre-defined microwave frequency band. The system includes tunable laser, erbium doped fiber amplifier (EDFA), RF signal generator, Mach-Zehnder modulator (MZM), optical circulator, filter and dispersion compensator, optical spectrum analyzer, photo detector, and electrical spectrum analyzer. The tunable laser provides first pre-determined measure of continuous optical wave. The EDFA provides second pre-determined measure of continuous optical wave. The RF signal generator transmits RF signal of six gigahertz. The MZM modulates frequency of optical wave provided by tunable laser, and EDFA in accordance with instantaneous frequency of RF signal feeded at the RF port. The optical circulator receives modulated frequency from MZM. The spectral pulse shaper (LCFBG) reflect different wavelengths according to the spacing between Bragg gratings and all are referenced around 1550 nanometer central wavelength optical carrier, meanwhile transmits rest of the optical signal. The optical spectrum analyzer analyzes received optical signals. The photo detector converts optical signal to electrical signal. The electrical spectrum analyzer analyzes electrical signals.

#### Patent-4

## Reference No.- 201811013952 A "SMART MEDICINE DISPENSER"

This invention relates to a smart medicine dispenser for dispensing medicine on time, said smart medicine dispenser comprising: a storage module 100, wherein said storage module 100 comprises a plurality of L-shape cylinders 101 in which a plurality of medicine holding boxes 102 are placed; a rotating accessories 200, wherein said rotating accessories 200 comprises a stepper motor 105, a stepper motor driver 106, and a DC motor driver 108;An electromagnetic transformer 103 which assists in attracting a magnetic material attached on said medicine holding box 102 dispenses from said L-shape cylinders 101; a conveyer belt 104 on which said electromagnetic transformer is attached; a relay 111, said relay 111 switching ON/OFF to said electromagnetic transformer 103; a real time clock (RTC) 109; an Arduino uno 107; and a buzzer 110.A method of dispensing medicine by said smart medicine dispenser is also disclosed.

#### Patent - 5

Reference No.201731016052 A

#### "SYSTEM AND METHOD TO GENERATE DUAL-CHIRPED ARBITRARY MICROWAVE WAVEFORM"

A system generates dual-chirped arbitrary microwave waveform in pre-defined microwave frequency band. The system includes tunable laser, erbium doped fiber amplifier (EDFA), RF signal generator, Mach-Zehnder modulator (MZM), optical circulator, filter and dispersion compensator, optical spectrum analyzer, photo detector, and electrical spectrum analyzer. The tunable laser provides first pre-determined measure of continuous optical wave. The EDFA provides second pre-determined measure of continuous optical wave. The RF signal generator transmits RF signal of six gigahertz. The MZM modulates frequency of optical wave provided by tunable laser, and EDFA in accordance with instantaneous frequency of RF signal feeded at the RF port. The optical circulator receives modulated frequency from MZM. The spectral pulse shaper (LCFBG) reflect different wavelengths according to the spacing between Bragg gratings and all are referenced around 1550 nanometer central wavelength optical carrier, meanwhile transmits rest of the optical signal. The optical spectrum analyzer analyzer analyzes received optical signals. The photo detector converts optical signal to electrical signal. The electrical spectrum analyzer analyzes are analyzes electrical signal to display analyzed signal intensity, power spectral density and phase of electrical signal.

#### Patent- 6

#### Application No.202111012479 A

# "A SYSTEM AND METHOD TO GENERATE ARBITRARY CHIRP SIGNAL BY APPROXIMATED PARABOLIC SHAPED MICROWAVE SIGNAL"

The present disclosure relates to a system and method to generate arbitrary chirp signal by an approximated parabolic shaped microwave signal. A photonic technique is proposed for the generation of an arbitrary chirp microwave signal without using any external source of chirp signal. This has been done by generating an approximated parabolic-shaped signal of power -36dBm and 2GHz frequency by externally modulating optical carrier signal and filtering through optical band pass filter. In the generation of parabolic shaped signal only two harmonics is considered, and their coefficient ratio is maintained by adjusted modulation index of external modulator by properly setting its bias voltage. Then, electrically detected parabolic shaped signal is used to frequency modulate another optical signal followed by the phase modulation. Finally, phase modulated signal is observed as an arbitrary chirp microwave signal at photodetector. The generated arbitrary chirped microwave signal has maximum power of -39.6dBm at 2GHz.

#### Patent - 7

#### Application No.202131051640 A Title of the invention : AN IOT MONITORING SYSTEM FOR UNDERGROUND MINES USING A FIBER BRAGG GRATING CHEMICAL SENSOR

The invention discloses a system for monitoring underground mines using a Fiber Bragg Grating (FBG) chemical sensor, said system comprising: a FBG chemical sensor; a processor; a computer readable medium; a display; a user interface; an IOT device ; a communication network ;and a memory communicatively coupled to the processor. The method of monitoring hazardous toxic chemicals in underground mines comprising: fabricating said Fiber Bragg Grating (FBG) with a suitable Bragg wavelength; depositing a thin metal film of at least one of gold layer or silver layer; coating said FBG over said thin metal film with a reduced Graphene Oxide(rGO);monitoring Surface Plasmon Resonance; identifying said data by setting up a high resolution tunable fiber ring laser interrogator; and sending said data to the user for real time monitoring of the leakage of hazardous toxic chemical.

#### Patent - 8

Application No.202411008772

# Title of the invention: TWO-DIMENSIONAL MATERIAL-ENHANCED FIBER BRAGG GRATING SENSOR FOR CHEMICAL DETECTION

The present disclosure relates to detect specific chemical Fiber Bragg Grating (FBG) core. The FBG core reflects specific wavelengths of light. Additionally, coating of the FBG core with two-dimensional materials is performed, are

highly sensitive to chemical interactions. Said coating induces a change in the reflected wavelength of light in response to particular chemicals. The system includes to emit light towards the FBG core and a detector that is operatively connected to the FBG core. The detector's role is to measure any changes in the reflected wavelength. Additionally, a signal processor is configured to analyse said wavelength changes. The primary function of said signal processor is to detect the presence of specific chemical.

#### 5.7. Professional Training

I have obtained the following Professional training.

Training program	Organization/ Institute	Date of Joining	Date of Leaving	Total	Period	Last Pay & Scale of Pav/
		0 0g	2000,000	Years	Months	Pay Band
1. Pedagogy/Teaching methodology training program" under TEQIP Conducted by the Center for personal transformation	Asansol Engineering College, West Bengal, India	23 March 2009	13 April 2009	0	20 days	NA

#### 5.8 Detail of Self-Financed Short term courses Organized as Principal Coordinator:

Sr. No	Title	Organized By	Duration	External Funding in Rs	Ro le
1	Recent Trends in Microwave and Photonic Technology	Dept. of Electronics Engg., Indian Institute of Technology (Indian School of Mines) Dhanbad- 826004, India (Jharkhand)	25 <sup>th</sup> –to- 29 <sup>th</sup> May, 2016	1,48500	P.I
2	Role of e- Sensors in water and air quality monitorin g	Dept.ofElectronicsEngg.,InstituteofTechnology(Indian School ofMines)Dhanbad-826004,India(Jharkhand)	22 <sup>nd</sup> -to- 24 <sup>th</sup> June, 2017	40,000 Rs	P.I.
3	Current Trends in	Dept. of Electronics Engg., Indian	26th -to- 30 <sup>th</sup> Dec, 2017	176500 Rs	P.I.

Lightwave	Institute of
Technology	Technology
	(Indian School of
	Mines) Dhanbad-
	826004, India
	(Jharkhand)

# 6. Details of Employment

My details of employment are as follows.

	Details of Employment / Work Experience										
Sr.	Position held	Organization/Institute	Date of	Date of	Total	Period	Last Pay &				
No.			Joining	Leaving	Years	Months	Scale of Pay/ Pay Band				
1.	Research Engineer	Indian Institute of Technology (IIT) Bombay Powai-400076, India	18/01/2002	05/02/2005	3	7 months	6000/-Rs (Consolidated)				
2.	Lecturer	Asansol Engineering College, SenRaliegh Road, Kanyapur, Asansol (W.B.)	26/11/2008	12/05/2009	0	6 months	Rs. 8550/- 13500/- (Gross Salary 20,150/-)				
3.	Assistant Professor	Sir Padampat Singhania university Bhatewar Udaipur (Rajasthan) -313601	14/03/2009	30/11/2009	0	6 months	Rs. 20000/- 35000/-(Gross Salary Rs. 49674/-)				
4.	Assistant Professor	Mody Institute of Technology and Science, Lakshmangarh, Sikar, Rajasthan-332311 (Deemed University)	01/12/2009	26/03/2010	0	4 months	Rs. 24470/- 39000/-(Gross Salary Rs. 50,155/-)				
5.	Visiting scientist (On deputation Leave)	National United University, Mialoi, Taipei Taiwan	13/06/2014	13/07/2014	0	1 month	6000 NTD (Taiwani Dollar) for an academic visit sponsored by NUU Taiwan				
6.	Post Doctorate Fellow (On Deputation Leave)	City University London, Northampton Square EC1 V 0HB, UK	10/10/2014	15/04/2015	0	6 months	1800 Euro per month scholarship availed by Erasmus Mundus European Project				

7.	Assistant Professor	Indian Institute of Technology (Indian School of Mines) Dhanbad-826004, India (Jharkhand)	29/03/2010	05/06/2019	9 years	3 months	Rs. 139400/- (Gross Salary Rs. 1,59594/-) Level-13A1 (7 <sup>th</sup> pay commission)
8.	Associate Professor	Indian Institute of Technology (Indian School of Mines) Dhanbad-826004, India (Jharkhand)	06/06/2019	Continue	Nil	Nil	Level-13A2 (7 <sup>th</sup> pay commission)

# 7. Detail of publications

I have been written a few books and several research papers in national/international journals and conferences of repute as follows:

# 7.1. Publication List:

# (A) International SCI Journals (Indexed in Thomson Reuter) Quartile Detail Q1----Q2----Q3----Q4----

S. No	Authors	Quartile SCI With I.F	Year	Title	Complete References of Journals
1.	Sanjeev Kumar Raghuwanshi, Chandan Kumar	Q1 4.7	May 2024	Simultaneous Photonics Generation of Multiple Chirp Rate Microwave Waveform With Manifold Frequency Multiplying Capability by Using Triple Parallel Mach- Zehnder Modulators	Journal of Lightwave Technology DOI: <u>10.1109/JLT.202</u> <u>4.3398714</u>
2.	Md Danish Nadeem, Md Tauseef Iqbal Ansari, Purnendu Shekhar Pandey, Azhar Shadab, Sanjeev Kumar Raghuwanshi, Santosh Kumar	Q1 5.0	Oct 2024	Recent advances of ECG monitoring and webserver health monitoring applications: A review	Optics & Laser Technology https://doi.org/10.10 16/j.optlastec.2024.1 11039
3.	Sanjeev Kumar Raghuwanshi, Md Tauseef Iqbal Ansari, Azhar Shadab	Q4 1.5	April 2024	Analysis of Tapered Fiber-Optic Surface Plasmon Resonance (SPR) Bio-Sensing Probe With the Effect of Different Taper Profiles and Metal Choices	IEEE Transactions on Plasma Science <b>DOI:</b> <u>10.1109/TPS.20</u> <u>24.3392672</u>
4.	Sanjeev Kumar Raghuwanshi	Q2 3.9	Mar 2024	Analysis of Tapered Fibre Optic Surface Plasmon Resonance Bio- Sensor Chip with highly Perturbed Taper Profiles	IEEE Transactions on NanoBioscience DOI: 10.1109/TNB.20 24.3376824
5.	Chandan Kumar, Md Danish Nadeem, Sanjeev Kumar Raghuwanshi, Santosh Kumar	<mark>Q2</mark> 4.3	Mar 2024	Recent Advancement in Microwave Photonics Sensing Technologies-A Review	IEEE Sensors Journal DOI: <u>10.1109/JSEN.2</u> 024.3367963

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	6.	Sanjeev Kumar Raghuwanshi, Md Danish Nadeem, Ritesh Kumar	<mark>Q2</mark> 2.4	Feb 2024	Generation of arbitrary microwave waveforms based on a dual-parallel Mach–Zehnder modulator driven by a single sinusoidal RF signal	Optical and Quantum Electronics https://doi.org/10.1007/s11082-023- 05891-6
	7.	Chandan Kumar, Sanjeev Kumar Raghuwanshi, Vikram Kumar	Q4 1.3	Jan 2024	Graphene-based patch antenna array on photonic crystal substrate at terahertz frequency band	Journal of Electromagnetic Waves and Applications https://doi.org/10.1080 /09205071.2023.22977 01
	8.	Sanjeev Kumar Raghuwanshi, Md Danish Nadeem, Ritesh Kumar	Q2 2.4	Jan 2024	Generation of arbitrary shape microwave waveform centered on two fold cascaded Mach–Zehnder modulators	Optical and Quantum Electronics https://doi.org/10.1007 /s11082-023-05626-7
	9.	Sanjeev Kumar Raghuwanshi	Q4 1.5	Dec 2023	Optimum Design of Tapered Fiber Optic Surface Plasmon Resonance (SPR) Biosensor Probe With Different Metal Choices	IEEE Transactions on Plasma Science https://doi.org/10.1109 /TPS.2023.3336982
	10.	Vikash Kumar and Sanjeev Kumar Raghuwanshi	Q1 6.8	Nov 2023	Efficiency estimation and hardware implementation of solar PV module system assisted by using surface plasmon resonance sensor	Case Studies In Thermal Engineering https://doi.org/10.10 16/j.csite.2023.1034 79
	11.	Md.Danish Nadeem, Sanjeev Kumar Raghuwanshi and Ritesh Kumar	Q2 2.7	Oct 2023	Efficient photonics beam forming system incorporating super structure fiber Bragg grating for application in Ku band	Optical Fiber Technology https://doi.org/10.1016 /j.yofte.2023.103436
	12.	Ritesh Kumar and , Sanjeev Kumar Raghuwanshi	Q2 2.4	Sept. 2023	Polarization controlled dispersion tunable optoelectronic oscillator and frequency octupling without bandpass filter	Optical and Quantum Electronics <u>https://doi.org/10.10</u> <u>07/s11082-023-</u> <u>05395-3</u>
	13.	Vikash Kumar and Sanjeev Kumar Raghuwanshi	Q3 2.4	Sept. 2023	Nanomaterial-Based Surface Plasmon Resonance Sensing Chip for Detection of Skin and Breast Cancer	Plasmonics https://doi.org/10.10 07/s11468-023- 02022-5
	14.	Md Danish Nadeem, Sanjeev Kumar Raghuwanshi, and Ritesh Kumar	Q2 2.8	July 2023	Efficient photonics beam forming system incorporating super structure fiber Bragg grating for application in Ku band.	Optical Fiber Technology 80 : 103436 <u>https://doi.org/10.1016/j.yofte.202</u> <u>3.103436</u>

	1				
15.	Sanjeev Kumar Raghuwanshi, and Azhar Shadab	Q1 4.3	July 2023	Analysis of HF Etched Uniformly Thinned Linearly Chirp Types of Refractive Index Profile Fibre Bragg Grating Sensor.	IEEE Sensors Journal. 10.1109/JSEN.2023.3291018
16.	Sanjeev Kumar Raghuwanshi	Q2 1.084	June 2023	Numerical analysis of α-power curved optical waveguides having absorbing boundaries.	Optical Engineering 62, no. 6 (2023): 065109-065109. https://doi.org/10.1117/1.OE.62.6. 065109
17.	Azhar Shadab, Md Tauseef Iqbal Ansari, Sanjeev Kumar Raghuwanshi, and Santosh Kumar	Q2 1.905	June 2023	High sensitivity detection of different pH ranges with rGO-nanocomposite coated eFBG sensor.	Applied Optics 62, no. 19 (2023): 5334-5341. https://doi.org/10.1364/AO.492750
18.	Md Tauseef Iqbal Ansari, Sanjeev Kumar Raghuwanshi, and Santosh Kumar	Q1 3.9	May 2023	Recent Advancement in Fiber-Optic based SPR Biosensor for Food Adulteration Detection-A Review	IEEE Transactions on NanoBioscience https://doi.org/10.1109/TNB.2023. <u>3278468</u>
19.	Manoj kumar, Syed sadique anwer askari, Purnendu shekhar pandey, Yadvendra singh, Rajesh singh, Sanjeev kumar Raghuwanshi, Gyanendra kumar singh, and Santosh kumar	Q1 3.476	Mar 2023	Experimental Investigation and DFT Study of Tin-Oxide for Its Application as Light Absorber Layer in Optoelectronic Devices	IEEE Access ( Volume: 11) Page(s): 23347 - 23354 https://doi.org/10.1109/ACCESS.2 023.3252890
20.	Purnendu Shekhar Pandey, Sanjeev Kumar Raghuwanshi, Rajesh Singh, and Santosh Kumar	Q2 3.336	Jan 2023	Surface Plasmon Resonance Biosensor Chip for Human Blood Groups Identification Assisted with Silver-Chromium- Hafnium Oxide	Magnetochemistry [MDPI],Vol-9 No-1, 2023 https://doi.org/10.3390/magnetoch emistry9010021
21.	Azhar Shadab, Md Tauseef Iqbal Ansari, Sanjeev Kumar Raghuanshi and Santosh Kumar	Q1 4.325	Dec 2022	Smoke Detection Using rGO Coated eFBG Sensor For Early Warning Of Coal Fire in Mines	IEEE Sensors Journal, https://doi.org/10.1109/JSEN.2022.3 228117
22.	Sanjeev Kumar Raghuwanshi, Purnendu Shekhar Pandey	Q1 3.476	Nov 2022	Sensitivity Enhancement of Surface Plasmon Resonance (SPR) Sensor Assisted by BlueP/MoS <sub>2</sub> Based Composite Heterostructure	<b>IEEE Access</b> (Volume: 10) <b>Page(s):</b> 116152 - 116159 <u>https://doi.org/10.1109/ACCESS.20</u> <u>22.3219439</u>

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23.	Sanjeev Kumar Raghuwanshi, Purnendu Shekhar Pandey	Q2 1.368	2022	Plasmon Resonance (SPR) Tapered Fiber Optic Biosensing Probe With Graphene–MoS <sub>2</sub> Over Layers for DNA Hybridization	IEEE Transactions on PlasmaScience , Page(s): 1 - 8 <a href="https://doi.org/10.1109/TPS.2022.3">https://doi.org/10.1109/TPS.2022.3</a> 211645
24.	Azhar Shadab, Sanjeev Kumar Raghuanshi and Santosh Kumar	Q1 4.325	August 2022	Advances in Micro-Fabricated Fiber Bragg Grating for Detection of Physical, Chemical, and Biological Parameters—A Review	IEEE Sensors Journal, Volume: 22, Issue: 16, DOI: https://doi.org/10.1109/JSEN.2022 .3188813
25.	Vikash Kumar, Sanjeev Kumar Raghuwanshi and Santosh Kumar	Q2 4.325	July 2022	Recent Advances in Carbon Nanomaterials Based SPR Sensor for Biomolecules and Gas Detection—A Review	<b>IEEE Sensors Journal,</b> Vol. 22, No. 16, Page(s): 15661 – 15672, <u>10.1109/JSEN.2022.3191042</u>
26.	Sanjeev Kumar Raghuwanshi and Purnendu Shekhar Pandey	Q3 3.206	June 2022	A Numerical Study of different Metal and Prism Choices in the Surface Plasmon Resonance Biosensor Chip for Human blood group	IEEETransactionsonNanoBioscience,https://doi.org/10.1109/TNB.2022.3185806https://ieeexplore.ieee.org/document/9804762
27.	Purnendu Shekhar Pandey, Sanjeev Kumar Raghuwanshi and Yadvendra Singh	Q2 2.89	June 2022	Enhancement of the sensitivity of a surface plasmon resonance sensor using a nobel structure based on barium titanate–graphene-silver	Optical & Quantum Electronics, Springer DOI:https://doi.org/10.1007/s1108 2-022-03803-8
28.	Vikash Kumar, Sanjeev Kumar Raghuwanshi and Santosh Kumar	Q2 4.325	June 2022	Advances in Nanocomposite Thin- Film-based Optical Fiber Sensors for Environmental Health Monitoring- A Review	IEEE Sensors Journal, DOI: <u>10.1109/JSEN.2022.3185004</u> <u>https://ieeexplore.ieee.org/document</u> /9807643
29.	Purnendu Shekhar Pandey, Sanjeev Kumar Raghuwanshi, Azhar Shadab, Md Tauseef Iqbal Ansari, Umesh Kumar Tiwari, and Santosh Kumar	Q2 4.325	June 2022	SPR based Biosensing Chip for COVID-19 Diagnosis: A Review	IEEE Sensors Journal, DOI 10.1109/JSEN.2022.3181423 https://ieeexplore.ieee.org/stamp/sta mp.jsp?arnumber=9796032
30.	Azhar Shadab and Sanjeev Kumar Raghuwanshi	Q2 4.325	June 2022	Development and Sensitivity Analysis of rGO-TiO <sub>2</sub> Coated eFBG Sensor for the Detection of Ethanol in Petrochemicals.	IEEE Sensors Journal, DOI- 10.1109/JSEN.2022.3180205 https://ieeexplore.ieee.org/document /9793643
31.	Sanjeev Kumar Raghuwanshi, Yadvendra Singh, and T. Srinivas	Q3 1.961	June 2022	Numerical analysis of a grating embedded bidirectional integrated optical coupler pressure sensor	Applied Optics Vol. 61, No. 16 / 1 June 2022 <u>https://opg.optica.org/ao/abstract.cf</u> <u>m?uri=ao-61-16-4883</u>

32.	Md. Danish Nadeem, Sanjeev Kumar Raghuwanshi	Q3 1.373	May 2022	Optimised design design & analysis of high gain 3×3 square patch array antennas with six ports for airborne application in S-Band	Journal of Electromagnetic Waves and Applications., https://www.tandfonline.com/doi/ful 1/10.1080/09205071.2022.2080592
33.	Md. Danish Nadeem, Sanjeev Kumar Raghuwanshi and Santosh Kumar	Q2 4.325	March 2022	Recent Advancement of Phase Shifted Fiber Bragg Grating Sensor for Ultrasonic Wave Application: A Review	IEEE Sensors Journal, Volume: 22, Issue: 8, Page(s): 7463 - 7474 https://ieeexplore.ieee.org/document /9730922
34.	Purnendu Shekhar Pandey, Sanjeev Kumar Raghuwanshi, Santosh Kumar	Q2 4.325	Dec 2021	Recent Advances in Two- Dimensional Materials-based Kretschmann Configuration for SPR Sensors: A Review	IEEE Sensors Journal, Volume: 22, Issue: 2, Page(s): 1069 - 1080 https://ieeexplore.ieee.org/document /9638491
35.	Purnendu Shekhar Pandey, Yadvendra Singh, Sanjeev Kumar Raghuwanshi,	Q2 4.325	Sept. 2021	Theoretical Analysis of the LRSPR Sensor with Enhance FOM for Low Refractive Index Detection Using MXene and Fluorinated Graphene	<b>IEEE Sensors Journal,</b> Volume: 21, <u>Issue: 21</u> , Nov.1, 1 2021) https://ieeexplore.ieee.org/document /9536767
36.	Ritesh Kumar and Sanjeev Kumar Raghuwanshi	<mark>Q2</mark> 2.451	Oct 2021	Wavelength Dependent Odd Frequency Multiplication Based on a Superstructure FBG	IEEEPHOTONICSTECHNOLOGYLETTERS,VOL. 33, NO. 19,https://ieeexplore.ieee.org/document/9520353
37.	Yadvendra Singh, Sanjeev Kumar Raghuwanshi, Om Prakash, Pankaj Kumar Saini	Q3 1.842	Oct 2021	Design and development of tilted fiber Bragg grating (TFBG) chemical sensor with regression analysis of grating parameters for sensitivity optimization	Optical and Quantum Electronics, Vol. 53, Article number: 664 (2021) https://link.springer.com/article/10.1 007/s11082-021-03328-6
38.	Sanjeev Kumar Raghuwanshi, Yadvendra Singh, Purnendu Shekhar Pandey, <u>Ritesh</u> Kumar	Q1 5.332	Oct 2021	Sensitivity Analysis of HF Etched Uniformly Thinned α-Power Refractive Index Profile Fiber Bragg Grating Sensor	IEEETransactionsonInstrumentationandMeasurementVol 70, DOI:10.1109/TIM.2021.3119139https://ieeexplore.ieee.org/document/9565888
39.	Ritesh Kumar and <b>Sanjeev Kumar</b> <b>Raghuwanshi</b>	Q2 2.833	June 2021	Efficient 2D Optical Beamforming Network With Sub Partitioning Capability Based on Raised Cosine Chirped Fiber Grating and Mach- Zehnder Delay Interferometer	<b>IEEE Photonics Journal</b> , Vol. 13, No. 3, June 2021, https://ieeexplore.ieee.org/document /9437833
40.	Sanjeev Kumar R aghuwanshi, Yadvendra Singh, Mandeep Singh, Devendra Chack ,	Q3 1.842	June 2021	High sensitivity detection of chemicals based on sinusoidally apodized structured grating assisted liquid flled directional coupler	Optical and Quantum Electronics (2021) 53:398 https://link.springer.com/article/10.1 007/s11082-021-03070-z

	Ritesh Kumar, Om Prakash				
41.	Ritesh Kumar, Sanjeev Kumar Raghuwanshi, Md Danish Nadeem	Q2 2.187	June 2021	Chirped fiber grating and specialty fiber based multiwavelength optical beamforming network for 1X8 phased array antenna in S-band	Optik - International Journal for Light and Electron Volume 243, 167044 <u>https://www.sciencedirect.com/scien</u> ce/article/pii/S0030402621007270
42.	Ajay Kumar, Manish Kumar, Sumit Kumar Jindal, <b>Sanjeev</b> <b>Kumar</b> <b>Raghuwanshi</b> , Rakesh Choudhary	Q3 1.842	Mar 2021	Implementation of All-Optical 1x4 memory register unit using the Micro-Ring Resonator Structures	Optical and Quantum Electronics, Springer https://www.researchsquare.com/arti cle/rs-300547/v1
43.	Ritesh Kumar and Sanjeev Kumar Raghuwanshi	Q2 3.413	May- 2021	Photonic Generation of Multiple Shapes and Sextupled Microwave Signal Based on Polarization Modulator	IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES DOI: 10.1109/TMTT.2021.3076996 https://ieeexplore.ieee.org/docume nt/9430770
44.	Manish Kumar, Ajay Kumar, Sumit Kumar Jindal & <b>Sanjeev</b> Kumar Raghuwanshi	Q3 1.845	09 Mar- 2021	Comprehensive Study of all-in-one Simultaneous Multiple Optical Logic Gate Devices Using Mach– Zehnder Interferometer based on the Electro-optic Effect	<b>IETE Technical Review</b> Taylor & Francis DOI 10.1080/02564602.2021.1892543 https://www.tandfonline.com/doi/ful 1/10.1080/02564602.2021.1892543
45.	Yadvendra Singh, Md Tauseef Iqbal Ansari and Sanjeev Kumar Raghuwanshi	Q1 3.658	02- March- 2021	Design and Development of Titanium Dioxide (TiO <sub>2</sub> )-Coated eFBG Sensor for the Detection of Petrochemicals Adulteration	IEEETRANSACTIONSONINSTRUMENTATIONANDMEASUREMENT, VOL. 70, 2021https://ieeexplore.ieee.org/document/9347562
46.	Mandeep Singh & Sanjeev Kumar Raghuwanshi	Q3 1.48	Dec- 2020	Real-time interrogation of fiber optic biosensor using TiO <sub>2</sub> coated etched long-period grating	<b>Review of scientific instruments.</b> 91, 125001 (2020); doi: 10.1063/5.0020571 <u>https://aip.scitation.org/doi/10.106</u> <u>3/5.0020571</u>
47.	Yadvendra Singh , Mohan Kumar Paswan & Sanjeev Kumar Raghuwanshi	Q3 2.335	Nov- 2020	Sensitivity Enhancement of SPR Sensor with the Black Phosphorus and Graphene with Bi-layer of Gold for Chemical Sensing	Plasmonics (springer) doi.org/10.1007/s11468-020-01315- 3 Article no. 1315 <u>https://link.springer.com/article/10.1</u> 007/s11468-020-01315-3
48.	Yadvendra Singh & Sanjeev Kumar Raghuwanshi	Q2 2.187	Oct- 2020	Titanium dioxide (TiO <sub>2</sub> ) coated optical fiber-based SPR sensor in near-infrared region with bimetallic structure for enhanced sensitivity	Optik - International Journal for Light and Electron Optics Volume 226, Part 1, January 2021, 165842

49.	Kishan Kumar, Shulin Saraswat1,Sumit Kumar Jindal,Ajay Kumar & <b>Sanjeev Kumar</b> <b>Raghuwanshi</b>	Q4 0.736	Oct- 2020	Experimental Validation of an IoT Based Device Selective Power Cut mechanism Using Power Line Carrier Communication for Smart Management of Electricity	https://www.sciencedirect.com/scie nce/article/abs/pii/S003040262031 6624 (Springer) Journal of Electrical Engineering & Technology ISSN 1975-0102 J. Electr. Eng. Technol. DOI 10.1007/s42835-020-00568-6 https://link.springer.com/article/10. 1007% 2Fs42835-020-00568-6
50.	Nimish Kumar Srivastava <b>Sanjeev Kumar</b> <b>Raghuwanshi</b> & Reena Parihar	Q3 1.742	Aug- 2020	Demonstration of super-Gaussian apodized linearly chirped fibre Bragg grating for efficient beam steering in Ku-band applications	IETOptoelectronics(The Institution of Engineering and Technology)10.1049/iet-opt.2019.0085https://digital- library.theiet.org/content/journals/10.1049/iet-opt.2019.0085
51.	Sumit Kumar Jindal; Krish Sethi,Ishan Patel, Ajay Kumar & <b>Sanjeev Kumar</b> Raghuwanshi	Q2 3.073	Aug- 2020	A semi-analytical and computationally efficient method to calculate the touch-point pressure and pull-in voltage of a mems pressure sensor with a circular diaphragm	<b>IEEE Sensors Journal</b> 24 Augu 2020 VOL. 21, NO. 2, Released date 15 Jan, 2021 <u>https://ieeexplore.ieee.org/docume</u> <u>nt/9175014</u>
52.	Yadvendra Singh, , Ahana Sadhu & <b>Sanjeev Kumar</b> Raghuwanshi,	Q2 3.073	Aug- 2020	Development and Experimental Analysis of Titanium Oxide (TiO <sub>2</sub> ) coated Etched Fiber Bragg Grating Sensor for Chemical Sensing	<b>IEEE Sensors Journal</b> Vol. 20, no. 15, August 1, 2020,Page No.8528-8534 <u>https://ieeexplore.ieee.org/docume</u> <u>nt/9119133</u>
53.	Ritesh Kumar, Sanjeev Kumar Raghuwanshi	Q3 1.961	July 2020	Photonic generation of a parabolic- shaped microwave signal and dual- linear-chirp microwave waveform	Applied Optics Vol. 59, No. 20 / 10 July 2020 (I.F.2.18) https://www.osapublishing.org/ao/ abstract.cfm?uri=ao-59-20-6024
54.	Sumit Kumar Jindal, Ritobrita De,Ajay Kumar & Sanjeev Kumar Raghuwanshi	Q4 0.596	July 2020	Novel MEMS Piezoresistive Sensor with Hair-Pin Structure to Enhance Tensile and Compressive Sensitivity and Correct Non-Linearity	Journal      of      Electronic        Testing,Springer,      doi.org/10.1007/s10836-020-      05895-0        https://link.springer.com/article/10.      1007% 2Fs10836-020-05895-0
55.	Chandan Kumar , <b>Sanjeev Kumar</b> <b>Raghuwanshi</b>	Q4 1.061	June 2020	Chromatic Dispersion Induced Semi Optical Pulse Stretching Approach to Beam Steering Applications of Phase Array Antenna	Wireless      Personal        Communications,      Springer ,June        2020,(I.F1.061)      ISSN 0929-6212        https://link.springer.com/article/10.      1007/s11277-020-07605-7

56.	Mandeep Singh, Sanjeev Kumar Raghuwanshi, Om Prakash , Pankaj Kumar Saini	Q2 2.187	June 2020	High-Resolution Fiber Optic Sensor based on Coated Linearly Chirped Bragg Grating	<b>Optik</b> , Volume 212, June 2020, 164698 <u>https://www.sciencedirect.com/scie</u> <u>nce/article/abs/pii/S003040262030</u> 5325?via%3Dihub
57.	Yadvendra Singh , Ahana Sadhu Sanjeev Kumar Raghuwanshi	Q2 3.073	June 2020	Fabrication and Experimental Analysis of Reduced Graphene Oxide (rGO) coated Etched Fibre Bragg Grating Refractometric Sensor	<b>IEEE Sensors Letters ,</b> page no 1- 1, Vol. 4, No. 7, July 2020 <u>https://ieeexplore.ieee.org/docume</u> <u>nt/9119133</u>
58.	Nimish Kumar Srivastava and <b>Sanjeev Kumar</b> Raghuwanshi,	Q3 1.961	April - 2020	Photonic-technique-based highly steerable beamforming system incorporating a prism of super Gaussian apodized tunable chirped fiber Bragg grating for X-band applications	Applied Optics Vol. 59, No. 10 / 1 April 2020 Page No.3010-3018 <u>https://www.osapublishing.org/ao/</u> abstract.cfm?uri=ao-59-10-3010
59.	Sanjeev Kumar Raghuwanshi, Nimish Kumar Srivastava, Mandeep Singh	Q3 1.742	April - 2020	Highly steerable microwave beamforming system near Ku band based on the application of linearly CFBG	<b>IET Optoelectronics</b> Volume- 14 ,Issue-2,Page No-81- 90, SCI:1.667 <u>https://ietresearch.onlinelibrary.wil</u> <u>ey.com/doi/10.1049/iet- opt.2019.0073</u>
60.	Nimish Kumar Srivastava, Reena Parihar, <b>Sanjeev</b> Kumar Raghuwanshi	Q2 3.413	3 Feb 2020	Efficient Photonic Beam forming System Incorporating a Unique Featured Tunable Chirped Fiber Bragg Grating for Application Extended to the Ku-Band	IEEETransactionsonMicrowaveTheoryandTechniquesPage no- 1 -7,SCI:3.756DOI:10.1109/TMTT.2019.2961889https://ieeexplore.ieee.org/document/8978687
61.	Ritesh Kumar and Sanjeev Kumar Raghuwanshi	Q3 1.842	Dec- 2019	Simultaneous Photonic Generation of Multiple Chirp and Unchirp Microwave Waveform with Frequency Multiplying Capability for Optical Beam Forming System	OpticalandQuantumElectronics2019,51,Articlenumber:344 (I.F-1.842)
62.	Mandeep Singh, Sanjeev Kumar Raghuwanshi,	Q2 2.451	Sept 2019	Ultra-Sensitive Fiber Optic Gas Sensor Using Graphene Oxide Coated Long Period Gratings.	<b>IEEE Photonics Technology</b> <b>Letters</b> , vol. 31, pp. 1473-1476 <u>https://ieeexplore.ieee.org/docume</u> <u>nt/8786126</u>
63.	Y. Singh and <b>S. K.</b> Raghuwanshi,	Q2 3.073	Dec. 2019	Sensitivity Enhancement of the Surface Plasmon Resonance Gas Sensor With Black Phosphorus	<b>IEEE Sensors Letters,</b> vol. 3, no. 12, pp. 1-4, <u>https://ieeexplore.ieee.org/docume</u> <u>nt/8903251</u>
64.	S. K.	01	Nov	High Sensitivity Detection of	IEEE Transactions on Instrumentation and
	<b>Ragnuwanshi</b> , M.	<b>VI</b>	2019	Thazardous Chemical by Special	Instrumentation and

	Jindal, A. Kumar and O. Prakash			Plasmon Resonance Sensor based on Bimetallic Layer	DOI: 10.1109/TIM.2019.2952705 https://ieeexplore.ieee.org/docume nt/8897628
65.	<b>S. K.</b> <b>Raghuwanshi</b> and M. Kumar	Q1 3.658	Aug. 2019	Highly Dispersion Tailored Property of Novel Class of Multimode Surface Plasmon Resonance Biosensor Assisted by Teflon and Metamaterial Layers	IEEETransactionsonInstrumentationandMeasurement.vol. 68, no. 8, pp. 2954-2963https://ieeexplore.ieee.org/document/8474359
66.	Mandeep Singh, Sanjeev Kumar Raghuwanshi, T. Srinivas	Q2 2.278	8 July 2019	Nanophotonic on-chip hybrid plasmonic electro-optic modulator with phase change materials	Physics Letters A (Elsevier) SCI Imact Factor-2.2 https://www.sciencedirect.com/scie nce/article/abs/pii/S037596011930 5894?via%3Dihub
67.	Ajay Kumar · Manish Kumar2· Sumit Kumar Jindal and <b>Sanjeev</b> Kumar Raghuwanshi	Q3 1.842	27 May 2019	Implementation of all-optical active low/high tri-state bufer logic using the micro-ring resonator structures	OpticalandQuantumElectronics(Springer)SCI Imact Factor-1.5https://doi.org/10.1007/s11082-019-1898-5https://link.springer.com/article/10.1007% 2Fs11082-019-1898-5
68.	Sumit Kumar Jindal , Ankush Mahajan and <b>Sanjeev Kumar Raghuwanshi</b>	Q4 0.715	01 Sept 2019	An inductive-capacitive-circuit based micro-electromechanical system wireless capacitive pressure sensor for avionic applications: Preliminary investigations, theoretical modeling and simulation examination of newly proposed methodology	Measurement and Control (Sage) Volume: 52 issue: 7-8, page(s): 1029-1038 <u>https://journals.sagepub.com/doi/1</u> 0.1177/0020294019858095
69.	Mandeep Singh, Sanjeev Kumar Raghuwanshi and Om Prakash	Q2 3.073	March 2019	Modeling of grating assisted hybrid plasmonic filter and its on-chip gas sensing application.	IEEE Sensors Journal, doi: 10.1109/JSEN.2019.2897616 https://ieeexplore.ieee.org/docume nt/8635558
70.	Sanjeev Kumar Raghuwanshi and Purnendu Shekhar Pandey	<mark>Q4</mark> 0.653	March 2019	Finite element method analysis of propagation in a non magnetic coupled waveguide structure having $\alpha$ -power refractive index profile	Indian Journal of Pure & Applied Physics Vol. 57, March 2019 http://nopr.niscair.res.in/handle/12 3456789/46846
71.	Yadvendra Singh, Sanjeev Kumar Raghuwanshi	Q2 2.187	2019	Design and development of a novel level transmitter utilizing lithium niobate (LiNbO <sub>3</sub> ) Mach-Zehnder modulator for hazardous regions	<b>Optik</b> (Elsevier), Volume 181, 2019, Pages 748-759, (SCI https://www.sciencedirect.com/scie nce/article/abs/pii/S003040261832 0102?via%3Dihub

72.	Mandeep Singh, Sanjeev Kumar Raghuwanshi and R. K. Bahl	<mark>Q2</mark> 1.857	28 Sept 2018	Tunable optoelectronic oscillator working in Ku band	MeasurementScienceandTechnology (IOP-UK)https://iopscience.iop.org/article/10.1088/1361-6501/aae4fa
73.	Mandeep Singh, Sanjeev Kumar Raghuwanshi	Q3 1.017	Nov. 2018	Investigation of dispersion influence on the chirp microwave generation using microwave photonic link without optical filter	Scientia Iranica, 25(6D), 3584- 3590. https://doi.org/10.24200/sci.2017.4 376 http://scientiairanica.sharif.edu/arti cle_4376.html
74.	Sanjeev Kumar Raghuwanshi, Manish Kumar And Om Prakash	Q3 1.961	July 2018	Class modal analysis of a thin multi- trench-assisted liquid-filled optical waveguide coupler for simultaneous multi-sensing applications	Applied Optics (OSA), Vol. 57, No. 20 / 10 July 2018 https://www.osapublishing.org/ao/ abstract.cfm?uri=ao-57-20-5614
75.	Sumit Kumar Jindal, Yogesh Kumar Agarwal, Srishti Priya, Ajay Kumar, and Sanjeev Kumar Raghuwanshi	Q2 3.073	Sept. 2018	Design and Analysis of MEMS Pressure Transmitter Using Mach– Zehnder Interferometer and Artificial Neural Networks	<b>IEEE SENSORS JOURNAL</b> , VOL. 18, NO. 17, SEPTEMBER 1, 2018 <u>https://ieeexplore.ieee.org/docume</u> <u>nt/8401871</u>
76.	Yadvendra Singh, Sanjeev Kumar Raghuwanshi & Soubir Kumar	Q3 1.845	June 2018	Review on Liquid-level Measurement and Level Transmitter Using Conventional and Optical Techniques	IETE Technical Review, vol. 36,        pp.      329-340      DOI:        10.1080/02564602.2018.1471364        https://www.tandfonline.com/doi/f        ull/10.1080/02564602.2018.14713        64
77.	Sanjeev Kumar Raghuwanshi and Manish Kumar	Q4 1.113	May 2018	Highly dispersion tailored properties of few mode fiber Bragg grating- based vibration sensor due to a perturbed apodization profile	<b>Optical Engineering</b> (SPIE), Vol. 57, No. 5, 057105 (2018), doi: 10.1117/1.OE.57.5.057105. https://www.spiedigitallibrary.org/j ournals/optical- engineering/volume-57/issue- 05/057105/Highly-dispersion- tailored-properties-of-few-mode- fiber-Bragg- grating/10.1117/1.OE.57.5.057105 .full
78.	Nimish Kumar Srivastava and <b>S.K.Raghuwanshi</b> ,	Q2 2.187	March. 2018	Theoretical and experimental study of arbitrary microwave signal generation through LiNbO <sub>3</sub> MZI	Optik (Elsevier), Volume 156, March 2018, Pages 571-584, DOI- https://doi.org/10.1016/j.ijleo.2017 .08.073 https://www.sciencedirect.com/scie nce/article/abs/pii/S003040261730 9646?via%3Dihub

79.	Mandeep Singh and <b>Sanjeev</b> Kumar Raghuwanshi	Q3 2.12	Februa ry 2018	Metal-insulator-metal waveguide based passive structures analyzed by transmission line model	SuperlatticesandMicrostructures (Elsevier)Volume 114, February 2018, Pages233-241,DOI:https://doi.org/10.1016/j.spmi.2017.12.041(Impact Factor: 2.123)https://www.sciencedirect.com/science/article/abs/pii/S0749603617326976?via%3Dihub
80.	Vikram Palodiya and <b>Sanjeev</b> <b>Kumar</b> Raghuwanshi	<mark>Q4</mark> 0.653	Januar y 2018	Dispersion characteristics of novel class multi-clad dispersion shifted hollow core fibers for WDM optical systems	Indian Journal of Pure & Applied Physics (CSIR), Vol. 56, pp 76-79, January 2018 http://nopr.niscair.res.in/handle/12 3456789/43508
81.	Sumit Kumar Jindal, Ankush Mahajan, <b>Sanjeev Kumar Raghuwanshi</b>	Q3 1.559	Oct. 2017	Reliable before-fabrication forecasting of normal and touch mode MEMS capacitive pressure sensor: modeling and simulation	J. Micro/Nanolith. MEMS MOEMS 16(4), 045001 (2017), doi: 10.1117/1.JMM.16.4.045001. https://www.spiedigitallibrary.org/j ournals/journal-of-micro- nanolithography-mems-and- moems/volume-16/issue- 4/045001/Reliable-before- fabrication-forecasting-of-normal- and-touch-mode- MEMS/10.1117/1.JMM.16.4.0450 01.short
82.	Ritesh Kumar and Sanjeev Kumar Raghuwanshi	Q3 1.842	Oct. 2017	A photonic scheme for the generation of dual linear chirp microwave waveform based on the external modulation technique and its airborne application	Optical      and      Quantum        Electronics      (Springer)      (2017)      49:        370.      https://doi.org/10.1007/s11082-      017-1206-1        Impact Factor-      1.042      https://link.springer.com/article/10.        1007/s11082-017-1206-1      1007/s11082-017-1206-1
83.	Reena Sharma and Sanjeev Kumar Raghuwanshi	Q4 1.125	Oct. 2017	Computer Model for EDFA Dynamics Over 1525–1560 nm Band Using a Novel Multi- Wavelength MATLAB Simulink Test Bed for 8-Channels	<b>IETE Journal of Research</b> (Taylor & Francis), DOI http://dx.doi.org/10.1080/037720 63.2017.1369908 (SCI Impact Factor 0.909). https://www.tandfonline.com/doi/f ull/10.1080/03772063.2017.13699 08
84.	Mandeep Singh and <b>Sanjeev</b> Kumar Raghuwanshi	Q2 2.379	Aug. 2017	Generation of octupled microwave signal via frequency multiplication method	Journal of Optics (IOP Publishing), Vol. 19(6), 2017 (Impact Factor: 1.714) https://iopscience.iop.org/article/10 .1088/2040-8986/aa895f

85.	Nimish Kumar Srivastava and <b>S.K.Raghuwanshi</b> ,	Q3 1.842	Aug. 2017	Generation of an arbitrary chirped microwave waveform with high time-bandwidth product for increasing range resolution of RADAR by using photonic technique	OpticalandQuantumElectronics (Springer), Vol. 104,No. 10, DOI 10.1007/s11082-017- 1139-8, (2017)49:299.Impact Factor- 1.042https://link.springer.com/article/10.1007/s11082-017-1139-8
86.	Mandeep Singh, Sanjeev Kumar Raghuwanshi and Nimish Kumar Srivastava	Q2 2.379	15 May 2017	Reconfigurable photonic delay line filter working in Ku band	Journal of Optics (IOP Publishing), Vol. 19(6), 2017 (Impact Factor: 1.714) https://iopscience.iop.org/article/10 .1088/2040-8986/aa6cca
87.	Sanjeev Kumar Raghuwanshi, Nimish Kumar Srivastava and Akash Srivastava	<mark>Q4</mark> 1.004	8 May 2017	A Novel Approach to Generate a Chirp Microwave Waveform Using Temporal Pulse Shaping Technique	International      Journal      of        Electronics      (TETN), Taylor      &        Francis      http://dx.doi.org/10.1080/0020721      .        7.2017.1321145.      .      .        (Impact Factor: 0.414)      .      .        http://www.tandfonline.com/doi/f      .      .        45      .      .
88.	Sanjeev Kumar Raghuwanshi, Nimish Kumar Srivastava	Q2 2.187	7 March 2017	Temporal pulse shaping approach for photonic generation of an arbitrary chirped microwave waveform with high time-bandwidth product	<b>Optik</b> (Elsevier), Vol. 138, March 2017, Pages 535-541 (SCI Impact Factor 0.742). <u>https://www.sciencedirect.com/science/article/abs/pii/S003040261730</u> 2905
89.	Reena Sharma and Sanjeev Kumar Raghuwanshi	Q4 1.113	Feb. 2017	Modeling and analysis of overmodulation in erbium-doped fiber amplifiers including amplified spontaneous emission	Optical Engineering (SPIE), Vol. 56, No. 2, PP. 026105, (Impact Factor: 1.01) <u>https://www.spiedigitallibrary.org/j</u> <u>ournals/optical-</u> <u>engineering/volume-56/issue-</u> <u>2/026105/Modeling-and-analysis-</u> <u>of-overmodulation-in-erbium-</u> <u>doped-fiber-</u> <u>amplifiers/10.1117/1.OE.56.2.0261</u> <u>05.short</u>
90.	Santosh Kumar, Lokendra Singh and <b>Sanjeev</b> Kumar Raghuwanshi	Q3 1.532	Nov. 2016	Design of plasmonic half-adder and half-subtractor circuits employing nonlinear effect in Mach–Zehnder interferometer	Journal of Computational Electronics,      DOI:        10.1007/s10825-016-0927-x      (Impact Factor - 1.104)        https://dl.acm.org/doi/abs/10.100      7/s10825-016-0927-x
91.	Sanjeev K. Raghuwanshi, Manish Kumar, and Bidhanshel Singh Athokpam	Q2 3.073	Sept. 2016	Analysis of Novel Class of Surface Plasmon Phenomena Having a Metamaterial Layer Between Two Different Metals for Sensor Application	<b>IEEE SENSORS JOURNAL</b> , VOL. 16, NO. 17, pp. 6617-6624 SEPTEMBER 1, 2016 (Impact Factor 1.9) <u>https://ieeexplore.ieee.org/docum</u> <u>ent/7502141</u>

92. 93.	S. K. Raghuwanshi, N. K. Srivastava, Akash Srivastava and B.S. Athokpam, Santosh Kumar, Lokendra Singh, Sanjeev Kumar Raghuwanshi and	Q4 1.061 Q3 2.335	Oct. 2016 18 Aug 2016	Effect of Laser Modulation on Dispersion Induced Chirp Microwave Signal Generation by using Temporal Pulse Shaping Technique Design of Full-Adder and Full- Subtractor Using Metal-Insulator- Metal Plasmonic Waveguides	Wireless      Personal        Communication,      DOI        10.1007/s11277-016-3859-7,      2016 (Impact Factor- 0.701)        https://link.springer.com/article/1      0.1007/s11277-016-3859-7        Plasmonics      (2016).        doi:10.1007/s11468-016-0350-y      (Impact Factor - 2.146)
94.	Nan-Kuang Chen Devendra Chack, V. Kumar, <b>Sanjeev</b> Kumar Raghuwanshi and Dev Prakash Singh	Q3 2.125	8 Aug 2016	Design and analysis of O–S–C triple band wavelength division demultiplexer using cascaded MMI couplers	<b>Optics Communications,</b> Vol. 382, pp. 324-331 https://www.sciencedirect.com/sc ience/article/pii/S0030401816306 927?via%3Dihub
95.	Santosh Kumar, Chandrakanta and Sanjeev Kumar Raghuwanshi	<mark>Q3</mark> 1.961	18 July 2016	Design of optical reversible logic gates using electro-optic effect of lithium niobate based Mach– Zehnder interferometers	Applied Optics, Vol. 55 No. 10 http://dx.doi.org/10.1364/AO.55.0 05693 https://opg.optica.org/ao/abstract.cf m?uri=ao-55-21-5693
96.	Sanjeev Kumar Raghuwanshi and B. M. Azizur Rahman	Q3 1.842	July 2016	Modeling of Single Mode Optical Fiber having a Complicated Refractive Index Profile by using Modified Scalar Finite Element Method	Optical      and      Quantum        Electronics, DOI: 10.1007/s11082-      016-0632-9, 2016.        https://link.springer.com/article/10.      1007/s11082-016-0632-9
97.	Ajay Kumar and <b>Sanjeev Kumar</b> Raghuwanshi	Q2 2.187	Oct. 2016	Implementation of Some High Speed Combinational and Sequential Logic Gates using Micro-Ring Resonator	<b>Optik</b> - International Journal for Light and Electron Optics, <b>127</b> ( 2016), PP. 8751-8759. <u>https://www.sciencedirect.com/science/article/pii/S003040261630683</u> 0?via%3Dihub
98.	<b>S.K.</b> <b>Raghuwanshi</b> and S. Talabattula	Q2 2.187	Oct. 2015	Electromagnetic analysis of novel class of multiple core/multiple clad step index single mode optical fiber by analytical means	<b>Optik</b> (Elsevier), Vol. 127, Issue 2, January 2016, Pages 567-575 <u>https://www.sciencedirect.com/scie</u> <u>nce/article/pii/S003040261501485</u> <u>0?via%3Dihub</u>
99.	<b>S. K.</b> <b>Raghuwanshi</b> , Vikram Palodiya	Q2 2.187	2016	Beam propagation and mode coupling study in a coupled waveguide structure by using scalar finite element method	Optik (Elsevier), vol. 127, pp. 1237-1244, 2016 https://www.sciencedirect.com/scie nce/article/pii/S003040261501627 Z
100.	Santosh Kumar, <b>Sanjeev</b> Kumar Raghuwanshi <sup>*</sup>	Q3 1.842	2016	High speed optical 4-bit twisted ring counter using electro-optic effect of Mach-Zehnder interferometer	OpticalandQuantumElectronics(Springer),Vol. 48,No. 42 (2016).https://link.springer.com/article/10.1007/s11082-015-0303-2
101.	<b>S. K.</b> <b>Raghuwanshi</b> , B. M. A. Rahman	Q2 3.073	2015	Analysis of Novel Chirped Types of Refractive Index Profile Metamaterial Planar Slab Optical Waveguide by Finite Element Method for Sensor Application	<b>IEEE Sensor Journal</b> , vol. 15, no. 7, pp. 4141-4147 <u>https://ieeexplore.ieee.org/abstract/</u> <u>document/7065263</u>

102.	<b>S.K.</b> <b>Raghuwanshi</b> , A. Sivaganesh and B. M. A. Rahman	Q2 2.187	2015	A Simple Analytical model to Study of Six Wave Fiber Optical Parametric Amplifier Characteristics	<b>Optik</b> (Elsevier), vol. 126, 122 pp. 5280-5286, 2015 <u>https://www.sciencedirect.com/scie</u> <u>nce/article/pii/S003040261501191</u> <u>2</u>
103.	Devendra Chack, V. Kumar, <b>S. K.</b> Raghuwanshi	Q3 2.045	Oct. 2015	Design and performance analysis of InP/InGaAsP-MMI based 1310/1550-nm wavelength division demultiplexer with tapered waveguide geometry	Opto-ElectronicsReview(Springer), Vol. 23, No. 4, pp. 271-277, Oct. 2015https://www.degruyter.com/document/doi/10.1515/oere-2015-0039/html?lang=en
104.	S.K. Jindal <sup>*</sup> , <b>S.K.</b> Raghuwanshi	Q3 1.737	11 Oct. 2015	Capacitance and Sensitivity Calculation of Double Touch Mode Capacitive Pressure Sensor: Theoretical Modeling and Simulation	Microsystem      Technologies-        Springer.      DOI:      10.1007/s00542-        015-2696-z,      11 Oct.      2015        https://link.springer.com/article/10.      1007/s00542-015-2696-z
105.	Mandeep Singh and <b>S. K.</b> Raghuwanshi	<mark>Q4</mark> 0.673	2015	Impact of dispersion order on optical millimetre-wave generation based on series optical external modulators without an optical filter	<b>Optica Applicata</b> (Institute of Physics, Poland), Vol. 44, No. 2, pp. 215-226, 2015 <u>https://opticaapplicata.pwr.edu.pl/a</u> rticle.php?id=2015200215
106.	Santosh Kumar, <b>Sanjeev Kumar Raghuwanshi</b> & B. M. A. Rahman	Q3 1.842	2015	Design of universal shift register based on electro-optic effect of LiNbO <sub>3</sub> in Mach–Zehnder interferometer for high speed communication	Optical      and      Quantum        Electronics      (Springer), Vol. 47,        No.6, 2015.      DOI 10.1007/s11082-        015-0226-y        https://link.springer.com/article/10.        1007/s11082-015-0226-y
107.	Ajay Kumar and <b>S.</b> <b>K. Raghuwanshi</b>	Q4 0.771	2015	Realization of Optical Digital Magnitude Comparator Using Electro-Optic Effect Based Cascaded Mach-Zehnder Interferometer Structure	Journal of Nanoelectronics and Optoelectronics (American Scientific Publisher) Vol. 10, No. 6, pp. 1–10, 2015. https://www.ingentaconnect.com/c ontent/asp/jno/2015/00000010/000 00006/art00011;jsessionid=rufr9kq slofh.x-ic-live-01
108.	<b>S. K.</b> <b>Raghuwanshi</b> , Vikram Palodiya	Q2 2.187	2015	Performance Study of Different Step Index Multi-clad Fiber for Broadband Application	<b>Optik</b> (Elsevier), Vol. 126, pp. 3767-3770, 2015 <u>https://www.sciencedirect.com/science/article/pii/S003040261500686</u> <u>5</u>
109.	Mandeep Singh, S. K. Raghuwanshi	Q2 2.286	2015	Effect of higher order dispersion parameters on optical millimeter- wave generation using three parallel external optical modulators	Journal of Applied Physics (American Institute of Physics), Vol. 117, 023116 doi: 10.1063/1.4906030 <u>https://aip.scitation.org/doi/full/10.</u> 1063/1.4906030
110.	Sanjeev Kumar Raghuwanshi, Ajay Kumar, Azizur Rahman	Q3 1.544	4 March 2015	Implementation of high speed optical universal logic gates using the electro-optic effect based Mach- Zehnder interferometer structures	<b>Journal of Modern Optics</b> (Taylor and Francis), Vol. 62, no. 12,

					https://www.tandfonline.com/doi/f
					<u>ull/10.1080/09500340.2015.10156</u> <u>36</u> .
111.	VikramPalodiya , <b>Sanjeev Kumar</b> <b>Raghuwanshi</b>	<mark>Q4</mark> 0.673	2015	Design and Analysis of Low Bend Loss Air core optical fiber forwavelength selective devices	<b>Optica Applicata</b> , vol. 45, no. 3, pp. 341-353 (Impact Factor 0.637).
112.	Sumit Kumar Jindal , <b>Sanjeev</b> Kumar Raghuwanshi	Q3 1.737	2015	A complete analytical model for circular diaphragm pressure sensor with freely supported edge	MicrosystemsTechnology(Springer), vol. 21, no. 5, pp-1073-1079.(Impact Factor 0.974)
113.	Sumit Kumar Jindal, Ankush Mahajan, <b>Sanjeev</b> <b>Kumar</b> Raghuwanshi	Q3 1.737	2015	A complete analytical model for clamped edge circular diaphragm non-touch and touch mode capacitive pressure sensor	Microsystem      Technologies        (Springer),DOI      10.1007/s00542-        015-2475-x,
114.	Sumit Kumar Jindal, <b>Sanjeev</b> Kumar Raghuwanshi	<mark>Q4</mark> 0.831	2015	Modelling of Simply Supported Circular Diaphragm for touch mode Capacitive Sensors	Journal of Theoretical and Applied Mechanics, PTMTS, vol.53, no.2, http://ptmts.org.pl/jtam/index.php/j tam/article/view/2544
115.	S. K. Jindal*, <b>S. K.</b> <b>Raghuwanshi</b> , Ajay Kumar	Q3 1.345	Sept. 2015	Realization Of MOEMS Pressure Sensor Using Mach-Zehnder Interferometer	Journal of Mechanical Science and Technology, Vol. 29, No. 9, pp. 3831-3839 (Impact Factor:0.761). https://link.springer.com/article/10. 1007/s12206-015-0829-z
116.	Mandeep Singh , S. K. Raghuwanshi	Q2 2.281	Dec. 2014	Impact of Higher Order Dispersion on Photonically Assisted Optical Millimeter-Wave Generated using Dual parallel Electro-optic Modulators	CurrentAppliedPhysics(Elevier), vol. 14 pp. 1837-1844,(Impact Factor 2.2).https://www.sciencedirect.com/science/article/pii/S1567173914003125
117.	A. Kumar, S. K. Raghuwanshi	Q3 1.842	July 2015	Implementation of optical gray code converter and even parity checker using the electro-optic effect in the Mach-Zehnder interferometer	Opt. Quant. Electron.(Springer),        Vol. 47, Issue 7, pp. 2117-2140        (Impact Factor 1.290)        https://link.springer.com/article/10.        1007/s11082-014-0087-9
118.	Sanjeev Kumar Raghuwanshi, Ajay Kumar	Q2 2.187	Dec. 2014	A new semi – analytical method for the analysis of tapered optical waveguides	Optik (Elsevier), Vol. 125, no. 24, pp. 7515-7221. (Impact Factor 0.742). https://www.sciencedirect.com/scie nce/article/pii/S003040261401157 7
119.	Sanjeev Kumar Raghuwanshi, Ajay Kumar, Nan K Chen	Q3 2.125	2014	Implementation of Sequential logic circuits using the Mach-Zehnder interferometer based on Electro- optic effect	OpticsCommunications(Elsevier), Vol. 333, PP. 193-208,https://www.semanticscholar.org/paper/Implementation-of-sequential-logic-circuits-using-Raghuwanshi-Kumar/5c7e7424eeae9ed0018853e877c7ced4d32f2500

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	Ajay Kumar, Santosh Kumar <sup>*</sup> , S. K. Raghuwanshi	Q2 2.187	2014	Implementation of XOR/XNOR and AND Logic Gates using Mach- Zehnder interferometers	<b>Optik</b> (Elsevier),Vol. 125, pp. 5764-5767, https://www.sciencedirect.com/scie nce/article/pii/S003040261400778 <u>5</u>
121.	<b>Sanjeev Kumar Raghuwanshi</b> , Santosh Kumar	Q2 2.379	12 August 2014	Waveguide dispersion characteristics of graded/linearly chirp type's refractive index profile of planar slab optical waveguide by using the modified finite element method	Journal of Optics (Springer). DOI: 10.1007/s12596-014-0220-y https://link.springer.com/article/10. 1007/s12596-014-0220-y
122.	<b>Sanjeev Kumar</b> <b>Raghuwanshi</b> , Santosh Kumar, Ajay Kumar	Q2 2.187	Oct. 2014	Dispersion characteristics of complex refractive-index planar slab optical waveguide by using finite element method	<b>Optik</b> (Elsevier),Vol. 125 (20), pp. 5929-5935 <u>https://www.sciencedirect.com/scie</u> <u>nce/article/pii/S003040261400829</u> <u>8?via%3Dihub</u>
123.	DevendraChack, Niteshkumar Agrawal, <b>S. K.</b> <b>Raghuwanshi</b>	Q2 2.187	2014	To analyse the performance of tapered and MMI assisted splitter on the basis of geographical parameters	<b>Optik</b> (Elsevier), Vol. 125, pp. 2568-2571. (Impact Factor 0.742). https://www.sciencedirect.com/science/article/pii/S003040261301471 X
124.	Ajay Kumar, Santosh Kumar, <b>S.</b> <b>K Raghuwanshi</b>	Q3 2.125	2014	Implementation of Full-adder and Full-subtractor based on Electro- optic Effect in Mach-Zehnder interferometer	OpticsCommunication(Elsevier), Vol. 324 , PP. 93-107,(Impact Factor: 1.480) <a href="https://www.sciencedirect.com/science/article/pii/S003040181400276">https://www.sciencedirect.com/science/article/pii/S003040181400276</a>
125.	Santosh Kumar, <b>S.</b> <b>K. Raghuwanshi</b> , Ajay Kumar	Q4 1.113	2013	Implementation of Optical Switches by using Mach-Zehnder Interferometer	Optical Engineering (SPIE), Vol. 52, No. 9, PP. 097106, (Impact Factor: 1.01) <u>https://www.spiedigitallibrary.org/j</u> <u>ournals/optical-</u> <u>engineering/volume-52/issue-</u> <u>9/097106/Implementation-of-</u> <u>optical-switches-using-</u> <u>MachZehnder-</u> <u>interferometer/10.1117/1.OE.52.9.</u> <u>097106.short</u>
126.	Mandeep Singh, S. K. Raghuwanshi	Q2 2.187	2013	Microwave generation analysis with higher order dispersion in two cascaded Mach-zehnder modulator	<b>Optik</b> (Elsevier), vol. 125, pp. 761- 771 <u>https://www.sciencedirect.com/scie</u> <u>nce/article/pii/S003040261301006</u> <u>1</u>
127.	<b>S. K.</b> <b>Raghuwanshi</b> , Santosh Kumar	Q3 1.407	April, 2013	Eigen value Equation for an Asymmetric Left-Handed Meta- material Planar Slab Optical Waveguide	Indian      Journal      of      Physics        (Springer), Vol. 87, Issue 8, pp. 803- 807.        https://link.springer.com/article/10.        1007/s12648-013-0291-7
128.	<b>S. K.</b> <b>Raghuwanshi</b> , Ajay Kumar, Santosh Kumar	<mark>Q4</mark> 1.113	March, 2013	$1 \times 4$ Signal Router Using 3 Mach- Zhender Interferometers	<b>Optical Engineering</b> (SPIE), Vol. 52, No. 03 (Impact Factor 1.01) <u>https://www.spiedigitallibrary.org/journals/optical-</u>

					engineering/volume-52/issue- 3/035002/14-signal-router-using- three-Mach-Zehnder- interferometers/10.1117/1.OE.52.3 .035002.short
129.	S. K. Raghuwanshi	Q3 1.407	2010	Comparative study of asymmetric versus symmetric planar slab dielectric optical waveguides	Indian J of Phys, (Springer), Vol. 84, No. 7, pp. 831-846, (2015 Impact Factor 1.166).
130.	<b>S. K.</b> <b>Raghuwanshi</b> , S. Talabattula	Q3 1.407	2009	Analytical approximation solutions for 3-D optical waveguides: Review	Indian J. Phys.(Springer),Vol. 83 (2), pp. 1-25, (2015 Impact Factor 1.166). <u>https://link.springer.com/article/10.</u> 1007/s12648-010-0059-2
131.	<b>S. K</b> <b>.Raghuwanshi</b> , S. Talabattula	Q3 1.407	2008	Applications of degenerate/non- degenerate modes coupling in an optical waveguide	Indian J. Phys.(Springer), Vol. 82, No. 10, pp. 1373-1383. (2015 Impact Factor 1.166).
132.	<b>S.K.</b> <b>Raghuwanshi</b> , S. Talabattula	Q3 1.407	Dec. 2008	Asymmetric dispersion and pulse distortion in an uniform fiber Bragg gratings	Indian J. Phys.,(Springer), Vol. 82, No. 12, pp. 1-7. (2015 Impact Factor 1.166). https://eprints.iisc.ac.in/18605/
133.	<b>S. K.</b> <b>Raghuwanshi</b> , V. Gupta, V. K. Dinesh SrinivasTalabattula	<mark>Q4</mark> 0.742	Nov Dec. 2006	Bidirectional optical fiber transmission scheme through Raman amplification: Effect of pump depletion	J. Indian Inst. Sci., Vol. 86, No. 6, pp. 655-665 (2016 Impact Factor 0.857). http://journal.library.iisc.ernet.in/in dex.php/iisc/article/view/2334
134.	S. K. Raghuwanshi, S. Talabattula, A. Selvarajan	<mark>Q4</mark> 0.742	Nov Dec. 2006	Fourier decomposition of the transverse field for analyzing optical waveguides using Beam Propagation method	J. Indian Inst. Sci., Vol. 86, No. 6, pp. 667-680, NovDec. 2006. (2016 Impact Factor 0.857). http://journal.library.iisc.ernet.in/in dex.php/iisc/search/search?simple Query=Fourier+decomposition+of +the+transverse+field+for+analyzi ng+optical+waveguides+using+Be am+Propagation+method&searchF ield=query
135.	S. K. Raghuwanshi, P. K. Pattnaik, S. Talabattula Papannareddy R	Q2 2.379	July- Sept. 2006	Analysis of pulse propagation through a Nonlinear Directional Coupler	Journal of Optics, Vol. 35, No. 3, pp. 155-163, July-Sept. 2006 (Springer link ). <u>https://link.springer.com/article/10.</u> 1007/BF03354805

Quartile Factor	<b>Q1</b>	<mark>Q2</mark>	Q3	<mark>Q4</mark>
(Number of papers)	13	56	44	22

(B) International/National Journals (Indexed in Scopus Data Base)

S. No.	Authors	Year	Title	Complete Reference of
1.	Vikash Kumar, Sanjeev Kumar Raghuwanshi, Santosh Kumar	Feb 2024	Highly sensitive Ag/BaTiO3/MoS2 nano composite layer based SPR sensor for detection of blood and cervical cancer	Results in Optics https://doi.org/10.1016/j.rio.2023.100597
2.	PurnenduShekhar Pandey & Sanjeev Kumar Raghuwanshi	2020	A Technical Review and Analysis of Surface Plasmon Resonance based Optical Fibre Sensors for Exploiting Oxides Materials	STM Journals- Noida- U.P "Nano Trends-A Journal of Nanotechnology & Its Applications" Volume 22, Issue 1, ISSN: 0973-418X
3.	Vikash Kumar, Sanjeev Kumar Raghuwanshi and shivangi Srivastava	July 2018	Mathematical Modelling Of Bldc Motor For Speed Control & Four Quadrant Operation On Matlab/ Simulink	International Journal of Mechanical and Production Engineering Research and Development (IJMPERD) 4.ISSN (P): 2249-6890; ISSN (E): 225.49-8001 Spec6.ial Issue, Jun 2018, 248-258
4.	Nimish Kumar Srivastava, Akash Srivastava and Snajeev Kumar Raghuwanshi	2018	Microwave waveform generation with high chirp rate and central frequency using dual-parallel mach- zehnder modulator for an efficient microwave beam steering network	Micro7.wave Review - Vol. 24, No. 2, Dece8.mber 2018
5.	Sanjeev Kumar Raghuwanshi and Nimish Kumar Srivastava	2017	Review of Microwave Photonics Technology in the Context of Remote Sensing Application	Reviews in Theoretical Science, Vol. 5, pp. 1–8 (American Scientific Publisher, USA), 2017.
6.	Sanjeev Kumar Raghuwanshi and Ritesh Kumar	2017	Photonics Generation of Tunable Continuous Wave Chirp Microwave Signals Using a Temporally- Stretched and Chirped Pulse-Train.	Reviews in Theoretical Science, Vol. 5, pp. 1–16, (American Scientific Publisher, USA), 2017.
7.	Sanjeev Kumar Raghuwanshi, Mandeep Singh and Reena Sharma	Feb 2016	A Complete Mathematical Model to Study the Characteristics of an Arbitrary Geometry LiNbO3 Structure for a High-Speed Mach– Zehnder Modulator for RADAR Applications	J. Opt. Commun. ISSN (Online) 2191-6322, ISSN (Print) 0173-4911, DOI: <u>10.1515/joc-2015-0028</u> , Feb 2016.
8.	Sanjeev Kumar Raghuwanshi and S. Talabattula	21 Jan. 2016	Raman Amplification in WDM Optical Communication Systems: A system Perceptive	J. Opt. Commun. ISSN (Online) 2191-6322, ISSN (Print) 0173-4911, DOI: <u>10.1515/joc-2015-0028</u> , 21 Jan 2016.
9.	S. K. Raghuwanshi, Ritesh Kumar, Akash Srivastava and Nimish Kr. Srivastava	2016	A new proposed scheme to generate Arbitrary Microwave waveform by using four C-Bands Laser	Journal of Optical Communications, DOI 10.1515/joc-2016- 0114,2016.
10.	Sanjeev Kumar Raghuwanshi and Akash Srivastava	2016	Review of Microwave Photonics Technique to Generate the Microwave Signal by Using Photonics Technology	Journal of Optical Communications DOI 10.1515/joc-2016-0046, 2016
11.	Sanjeev Kumar Raghuwanshi, Akash Srivastav	2016	Review on Photonic Generation of Chirp Arbitrary Microwave Waveforms for Remote Sensing Application	Journal of Optilcal communication, ISSN (Online) 2191-6322, ISSN (Print) 0173-

			1	
	and Bidhanshel Singh Athokpam			4911, DOI: <u>10.1515/joc-2016-</u> <u>0065</u> , July 2016
12.	Sanjeev Kumar Raghuwanshi, Mandeep Singh and Reena Sharma	2016	A Complete Mathematical Model to study the Characteristics of an optical Fiber with Arbitrary Geometry having an Arbitrary Refractive Index Profile	Journal of Optilcal communication, ISSN (Online) 2191-6322, ISSN (Print) 0173- 4911, DOI: <u>10.1515/joc-2016-</u> <u>0008</u> , May 2016
13.	Vikram Palodiya and S. K. Raghuwanshi	2016	Comprehensive study of z-cut highly integrated lithium niobate optical modulator with adjustable chirp parameters	Journal of Optical Communications, 2016, DOI: https://doi.org/10.1515/joc-2015- 0080, July 2016
14.	Sanjeev Kumar Raghuwanshi, and SrinivasTalabattula	2016	Analysis of Multiple Core/Multiple Clad Step Index Single Mode Optical Fibre by Graphical Techniques	Reviews in Theoretical Science (American Scientific Publisher, USA) (in Press), 2016.
15.	Sanjeev Kumar Raghuwanshi, and B. M. A. Rahman	2016	Characterization and Mode identification Analysis of 3-D Rib Waveguide by using a modified Scalar Finite element method	Reviews in Theoretical Science (American Scientific Publisher, USA) (in Press), 2016.
16.	S. K. Raghuwanshi and Vikram Palodiya	2016	Exact dispersion study of an asymmetric thin planar slab dielectric waveguide without computing $\frac{d^2\beta}{dk^2}$ numerically	Journal of Optical Communications, 2016, 2016.
17.	SanjeevK.Raghuwanshi,Ritesh Kumar, andAkash Srivastava	2016	Dual-chirp Arbitrary Microwave Waveform Generation by Using a Dual Parallel Mach-Zehnder Modulator Feeding with RF Chirp Signal	Progress in Electromagnetic Research-MIT-USA Vol. 65, 79–92, 2016.
18.	VikramPalodiya and S. K. Raghuwanshi*	2015	ComparativeStudy oftriple-cladDispersionShifted,DispersionFlattenedandDispersionCompensatedFiber forBroadbandOpticalNetworkApplication	Journal of Optical Communications, Volume 37, Issue 2, Pages 193–198, ISSN (Print) 0173-4911, Nov. 2015
19.	Sanjeev Kumar Raghuwanshi, B. M. A. Rahman	2015	Characterization and Mode identification Analysis of 3-D Rib Waveguide by using a modified Scalar Finite element method	Reviews in Theoretical Science (American Scientific Publisher, USA), Vol. 4, No. 3, pp. 252-260(9).
20.	Reena Sharma and Sanjeev Kumar Raghuwanshi	2015	RAMAN amplifier gain dynamics with ASE: Numerical analysis and simulation approach	International Journal of Engineering Science and Technology, Vol. 7, No. 3, pp. 52-57, 2015 (Peer review).
21.	Bidhanshel Singh Athokpam* and Sanjeev Kumar Raghuwanshi	2015	Plasmonics Surface Resonance and Its Usage in Sensor	International Journal of Digital Electronics, vol. 1, no. 1 pp. 18-30, 2015. (Peer review)
22.	VikramPalodiya, <b>S. K.</b> Raghuwanshi	2015	Design and parametric study of depressed core optical fiber	In Procedia Computer Sciences (Elsevier Scopus), vol.46, pp. 1385-1392, 2015.
23.	Ajay Kumar and <b>Sanjeev Kumar</b> Raghuwanshi*	2015	Electro-optic Mach-Zehnder Interferometer based Optical Digital Magnitude Comparator and 1's Complement Calculator	J. Opt. Commun. ISSN (Online) 2191-6322, ISSN (Print) 0173-4911, DOI: <u>10.1515/joc-2015-0028</u> ,

				September 2015 (SCI Impact Factor 0.2)
24.	Sanjeev Kumar Raghuwanshi, B. M. Azizur Rahman	2015	Propagation and Characterization of Novel Graded and Linearly Chirped Type's of Refractive Index Profile Symmetric Planar Slab waveguide by Numerical Means	Progress in Electromagnetic Research-B (MIT-USA), vol. 62, pp. 255-275 (Impact Factor 4.5).
25.	Sanjeev Kumar Raghuwanshi, Reena Sharma	3 <sup>rd</sup> May, 2015	Modeling of forward pump EDFA under pump power through MATLAB	International Nano Letter (Springer), Digital Object Identifier (DOI) 10.1007/s40089-015-0149-4. (impact factor: 0.2).
26.	<b>Sanjeev Kumar</b> <b>Raghuwanshi</b> , VikramPalodiya	2015	Analytical Analysis of Leaky Modes in a Multilayer Planar Slab Waveguide for Sensor Applications	Sensor Letters (American Scientific Publisher), USA, Vol. 13, pp. 1-8. (Impact Factor: 1.7)
27.	Sanjeev Kumar Raghuwanshi, Sumit Jindal B. M. A. Rahman	2015	Realization of MOEMS based Temperature Sensor Using Externally Modulated LINBO3 Mach Zehnder Interferometer	Sensor Letters (American Scientific Publisher), USA, Vol. 13. (Impact Factor: 1.66).
28.	S. K. Raghuwanshi, VikramPalodiya, Ajay Kumar, Santosh Kumar	March, 2014	Experimental Characterization of Fiber Optic Communication Link for Digital Transmission System	ICTACT Journal on Communication Technology (IET Inspec.), Vol. 5, Issue 01.
29.	<b>S. K.</b> <b>Raghuwanshi</b> , Debi P. Panda	2014	A complete analytical analysis and modeling of few mode non-uniform fiber Bragg grating assisted sensing waveguide devices	Progress in electromagnetic research M (Cambridge USA), Vol. 36, pp. 23-37. (Impact Factor 4.524)
30.	Ajay Kumar, Santosh Kumar, <b>Sanjeev Kumar</b> <b>Raghuwanshi</b>	2013	Implementation of all-optical logic gate using SOA-MZI structures	Trends in Opto Electro and Optical Communications, Vol. 3, Issue 3,,pp 1-9, (Peer review).
31.	Sumit Kumar Jindal, <b>Sanjeev</b> Kumar Raghuwanshi	2013	A complete analytical model for circular diaphragm pressure sensor with clamped edge	i-manager's journal on circuit and systems, Vol. 1, No. 2, pp. 18-27, (Pro Quest)
32.	Mandeep Singh, S. K. Raghuwanshi	Jun, 2013	Analysis of the crosstalk in optical amplifiers	ICTACT Journal on Communication Technology (Scopus Index), Vol. 4, Issue 02, Jun, 2013.
33.	Ajay Kumar, <b>Sanjeev Kumar</b> <b>Raghuwanshi</b> , Santosh Kumar	2013	53nm Wavelength Tunability due to a Curvature of S-Bend in Optical Power Splitter	International Journal of Engineering and Science (IJES), Vol. 2, Issue 7, pp. 60-77, (Peer review)
34.	Mandeep Singh, S. K. Raghuwanshi	March, 2013	Influence of chromatic dispersion, dispersion slop, dispersion curvature on 61.microwave generation	ICTACT Journal on Communication Technology (Scopus Indexing), Vol. 4, Issue 1.(IET inspec)
35.	Ajay Kumar, <b>S. K.</b> Raghuwanshi, Santosh Kumar	2013	Semi-vectorial analysis of parabolically versus exponentially tapered inbuilt chip-to-fiber butt coupler	Journal of Communication Engineering & Systems, Vol 3, No 1, pp. 11-15. (Peer review)
36.	Mandeep Singh, S. K. Raghuwanshi	2013	Comparative Analysis of Power Penalty versus Crosstalk in Optical Active Network Components like Erbium Doped Fiber Amplifier,	Trends in Opto-Electro & Optical Communications, Vol. 3, Issue 1, (Peer review)

			Raman Amplifier and	
37.	S. K. Raghuwanshi , Mandeep Singh	March 2013	Effect of higher order dispersion terms on microwave generation due to single mode fiber, dispersion shifted fiber and non-zero dispersion shifted fiber on lithium niobatemach-zehnder modulator	International journal of electrical and electronics engineering research (IJEER), Vol. 3.(Publishers Global)
38.	Ajay Kumar, <b>S. K.</b> <b>Raghuwanshi</b> , Santosh Kumar	Jan. 2013	Effect on modal-index due to an etched film thickness in three- dimensional ridge waveguide	i-manager's Journal on Communication Engineering and Systems, vol. 2, no. 1, pp. 26-31,.(Pro Quest)
39.	<b>S. K.</b> <b>Raghuwanshi</b> , S. Talabattula	2012	Dispersion and peak reflectivity analysis in a non-uniform FBG based sensors due to arbitrary refractive index profile	Progress in Electromagnetic Research B (Cambridge USA),. Vol. 36, pp. 249-265. (Impact Factor 4.5).
40.	<b>S. K.</b> <b>Raghuwanshi</b> , Ajay Kumar, Santosh Kumar	2012	Analytical Study of Finite/Infinite Impulse Response Optical Filter for Signal Processing Application	International Journal of Communication Systems and Networks, vol. 1, no. 2, pp. 80-86, (Elsevier scopus).
41.	<b>S. K.</b> <b>Raghuwanshi</b> , Mandeep Singh	Sep-Nov 2012	Analytical approach to analyze mode fields in arbitrary index fibre with non circular geometry	i-manager's Journal on Electronics Engineering, vol. 3, no. 1, pp. 7- 16,.(Pro Quest)
42.	DevendraChack, <b>S. K.</b> <b>Raghuwanshi</b> , V. Kumar	27-30, March 2012	Pulse Propagation Study of 1×3 Multibranch Optical waveguide using BPM	International Journal of Recent Trends in Engineering & Technology (IJRTET), Vol. 7, No. 2, pp. 27-30 .(Journaltocs)
43.	Santosh Kumar, Sanjeev Kumar Raghuwanshi	August 2012	Performance study of parabolically versus exponentially tapered multimode interference coupler	Trends in Opto Electro and Optical Communications, Vol. 2, Issue 2, Pages 8-17.(Peer review)
44.	Sanjeev Kumar Raghuwanshi, Santosh Kumar	Dec 2011- Feb 2012	Step discontinuity analysis in an asymmetric single mode thin planar slab taper optical waveguide	i-manager's Journal on Electronics Engineering (JELE), vol. 2, no. 2, pp. 43-48. (Pro Quest)
45.	<b>S. K.</b> <b>Raghuwanshi</b> , Santosh Kumar	April 2012	Analysis of planar tapered dielectric optical waveguides using matrix approach without considering the reflection of the fields at the taper boundary	i-manager's Journal on Communication Engineering and Systems (JCES), Vol. 1, no. 2, pp. 23- 26,.(Pro Quest)
46.	<b>S. K.</b> Raghuwanshi, Santosh Kumar	February- April 2012	Analytical expression for dispersion properties of circular core dielectric waveguide without computing $\frac{d^2\beta}{dk^2}$ numerically	i-manager's Journal on Future Engineering & Technology (JFET), Vol. 7, no. 3, pp. 26-34,.(Pro Quest)
47.	<b>S. K.</b> <b>Raghuwanshi</b> , R. R. Pandey, V. Kumar	July 2011	Optimization of substrate- radiation/substrate-cove radiation modes in planar slab optical waveguide structure	International Nano Lett.,(Springer), Vol. 1, no. 2, pp. 91-96. (Impact Factor 0.2).
48.	<b>S. K.</b> <b>Raghuwanshi</b> , V. Kumar, Devendra Chack, R. R. Pandey	2011	Dispersion study of even mode thin planar slab dielectric waveguide without computing $\frac{d^2\beta}{dk^2}$ numerically	Elsevier Procedia-Technology Journal (ISSN: 1877-0509), pp. 286- 290.

49.	S. K.	2011	Derivation of Eigen value Equation	Journal of International Academy of
	Raghuwanshi,		by using Equivalent Transmission	Physical Sciences, Vol. 15 No.1, pp.
	V. Kumar.		Line method for the case of	1-14, (Scopus Indexing).(Peer
	R.R. Pandey		Symmetric/Asymmetric Planar slab	review)
	·		Waveguide Structure	
50.	S. K.	2011	Ray paths in an Elliptic parabolic	World Journal of Science and
	Raghuwanshi		refractive index profile fiber	Technology, Vol. 1, no. 8, pp. 74-
			_	78.(Peer review)
51.	S. K.	2011	Analysis of double clad single-mode	World Journal of Science and
	Raghuwanshi,		step-index fibers	Technology, pp. 79-83, Vol. 1, no.
	V. Kumar		-	8.(Peer review)
52.	S. K.	Sept-Nov.	Calculation of mode-coupling	I-managers J. on Electronics
	Raghuwanshi, R.	2010	coefficient using	Engineering, Vol. 1, no. 1, pp. 52-58.
	R. Pandey and V.		symmetric/asymmetric Waveguide	(Pro Quest)
	Kumar		Grating Structures	
53.	S. K.	2008	Asymmetric pulse distortion due to	International J. of Engg. Research
	Raghuwanshi, S.		pulse walk-off phenomena in wide-	and Industrial Appls. (IJERIA), Vol.
	Talabattula,		band DWDM Raman amplification	1, No. 3, pp. 209-223.(Peer review)
			systems	
54.	S. K.	15 Dec.	Analytical method to estimate the	J. Instrum. Soc. India, Vol. 37, No. 4,
	Raghuwanshi,	2007	bandwidth of an uniform FBG based	pp. 297-308,.(Peer review)
	S. Talabattula		instrument	

# (C) International/National Conferences:

# C.1. Paper Presented in Abroad personally

S. No.	Authors	Year	Title	Name and Place of
	X7'1 1 X7	07.1		Conference
1.	Vikash Kumar,	27 Jan-	Detection of early-stage cancer in	SPIE Photonics west
	Sanjeev Kumar	2 Feb	adrenal gland (PC12) cells using a	San Francisco, California,
	Raghuwanshi, Santosh	2024	prism-based SPR biosensor	United States
	Kumar			
2.	Kuldeep Choudhary, B	27 Jan-	Optical sensing of vitamin C	SPIE Photonics west
	Bala Subbanna,	2 Feb	concentrations: a novel approach	San Francisco, California,
	Shikha Uniyal, Prabha	2024	with etched fiber-based plasmon	United States
	Shankar Sharma,		sensor	
	Vivek Kumar Gupta,			
	Sanjeev Kumar			
	Raghuwanshi, Santosh			
	Kumar			
3.	Md Tauseef Iqbal	27 Jan-	Honey quality assurance: innovative	SPIE Photonics west
	Ansari, Azhar Shadab,	2 Feb	fiber Bragg grating sensor for	San Francisco, California,
	Sanjeev Kumar	2024	accurate glucose adulteration	United States
	Raghuwanshi, Santosh		detection	
	Kumar			
4.	Vikash Kumar,	27 Jan-	Novel surface plasmon resonance	SPIE Photonics west
	Sanjeev Kumar	2 Feb	(SPR)-based biosensor for	San Francisco, California,
	Raghuwanshi, Santosh	2024	pathogenic bacteria detection	United States
	Kumar		(PathoBactD)	

5.	Prabha Shankar	27 Jan-	Optical fiber-based LSPR biosensor	SPIE Photonics west
	Sharma, Kuldeep	2 Feb	for enhanced dopamine detection:	San Francisco, California,
	Choudhary, Vivek	2024	advancing personalized healthcare	United States
	Kumar Gupta, Sanjeev			
	Kumar Raghuwanshi,			
	Santosh Kumar			
6.	Md Tauseef I Ansari,	27 Jan-	Detection of edible oil adulteration	SPIE Photonics west
	Sanjeev Kumar	2 Feb	using fiber Bragg grating sensor: a	San Francisco, California,
	Raghuwanshi, Azhar	2024	fast and accurate approach	United States
	Shadab, Santosh			
	Kumar			
7.	Chandan Kumar, Md	27 Jan-	Advancing microwave waveform	SPIE Photonics west
	Danish Nadeem,	2 Feb	generation: photonic dual linear chirp	San Francisco, California,
	Sanieev Kumar	2024	modulation with configurable	United States
	Raghuwanshi, Santosh		bandwidth	
	Kumar			
8.	Chandan Kumar.	27 Jan-	Comprehensive characterization of a	SPIE Photonics west
	Sanjeev Kumar	2 Feb	graphene-based plasmonic patch	San Francisco. California
	Raghuwanshi, Santosh	2024	antenna for terahertz applications	United States
	Kumar		A A A A A A A A A A A A A A A A A A A	
9.	Ritesh Kumar. Amit	27 Jan-	Performance study of optical filters	SPIE Photonics west
	Ranian, Ariun Kumar.	2 Feb	based on various optical components	San Francisco, California.
	Atma Ram Gupta, Md	2024	and their tuning mechanisms	United States
	Danish Nadeem.	_0_1		
	Sanjeev Kumar			
	Raghuwanshi Santosh			
	Kumar			
10.	Chandan Kumar.	27 Jan-	Graphene-based terahertz antenna on	SPIE Photonics west
200	Sanjeev Kumar	2 Feb	a photonic band gap substrate:	San Francisco, California.
	Raghuwanshi, Santosh	2024	design, analysis, and performance	United States
	Kumar	_0_1	evaluation for optical applications	
11.	Md Danish Nadeem.	27 Jan-	Advanced photonic-assisted antenna	SPIE Photonics west
	Ritesh Kumar, Sanjeev	2 Feb	array: efficient beam steering system	San Francisco, California.
	Kumar Raghuwanshi.	2024	for radar application	United States
	Santosh Kumar			
12.	Prashant Kumar. Md	27 Jan-	Advancing microwave signal	SPIE Photonics west
	Danish Nadeem	2 Feb	generation: frequency quadrunling	San Francisco. California
	Rainish Rai, Sanieev	2024	using dual-drive Mach-Zehnder	United States
	Kumar Raghuwanshi	<b>-</b> .	modulator	
	Santosh Kumar			
13.	Azhar Shadab, Sanieev	28 Jan-	Design and experimental analysis of	SPIE Photonics west
101	Kumar Raghuwanshi	2 Feb	TiO2 coated eFBG sensor for	San Francisco, California
	Md Tauseef Inbal	2023	chemical sensing	United States
	Ansari. Santosh		energy sensing	Paper 12372-40
	Kumar			- apor 12072 10
14.	Shikha Unival	28 Jan-	Etched MMF optical fiber based	SPIE Photonics west
	Kuldeen Choudharv	2 Feb	LMR biosensor for donamine	San Francisco. California
	Sanieev Kumar	2023	detection	United States
	Raghuwanshi Surbhi	2023	detection	Paper 12387-6
	Sachdev Santosh			1 upor 12507 0
	Kumar			
15	Vikash Kumar	28 Ian-	Design and analysis of prism-based	SPIE Photonics west
13.	Sanieev Kumar	20 Juli- 2 Feb	surface plasmon resonance optical	San Francisco California
	Raghuwanshi Santosh	2023	sensor for detection of ammonia gas	United States
	Kumar	2025	sensor for detection of annionia gas	Daper 12306 20
	Nuillaf			raper 12390-20

16.	Md Tauseef Iqbal Ansari, Sanjeev	28 Jan- 2 Feb	Application of spectrophotometry to detect the urea in milk sample	<b>SPIE Photonics west</b> San Francisco, California,
	Kumar Raghuwanshi,	2023		United States
	Purnendu Snekhar			Paper 12396-21
	Pandey, Santosh			
15	Kumar	<b>2</b> 0 I		
1/.	Snikna Uniyal,	28 Jan- 2 Eab	Sensitive detection of vitamin C	SPIE Photonics west
	Sanjaay Kumar	2 Feb	biosonsor	Sali Flancisco, California,
	Bachuwanshi Surbhi	2025	DIOSENSOI	Danar 12272 52
	Sachdey Santosh			Faper 12372-32
	Kumar			
18	Md Danish Nadeem	28 Ian-	Modeling of quad ring resonator for	SPIF Photonics west
10.	Sanieev Kumar	20 Juli 2 Feb	tunable delay line in z-domain	San Francisco California
	Raghuwanshi, Ritesh	2023	analysis	United States
	Kumar, Santosh	2020	und y 515	Paper 12429-24
	Kumar			
19.	Vikash Kumar.	28 Jan-	Realization of prism-based surface	SPIE Photonics west
	Sanjeev Kumar	2 Feb	plasmon resonance sensor for	San Francisco, California,
	Raghuwanshi, Santosh	2023	detection of methane gas	United States
	Kumar			Paper 12422-37
20.	Azhar Shadab,	28 Jan-	Experimental analysis of rGO coated	SPIE Photonics west
	Sanjeev Kumar	2 Feb	eFBG sensor for the detection of	San Francisco, California,
	Raghuwanshi,	2023	harmful smokes	United States
	Purnendu Shekhar			Paper 12422-38
	Pandey, Santosh			
	Kumar			
21.	Mohammad Danish	28 Jan-	Design and analysis of photonic	SPIE Photonics west
	Nadeem, Sanjeev	2 Feb	beam forming system using ring	San Francisco, California,
	Kumar Raghuwanshi,	2023	resonator for 1×4 phase array	United States
	Kitesn Kumar, Santosn		antenna in Ka Band	Paper 12429-30
22	Ruillai Durnandu Shakhar	28 Ion	Performance enhancement of surface	SDIF Distories west
<i>44</i> ,	Pandey Sanjeey	20 Jan- 2 Feb	plasmon resonance biosensor based	San Francisco, California
	Kumar Raghuwanshi	2023	on prism with Kretschmann	United States
	Raiesh Singh Manoi	2023	configuration assisted by 2D	Paper 12423-40
	Kumar. Santosh		materials	- up or 12 (20 10
	Kumar			
23.	Md Tauseef Iqbal	28 Jan-	Detection of petrol adulteration using	SPIE Photonics west
	Ansari, Sanjeev	2 Feb	TiO <sub>2</sub> -coated etched clad based FBG	San Francisco, California,
	Kumar Raghuwanshi,	2023	sensor	United States
	Azhar Shadab,			Paper 12417-37
	Santosh Kumar			
24.	Purnendu Shekhar	28 Jan-	Sensitivity enhancement of the	SPIE Photonics west
	Pandey, Sanjeev	2 Feb	surface plasmon resonance sensor	San Francisco, California,
	Kumar Raghuwanshi,	2023	with nobel structure based on PtSe <sub>2</sub>	United States
	Shashank Awasthi,		and 2D materials	Paper 12430-103
	Azhar Shadab, Md			
	Tauseef Iqbal Ansari,			
	Santosh Kumar	<b>a</b> c <b>-</b>		
25.	Vivek Kumar Gupta,	28 Jan-		SPIE Photonics west
	Kuldeep Choudhary,	2 Feb	Lossy mode resonance based single	San Francisco, California,
	Sanjeev Kumar	2023	mode fiber structure for detection of	United States
	Kaghuwanshi, Santosh		ascorbic acid	Doport 10207 17
	Kumar			Paper 12397-17

		1		
26.	Yadvendra Singh,		Design of highly sensitive etched	SPIE Photonics Europe, 2020,
	Ahana Sadhu and	1 April	fiber Bragg grating salinity sensor	France, Vol. 11354
	Sanjeev Kumar Raghuwanshi	2020		
27.	Yadvendra Singh, Md.		Fuel adulteration detection system	SPIE Photonics Europe, 2020.
	Tauseef Iqbal Ansari	1 April	using etched clad based Fiber Bragg	France, Vol. 11354
	and Sanjeev Kumar	2020	Grating (FBG) sensor	
	Raghuwanshi			
28.	Sanjeev Kumar	1-6	Sensitivity analysis of TiO <sub>2</sub> coated	SPIE Photonics west Bios San
	Raghuwanshi,	February	fibre Bragg grating sensor for far	Francisco, California, United
	Yadvendra Singh,	2020	infrared detection of chemicals in	States
	Aznar Snadað and Durnondu Shokhor		Indian coal mines	
	Pandey			
29.	Yadvendra Singh and	1-6	Performance analysis of reduced	SPIE Photonics west Bios San
	Sanjeev Kumar	February	graphene oxide (rGO) coated long	Francisco, California, United
	Raghuwanshi	2020	period fiber Bragg grating with	States
	_		different grating lengths for gas and	
	<i></i>		chemical sensing	
30.	Sanjeev Kumar	1-6	Sensitivity analysis of a square shape	SPIE Photonics west Bios San
	Kagnuwanshi, Vaduandra Sinah	February	apodized fibre Bragg grating	Francisco, California, United
	A zhar Shadah and	2020	refractive index Bi-directional	States
	Purnendu Shekhar		coupler on both sides	
	Pandey		····	
31.	Yadvendra Singh,	1-6	Study and analysis of nature and	SPIE Photonics west Bios San
	Ahana Sadhu and	February	extent of cladding modes in TFBG	Francisco, California, United
	Sanieev Kumar	2020	structure and their correlation with	States
	Raghuwanshi		various grating parameters for design	
32.	Manish Kumar Aiav	1-6	Design and analysis of trench-based	Proc. of SPIE Vol. 11274
021	Kumar, <b>Sanjeev</b>	February	novel structure for high-sensitive	SPIE Photonics west Bios San
	Kumar Raghuwanshi	2020	surface plasmon resonance sensor	Francisco, California, United
	and Shamsul Hassan			States,
33.	Manish Kumar, ,	1-6	Analysis of sensing properties of	Proc. of SPIE Vol. 11274
	Kartikeya Anand,	February	bending in optical fiber for highly	SPIE Photonics west Bios San
	Sanjeev Kumar Doghuwonshi	2020	sensitive applications	Francisco, California, United
34	Yadvendra Singh	26	Design and analysis of surface-	Proc <b>SPIE</b> 10912 Physics and
54	Sanieev Kumar	February	plasmon resonance (SPR) sensor to	Simulation of Optoelectronic
	Raghuwanshi	2019	measure electric field using	Devices XXVII, 109121B, Sans
	-		angle interrogation,"	Francisco in California, USA.
35.	Yadvendra Singh,	4	Electro-optic-based pressure	Proc. SPIE 10925, Photonic
	Sanjeev Kumar	March	measurement and transmitter using	Instrumentation Engineering
	Raghuwanshi	2019	lithium niobate (LiNbO <sub>3</sub> )	VI, 1092516, Sans Francisco in
			MachZehnder modulator for	California, USA.
26	Maniah V	26	Industrial application	Dress CDIE 10012 Distance 1
30.	Nanish Kumar,	20 February	Design and analysis of low-cost high-	Proc. SPIE 10912, Physics and Simulation of Optoplostronic
	Raghuwanshi	2019	based	Devices XXVII 1091214 Sans
	Yadvendra Singh	2017	biosensor	Francisco in California. USA.
	6			

37.	Purnendu Shekhar Pandey, <b>Sanjeev</b> <b>Kumar Raghuwanshi</b> and Geetam Singh Tomar	April 2018	The real time hardware of Smart Medicine Dispenser to Reduce the Adverse Drugs Reactions	ICACCE 2018, 4 ICACCE 2018, 4th IEEE International Conference on Advances in Computing Computing&Communication Engineering Communication Engineering, ECE Paris School of Engineering, Paris, France
38.	Sanjeev Kumar Raghuwanshi, Ritesh Kumar and Manish Kumar	Feb. 2018	Photonic generation of a dual nonlinear chirp microwave waveform in Ku-band and its comparative study with dual linear chirping capability to distinguish rang-Doppler coupling in radar application	Terahertz, RF, Millimeter, and Submillimeter-Wave Technology and Applications XI, Proc. of SPIE Vol. 10531 at The Moscone Center, Sans Francisco in California, USA. 29 January - 1 February 2018
39.	Manish Kumar and Sanjeev Kumar Raghuwanshi	Feb. 2018	Design and analysis of surface plasmon resonance (SPR) sensor to check the quality of food from adulteration.	Physics and Simulation of Optoelectronic Devices XXVI, Proc. of SPIE Vol. 10526 at The Moscone Center, Sans Francisco in California, USA. 29 January - 1 February 2018
40.	YadvendraSingh,SanjeevKumarRaghuwanshiandManish Kumar	Feb. 2018	Photonic-based liquid level transmitter using Mach-Zehnder Interferometer for industrial application.	Photonic Instrumentation Engineering V, Proc. of SPIE Vol. 10539 at The Moscone Center, Sans Francisco in California, USA. 27 January - 1 February 2018
41.	VikramPalodiya,SanjeevKumarRaghuwanshi,andRajeev Arya	Sept. 2017	Analysis of multi mode arbitrary profile Trench Assisted Fiber for Broadband Applications	JSAP-OSA Joint Symposia 2017, Fukuoka, Japan 18–21 September 2017 ISBN: 9784863486416
42.	Manish Kumar, Sanjeev Kumar Raghuwanshi, Prakash Pareek	Feb. 2017	High sensitive pressure sensor based on plasmonic Mach-Zehnder interferometer	Physics and Simulation of Optoelectronic Devices XXV, Proc. of SPIE Vol. 10098, 100981D at Sans Francisco in California, USA. doi: 10.1117/12.2252425
43.	Manish Kumar, Sanjeev K. Raghuwanshi, Vikram Palodiya	Sept. 2016	The design and analysis of a noble surface plasmon resonance based pressure sensor	Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XIV, Proc. of SPIE Vol. 9921, 99212V at San Diego in California, USA doi: 10.1117/12.2237728
44.	Vikram Palodiya and <b>S. K. Raghuwanshi</b>	7 Sept. 2016	Novel design of hollow-core multi clad fiber for long haul optical communication system	<i>Proc. SPIE</i> 9958, Photonic Fiber and Crystal Devices: Advances in Materials and Innovations in Device Applications X, at San Diego in California, USA
45.	Vikram Palodiya and <b>S. K. Raghuwanshi</b>	13-18 Feb 2015	Analysis of bend insensitive Liquid core optical fiber for Broadband network and fiber -to-the-home applications	Proc. of SPIE Vol. 9772 97720Y, X <sup>th</sup> International Conference on Broadband Access Communication Technologies, at Sans Francisco in California, USA

46.	Santosh Kumar, Ashish Bisht, Sandeep Sharma, <b>S. K.</b> <b>Raghuwanshi</b> , Angela Amphawan	18-22 October 2015	Implementation of an optical binary cell of random access memory based on electro-optic effect in mach- zehnder interferometer	Frontiers in Optics (FiO-2015), OSA Technical Digest (online) (Optical Society of America, 2015), paper JW2A.73, at San Jose, CA, USA
47.	<ul><li>47. Vikram Palodiya and</li><li>S. K. Raghuwanshi</li></ul>		Performance Study of Lithium Niobate Modulator based on electro optic effect	Proc. JOP, IX International Conference of the Young Scientists and Specialists "Optics-2015", at Saint Petersburg, Russia
48.	VikramPalodiya and S. K. Raghuwanshi	6-8 July 2015	Analysis of Refractive Index Single Mode Optical Fiber for Fiber-To- The-Home Application	Proc. SPIE 9659, 2 <sup>nd</sup> International Conference on Photonics Solutions (ICPS), Hua Hin, Thailand
49.	Santosh Kumara, AnamikaKumari, <b>Sanjeev Kumar</b> <b>Raghuwanshi</b>	22 June 2015	Study of optical waveguide sensor using metamaterial as buffer layer with non-linear cladding and substrate	Proc. SPIE 9529, Optical Methods for Inspection, Characterization, and Imaging of Biomaterials II, 95291E, Munich, Germany
50.	Santosh Kumar, Ajay Kumar, <b>Sanjeev</b> Kumar Raghuwanshi	19-23 October 2014	Application of Photonic crystal Fiber Sagnac loop in DWDM as a Flat top Comb-Filter	Frontiers in Optics/Laser Science, Arizona, USA, 19-23 October 2014 (Paper ID JW3A).
51.	Santosh Kumar, Ajay Kumar, <b>Sanjeev</b> Kumar Raghuwanshi	1 May, 2014	Implementation of an optical AND gate using Mach-Zehnder interferometers	Proc. SPIE 9131, Optical Modelling and Design III, SPIE Photonics Europe 2014, Brussels, Belgium, PP. 913120
52.	Santosh Kumar, Ajay Kumar, Sanjeev Kumar Raghuwanhsi	2 May, 2014	Analysis of effect of single and multiple micro-ring resonators as an optical filter using the Mason's gain formula	Proc. SPIE 9130, Micro-Optics 2014, SPIE Photonics Europe 2014, Brussels, Belgium, PP. 913007
53.	Santosh Kumar, <b>S. K.</b> <b>Raghuwanshi</b> , Ajay Kumar	July 2013	1 × 8 Signal Router Using Cascading The Mach-Zehnder Interferometers	6thIEEE/InternationalConferenceonAdvancedInfocommTechnology(IEEE/ICAIT-2013), pp. 161-162, Hsinchu,Taiwan, July2013. doi:10.1109/ICAIT.2013.6621541
54.	Ajay Kumar, <b>S. K.</b> <b>Raghuwanshi</b> , Santosh Kumar	July 2013	Analysis of comb filter using Mach- Zehnder Interferometer	6thIEEE/InternationalConferenceonAdvancedInfocommTechnology(IEEE/ICAIT-2013),pp.179-181,Hsinchu,Taiwan,July2013.doi:10.1109/ICAIT.2013.6621557
55.	<b>S. K.</b> <b>Raghuwanshi</b> , Ajay Kumar, S. Kumar	August 19-23, 2012	A method of high repetition rate femtosecond optical pulse generation by using bi-stable optical micro-ring resonators	ProgressInElectromagneticsResearchSymposiumProceedings,pp.909-912,Moscow,Russia,

56.	SanjeevKumarRaghuwanshi,Santosh Kumar, RadhaRaman Pandey	August 19-23, 2012	Analysis of double negative meta- material asymmetric planar slab waveguide by transmission equivalent T-circuit model	Progress In Electromagnetics Research Symposium Proceedings, pp. 702-706, Moscow, Russia,
57.	<b>S. K.</b> <b>Raghuwanshi</b> , S. Kumar, V. Kumar, D. Chack	August 19-23, 2012	Propagation study of Y-branch having inbuilt optical splitters and combiner using beam propagation method	Progress In Electromagnetics Research Symposium Proceedings, pp. 720-724, Moscow, Russia, August 19-23, 2012
58.	D. Chack, <b>S. K. Raghuwanshi</b> , V. Kumar	2012	Pulse propagation study of 1x4 multibranchopticalwaveguides using 3-Y branch optical waveguide	ProcediaInformationTechnology& ComputerScience, 3 <sup>rd</sup> World ConferenceonInformationTechnology,barcelona,Spain2012
59.	D. Chack, <b>S. K.</b> <b>Raghuwanshi</b> , V. Kumar, and NiteshkumarAgrawal	2012	Field propagation study of Y- branch assisted by MMI coupler	ProcediaInformationTechnology& ComputerScience, 3 <sup>rd</sup> World ConferenceonInformationTechnology,barcelona, Spain

# C.2. Paper Presented in India

S. No.	Authors	Year	Title	Name and Place of Conference	
1.	Md Danish Nadeem, S.K.Raghuwanshi, and P.S.Pandey	2023	Performance evolution of linearly chirped fiber Bragg grating for time delay analysis in beam steering for enhance communication	IEEE International Conference on Artificial Intelligence and Smart Communication (AISC) G.L.Bajaj – Greater Noida,India	
2.	Azhar Shadab, Md Tauseef Iqbal Ansari, Yadvendra Singh & S.K.Raghuwanshi	8-11 Jan 2020	Horizontal versus Vertically Etched Fiber Bragg Sensor for Refractive Index Sensing	National Laser Symposium- 28,VIT-Chennai	
3.	Yadvendra Singh, A. Sadhu and S. K. Raghuwanshi	8-11 Jan 2020	On Implementation of Highly Sensitive Evanescent Field Salinity	National Laser Symposium- 28,VIT-Chennai	
4.	Nimish Srivastava and Sanjeev Raghuwanshi	2019	Demonstration of highly steerable beamforming system incorporating a waveguide of spatiallydistributed fiber bragg grating	International Conference on Signal Processing & Integrated Networks (SPIN-2019), 7 - 8 March 2019, Amity University, Sec-125, Noida, Delhi-NCR, India	
5.	Vikas Kumar, Sanjeev Kumar Raghwwanshi and Ravishankar Tiwari	2020	Implementation of Helmet Mounted Display system to Control Missile 3D Movement and Object Detection	I    IEEE International Conferential      o    on Power Electronics & Iot      Applications    in Renewab      Energy and Its Control (PAR      2020), Department of Electric      Engineering, GLA University      Mathura, India	
6.	Sanjeev Raghuwanshi and Vikas Kumar	Jan 2019	Design and Development of Dual Axis Solar Panel Tracking System For	International Conference on Sustainable Computing in Science, Technology and	

7.	Manish Kumar, S. K. Raghuwanshi	Mar 2019	Normalized Performance Enhancement Of Solar Panel 'Realization of low-cost field- deployable He-Ne Laser based sensor	Management (SUSCOM-2019), February 26 - 28, 2019, Amity University Rajasthan, Jaipur, India 3rd International Conference on Optical & Wireless
			system to check quality of food from adulteration	Technologies (OWT 2019), March 16-17, 2019, Malaviya National Institute of Technology Jaipur (MNIT Jaipur), India
8.	VikashKumar,SnajeevKumarRaghuwanshiandAnkit Kumar	2018	Hand Talk System for Deaf and Dumb Person	International Conference on Mathematical Modelling and Scientific Computing, 2018, IIT Indore
9.	Ritesh Kumar and Sanjeev Kumar Raghuwanshi	2018	Microwave Optoelectronic Oscillator with Chirping Capability	The International Conference on Fiber Optics and Photonics (PHOTONICS 2018), Dec. 12- 15, 2018, IIT Delhi, India
10.	Akash Srivastava and <b>S. K. Raghuwanshi</b>	Sept. 2016	High chirp rate arbitrary microwave waveform generation by using improved temporal pulse shaping followed by LC-FBG	International OSA Network of Students (IONS) 2016, IIT (ISM) Dhanbad, Jharkhand, India, Sept 7-10, CO-Sponsored by OSI, SPIE
11.	Alisha Priya and <b>S. K.</b> Raghuwanshi	Sept. 2016	Study and analysis of Bragg grating in different sensor applications	International OSA Network of Students (IONS) 2016, IIT (ISM) Dhanbad, Jharkhand, India, Sept 7-10, CO-Sponsored by OSI, SPIE
12.	Aditi and <b>S. K.</b> Raghuwanshi	Sept. 2016	Indoor Optical Wireless Communication	International OSA Network of Students (IONS) 2016, IIT (ISM) Dhanbad, Jharkhand, India, Sept 7-10, CO-Sponsored by OSI, SPIE
13.	Saurabh Sambhav and <b>S. K. Raghuwanshi</b>	Sept. 2016	Mathematical approach to Stimulation in Tapered Optical Fibre	International OSA Network of Students (IONS) 2016, IIT (ISM) Dhanbad, Jharkhand, India, Sept 7-10, CO-Sponsored by OSI, SPIE
14.	Nimish Kumar Srivastava and <b>S. K.</b> Raghuwanshi	Sept. 2016	Photonic Generation of an Arbitrary Chirped Microwave Waveform for Increasing Range Resolution of RADAR	International OSA Network of Students (IONS) 2016, IIT (ISM) Dhanbad, Jharkhand, India, Sept 7-10, CO-Sponsored by OSI, SPIE
15.	Yadvendra Singh and S. K. Raghuwanshi	Sept. 2016	Beam Deflection Analysis using Finite Element Method for Different Loads	International OSA Network of Students (IONS) 2016, IIT (ISM) Dhanbad, Jharkhand, India, Sept 7-10, CO-Sponsored by OSI, SPIE
16.	Sumit Kumar Jindal and <b>Sanjeev kumar</b> Raghuwanshi	2016	Realization of 2:1 MUX using Mach Zehnder Interferometer structure and its application in selection of output signal of MOEMS pressure and temperature sensor	AIP Conference Proceedings 1715, 020009(2016), doi: 10.1063/1.4942691

17	Sumit Kumar Jindal	2016	Analytical comparison of circular	AIP Conference Proceedings
17.	and Sanjeev kumar Raghuwanshi	2010	diaphragm based simple, single and double touch mode- MEMS	1715, 020018(2016), doi: 10.1063/1.4942700
	0		capacitive pressure sensor	
18.	Sumit Kumar Jindal and <b>Sanjeev kumar</b> Raghuwanshi	2016	Study of materials for the design of MEMS capacitive pressure sensor	AIP Conference Proceedings 1724, 020118 (2016); https://doi.org/10.1063/1.49452 38
19.	VikramPalodiya, <b>S. K. Raghuwanshi</b>	11-14 March 2015	Comparative study of step index and trench assisted single mode optical fiber	4 <sup>th</sup> International conference on Current Developments in Atomic, Molecualar, Optical and Nano Physics with Applications (CDAMOP 2015) New Delh
20.	Ajay Kumar, <b>S. K</b> <b>Raghuwanshi</b> , Santosh Kumar	Jan. 30- 31, 2014	Photonic crystal Fiber Sagnac loop as a Flat top Comb-Filter	In proceeding National Conference on Emerging Trends in Engineering and Science (ETES) 2014, Asansol
21.	VikramPalodiya, S. K. Raghuwanshi, Ajay Kumar, Santosh Kumar	Jan. 30- 31, 2014	Effect of various Parameters on <i>LiNbO</i> <sub>3</sub> Modulator using Sellmeier's Equation	In proceeding National Conference on Emerging Trends in Engineering and Science (ETES) 2014, Asanso
22.	S.K Jindal, S.K Raghuwanshi	15, Dec- 2014	Analytical Solutions for square shape pressure Microsensors	IJRET, Volume: 03 Special Issue: 15, ICICT, CUSAT, Cochin, India
23.	Reena Sharma, S. K. Raghuwanshi	25-26 Sept. 2014	Analysis of cross phase modulation in EDFA based on the study of phase & frequency chirp	IEEE International Conference on confluence the Next Generation Information Technology Summit (Confluence), Amity University Noida, India, pp. 467-470, 25- 26
24.	VikramPalodiya, Santosh Kumar, Ajay Kumar, S. K. Raghuwanshi	Dec. 2013	Dispersion Properties of Solid Core Bragg Fiber having an Arbitrary Refractive Index Core Profile for DWDM Applications	In IEEE proceeding International Conference of Microwave and Photonics 2013, Dhanbad
25.	Ajay Kumar, <b>S. K.</b> <b>Raghuwanshi</b> , Santosh Kumar	Dec. 2013.	Analysis of Various Optical Filtering Techniques	In IEEE proceeding International Conference of Microwave and Photonics 2013, Dhanbad
26.	Reena Sharma S. K. Raghuwanshi	Dec. 2013	Matlab simulink based test bed of QW laser for optical communication system	IEEE International conference on microwave and photonics (ICMAP) Dhanbad
27.	DevendraChack, <b>S. K. Raghuwanshi,</b> V. Kumar, NiteshkumarAgrawal	6 to 8 April 2013	Analyzing the Optimum Parameter of an 1×2 MMI Splitter	IEEE, International Conference on Communication Systems and Network Technologies, Gwalior, India
28.	<b>S. K. Raghuwanshi</b> , Santosh Kumar	Decembe r 17-19, 2012	Analysis of Multimode interference star coupler having s-bend waveguide	Proceeding of IEEE 5 <sup>th</sup> International Conference on Computers and Devices for Communication-CODEC 2012, Kolkatta, India

<b></b>				
29.	S. K. Raghuwanshi, Santosh Kumar	July 26- 28, 2012	Derivation of dispersion equation by using equivalent transmission line	Proceeding of IEEE International Conference on
			method for the case of planar slab optical waveguide structure	Optical Engineering 2012, pp. 109-112, VTU Belgaum, India
30.	Santosh Kumar, S. K. Raghuwanshi	July 26- 28, 2012	Analysis of step discontinuities in rectangular MMI coupler by beam propagation method	Proceeding of IEEE International Conference on Optical Engineering 2012, pp. 157-163, July 26-28, 2012, VTU, Belgaum, India
31.	S. K. Raghuwanshi, Ajay Kumar, and Santosh Kumar	May 11- 13, 2012	Design and analysis of finite/infinite impulse response optical filter for signal processing	IEEE 2012 International Conference on Communication Systems and Network Technologies (CSNT-2012), pp. 529-533, Rajkot, India
32.	SanjeevKumarRaghuwanshi,V. Kumar,DevendraChackSantosh Kumar	May 11- 13, 2012	Propagation Study of Y-Junction Optical Splitter using BPM	IEEE 2012 International Conference on Communication Systems and Network Technologies (CSNT-2012), pp. 625-629, Rajkot, India
33.	<b>S. K. Raghuwanshi,</b> Santosh Kumar D. Chack	March 16-18, 2012	Dispersion Study of a Non-uniform Dielectric Planar Slab Optical Waveguide	Proceeding of IEEE Students' Conference on Engineering and Systems (SCES-2012), pp. 68, MNIT Allahabad
34.	Santosh Kumar, S. K. Raghuwanshi	March 16-18, 2012	Derivation of Eigen Value Equation for Multiple Clad/Core Planar Slab Optical Waveguides: A General Approach	Proceeding of IEEE Students' Conference on Engineering and Systems (SCES-2012), pp. 68, MNIT Allahabad
35.	S. K. Raghuwanshi, DevendraChack	Nov. 3-4, 2011.	Dispersion Study of an In- homogenous Dielectric Planar Slab Optical Waveguide	National Seminar on frontiers in Electronics, Communication, Instrumentation and Information Technology (FECIT-2011), pp. 37, paper ID PTS-10, Indian School of Mines Dhanbad,
36.	Santosh Kumar, <b>S. K. Raghuwanshi</b>	Nov. 3-4, 2011	Derivation of Eigen Value equation for Double Clad/Double Core Planar Slab Optical Waveguides	National Seminar on frontiers in Electronics, Communication, Instrumentation and Information Technology (FECIT-2011), pp. 38, paper ID PTS-11, Indian School of Mines Dhanbad
37.	<b>S. K. Raghuwanshi,</b> V. Kumar, R.R. Pandey	18 and 19 March 2011.	Performance study of Exponential varying Refractive index Planar Slab Optical waveguide	Proceeding of IEEE International conference on computer, communication & Electrical technology (ICCCET), Tirunelveli,Tamilnadu, India, pp. 16-20
38.	R. R. Pandey, S. K. Raghuwanshi	June 14- 16, 2011	Analysis of linear tapered dielectric optical waveguides using matrix approach	13 <sup>th</sup> International Conference of International Academy of Physical Sciences (CONIAPS- XIII), Dehradun, India
39.	<b>S. K. Raghuwanshi</b> , V. Kumar, R. R. Pandey	June 14- 16, 2011	Dispersion study of cylindrical dielectric waveguide without computing $\frac{d^2\beta}{dk^2}$ numerically	13 <sup>th</sup> International Conference of International Academy of Physical Sciences (CONIAPS-

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				XIII), June 14-16, 2011, Dehradun, India
40.	<b>S. K. Raghuwanshi,</b> V. Kumar, D. Chack	2011	Analysis of Step Discontinuity in a Single Mode Planar Slab Taper Optical Waveguide	ProceedingofIEEEInternationalConferenceonComputationalIntelligenceandCommunicationNetworks(CICN-2011),pp.192-196,Gwalior, IndiaIntelligenceIntelligence
41.	<b>S. K. Raghuwanshi,</b> V. Kumar	29-30 Nov. 2010	Analysis of Double Clad Single- Mode Step-Index fibers having depressed versus raised inner Cladding	International conf. in comm., comput. control and nano-tech. (ICN 2010), Bhalki India.
42.	S. K. Raghuwanshi	29-30 Nov. 2010	Ray paths in an Elliptic parabolic refractive index profile fiber	International conf. in comm., compute. Control. andnano- tech. (ICN 2010), Bhalki India
43.	S. K. Raghuwanshi, A. Tiwari R. Pandey	22-24 Dec. 2010	Study of Mode Cut-off Condition of Single Mode Planar Slab Optical Waveguide	12 <sup>th</sup> International Conference of International Academy of Physical Sciences (CONIAPS XII), Jaipur
44.	S. K. Raghuwanshi	6th to 7th March 2009	Analysis of Integrated Optical Micro- Ring Resonator	NationalconferenceonInformationandCommunicationTechnology,organizedbyMukeshPatelSchoolofSchoolofTechnologyManagementandEngineering,NMIMSUniversity,NCICT –6thto7thMarch2009,Mumbai
45.	S. K. Raghuwanshi	6th to 7th March 2009	Basics of MEMS/MOEMS Technology	NationalconferenceonInformationandCommunicationTechnology,organizedbyMukeshPatelSchoolofSchoolofTechnologyManagementandEngineering,NMIMSUniversity,NCICT6thto7thMarch2009,Mumbai.
46.	S. K. Raghuwashi	3-5, Dec. 2009	Study of 1-D photonic crystal fiber by using plane wave expansion method	National workshop on Quantum confined systems and nano-scale devices, Kerala.
47.	S. K. Raghuwanshi	2009	Low dispersion due to square law medium profile	Annual University Magazine of Sir PadampatSinghania university
48.	<b>S.K.Raghuwanshi</b> S. Talabattula	3-5 Jan. 2008	Multilayer thin-film filters	Proceedings of second Interantional Conference on Resource Utilization & Intelligent Systems (INCRUIS- 2008), pp. 699-703, 3-5 Jan. 2008, Perundurai, Erode, T.N., India.
49.	<b>S.K.Raghuwanshi</b> S. Talabattula,	3-5 Jan. 2008	Asymmetric group-velocity dispersion due to pulse walk-off effect	ProceedingsofsecondInterantionalConferenceonResourceUtilization&

			in wide band WDM Raman	Intelligent Systems (INCRUIS-
			amplification systems	2008), pp. 465-469, 3-5 Jan. 2008, Perundurai, Erode, T.N., India.
50.	<b>S. K. Raghuwanshi</b> , S. Talabattula	27-30 May 2008	A numerical technique to generate data points for electric field lines and equipotential lines for arbitrary configuration of point sources	MCDES-IISc, Centenary Conference on Managing Complexity in a Distributed World, Paper I.D30
51.	<b>S.K.Raghuwanshi,</b> Ra ghunath K., S. Talabattula	1-3 Feb. 2007	Fiber Bragg grating technology: Applications for telecommunication engineering as a WDM component	International conference on Advances in Electronics and Communications (icon ADELCO-2007), Kovilpatti, Tamilnadu, pp. 179-188
52.	<b>S. K Raghuwanshi</b> S. Talabattula	1-3 March 2007	Contra-directional/co-directional coupling between modes in a fiber Bragg grating	Proceedings of XXXII Optical Society of India (OSI) Symposium on Contemporary Optics & Applications, pp. 41- 42, Vadodara, India
53.	<b>S. K Raghuwanshi</b> S. Talabattula	1-3 March 2007	Degenerate/non-degenerate modes coupling in an optical waveguide	Proceedings of XXXII Optical Society of India (OSI) Symposium on Contemporary Optics & Applications, pp. 50- 51, Vadodara, India.
54.	<b>S.K.Raghuwanshi,</b> M. Mittal S. Talabattula	9-11 April 2007	Dispersion in an uniform long period grating: Transmission spectra	National Conference on Recent Trends in Optoelectronics & Laser technology NCOL-2007, pp. 50-51, Thiruvananthapuram, Kerala, India
55.	<b>S.K.Raghuwanshi</b> S. Talabattula	17-20 Dec. 2007	Electromagnetic analysis of the planar slab waveguide	International conference on Microwaves & Optoelectronics (ICMO-2007), pp. 3-11, Aurangabad, India
56.	<b>S. K. Raghuwanshi</b> S. Talabattula	17-20 Dec. 2007	Mode identification in step-index circular waveguides	International conference on Microwaves & Optoelectronics (ICMO-2007), pp. 67-74, Aurangabad, India.
57.	<b>S.K.Raghuwanshi</b> S. Talabattula,	6 April 2006	Fiber design to achieve flat gain amplification for fiber Raman amplifier	Proc. of 3 <sup>rd</sup> National conference on Advances in Electronic Communications (ADELCO- 2006), pp. 55-60, Kovilpatti, Tamilnadu, India.
58.	<b>S.K.Raghuwanshi,</b> S. Talabattula	7-8 Sept. 2006	Low dispersion Management by using Graded index waveguide	Proc. of National conference on Recent Trends in Electrical, Electronics, Computer Science & IT Engineering (TECHNO FLASH-06), pp. 1, 7-8 Sept. 2006, Chennai, India.

59.	S. Talabattula	6-8 Oct. 2006	Analysis of square shape planar slab waveguide with periodic rectangular strip of dielectric layers for dispersion management in optical fiber communication links	National conference on Recent Advancements in Microwave Techniques & Applications, pp. 355-359, 6-8 Oct. 2006, Jaipur, India.
60.	<b>S.K.Raghuwanshi,</b> S. Talabattula A. Selvarajan	6-8 Oct. 2006	Analysis of hexagonal shape holey optical fiber having arbitrary refractive index profile by using 2-D FEM method	National conference on Recent Advancements in Microwave Techniques & Applications, pp. 140-145, Jaipur, India
61.	S.K.Raghuwanshi S. Talabattula	Dec. 18- 20, 2006	FDM method to solve nonlinear Schrodinger equation: A Solitions formation	3 <sup>rd</sup> International conference on Computers and Devices for Communication CODEC-2006, University of Calcutta, pp. 516- 520, India.
62.	<b>S.K.Raghuwanshi</b> S. Talabattula	Dec. 18- 20, 2006	Computational method for analysis of 3 D rectangular waveguide: A 2 D finite element approach	3 <sup>rd</sup> International conference on Computers and Devices for Communication CODEC-2006, University of Calcutta, pp. 497- 500, India
63.	S.K.Raghuwanshi, P. K. Pattnaik, B. Bathula, Bh. Vijayaaditya, S. TalabattulaPapannared dy R	2006	Crank-Nicholson scheme for analysis of pulse propagation problem through a nonlinear Directional Coupler	Proceedings of Eighth International conference on Optoelectronics, Fiber Optics and Photonics-2006, UH, India NLO 52.
64.	<b>S. K .Raghuwanshi</b> , P. Jain S. Talabattula	12-15 Dec. 2005	Pulse distortion due to Pulse walk-off in wide band WDM Raman amplification systems	Proceedings of International conference on Optics & Optoelectronics (ICOL-2005), IRDE, Dehradun, India (PP- FIO-47).
65.	P. Jain, <b>S.K.Raghuwanshi</b> S. Talabattula	12-15 Dec. 2005	A novel approach to analyze Z- varying integrated optical waveguides	Proceedings of International conference on Optics & Optoelectronics, IRDE, Dehradun, India (PP-FIO-22).
66.	S. K. Raghuwanshi	Dec. 2004	An algorithm to design the optimal flat gain fiber Raman amplifier	National Conf. on Microwave and Optoelectronics (NCMO), Aurangabad

## 7.3. Details of Book Publication

These are my few Book publications as follows:

Book No.	Title	ISBN	Publisher	Date of Publication	Cost	Author/ Co- Author
1.	Geometric Feature-Based Fiber Optic Surface Plasmon	978-981-99- 7297-5	Springer Singapore	2023	£149.99	Sanjeev Kumar Raghuwanshi,

	Resonance Sensors					Santosh Kumar, Ritesh Kumar
2.	2D Material for the Surface Plasmon Resonance Sensing	9781032041421	CRC Press, Taylor & Francis	2021	£110	Sanjeev Kumar Raghuwanshi, Santosh Kumar and Yadvendra Singh
3.	FiberOpticCommunicationOpticalWaveguides,DevicesApplications	978-93-86235- 21-3	Universities Press	2017 (First Edition Aug. 2017)	465 INR	Sanjeev Kumar Raghuwanshi, Santosh Kumar
4.	Contemporary Optical Fiber Technology	978-9381124- 16-1	"AXIOE" Books, India (A division of Agarwal publication)	First Edition (Sept 2011)	400 INR	Sanjeev Kumar Raghuwanshi
5.	Fundamental of Electromagnetics Field Theory	978-93-85079- 28-3	"AXIOE" Books, India (A division of Agarwal publication)	First Edition (April 2015)	260 INR	Sanjeev Kumar Raghuwanshi, Santosh Kumar
6.	Numerical Study of Propagation in Optical Waveguides and Devices	978-3-639- 22167-1	International VDM publisher Germany	2009-11-27 00:00:00	68 Euro (100 US)	Sanjeev Kumar Raghuwanshi, SrinivasTalabattula
7.	Optical Switching DEVICES	978-620-0- 25794-9	Lambert Academic Publishing, Europe	First Edition Sept 2019	78 Euro	Santosh Kumar and Sanjeev kumar Raghuwanshi

#### > Chapter/Technical Report

- My one chapter on the topic "Optical Networking: Current Issue and Review" has been published in the book titled, Technologies and Protocols for Future Internet Design: Reinventing the Web". Book published by: IGI Global. 701 E. Chocolate Avenues, Suite 200 • Hershey PA 17033-1240, USA Tel: 717.533.8845
- 2. Raghuwanshi S.K., Kumar M., Priya A. (2018) High-sensitive Fiber Bragg Grating Sensor for Different Temperature Application. In: Janyani V., Tiwari M., Singh G., Minzioni P. (eds) Optical and Wireless Technologies. Lecture Notes in Electrical Engineering, vol 472. Springer, Singapore.
- 3. Vikash Kumar, Sanjeev Kumar Raghuwanshi and Ankit Kumar (2019), Mathematical Modelling and Scientific Computing with Applications, Springer Nature Singapore Pte Ltd.

- Azhar Shadab, Yadvendra Singh, Sanjeev Kumar Raghuwanshi and Mohd Dilshad Ansari (oct- 2020) "Comparative Analysis of Horizontal and Vertical Etched Fiber Bragg Sensor for Refractive Index Sensing" 698, Page no.- 1367-1374, Springer- ICCCE 2020, Lecture Notes in Electrical Engineering.
- Ritesh Kumar, Yadvendra Singh, Sanjeev Kumar Raghuwanshi, Satish Chandra, Danish Nadeem "Delay and Dispersion Investigation of Optical Components for Microwave Photonic Filter" VLSI, Microwave and Wireless Technologies Pages 693-703 Publisher Springer, Singapore, 2023

# Professional recognition/Awards/Research/Fellowship and Other Academic and Corporate Activities

- Availed the financial assistance from SERB for attending SPIE Photonics West 2024, USA (27 January, 2024 to 01 February).
- Nominated as an expert member of the AICTE Expert Visit committee for conducting physical visit to AICTE approved Institutions/ Universities.
- Achieved to review the proposal for Post Doctoral research program from IIT Roorkee.
- As for holding administrative post, presently the responsibility of Departmental Grievance Redressal Committee (DGRC) member of Electronic Engineering Department of IIT (ISM) has been assigned to me on 28/02/2024.
- On the basis of research activity received the honor to be the top 2% of Scientists in a survey conducted recently by Stanford University and Published by Elsevier [Elsevier's data base -2023]
- Appointed as Associate Editor of the reputed journal name: IEEE SENSORS JOURNAL in April -2023
- I am one of the project reviewers in DST-SERB funded project, with the File name : SPG/2022/001255 and the Proposal title : Blood cell counting and disease detection using image processing techniques applied to microscopic images.
- As for holding administrative post, presently the responsibility of hostel wardenship of boy's hostel of IIT (ISM) has been assigned to me from 01/07/2022 to 30/06/2024.
- I am one of the project reviewers in DST-SERB funded project, with the File name: CRG/2022/004686 and the Proposal title: Study on metal-oxide bilayer system for the development of photonic neuromorphic devices stimulated by visible light.
- XLV Symposium of the Optical Society of India <u>COPaQ 2022</u> Conference on Optics, Photonics & Quantum Optics of IIT-Roorkee has invited me to join the technical program committee of COPaQ 2022.
- NITK IEEE Student Branch in association with IEEE Bangalore Section and IEEE Mangalore subsection has invited me to join the technical program committee of ICRAIE 2022.
- I am one of the members to provide the recommendation letter for US immigration application of Mr. Fan, a Post Doc at UC Berkeley
- On the occasion of 97<sup>th</sup> foundation day of IIT-ISM Dhanbad , I have received the award for the Best researcher for session 2021-2022.
- On the basis of research activity received the honor to be the top 2% of Scientists in a survey conducted recently by Stanford University and Published by Elsevier [Elsevier's data base -2022] <u>https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/4?fbclid=IwAR0bpdsb6fD4oxXBo-k0Tc4xd6AuLB3WcYECnu3ise7UJEvcPBtE4jHyAhM</u>
- One of the members of advisory committee of 2nd International Conference AECE-2022 Advancement in Electronics & Communication Engineering sponsored by AICTE, organized by RKGIT-Ghaziabad.

- On the basis of research activity received the honor to be the top 2% of Scientists in a survey conducted recently by Stanford University and Published by Elsevier [Elsevier's data base -2021]
- Successfully organized 1 week [18th oct to 23rd oct] online High-End workshop "on photonics sensor for the chemical and gas detection". Under the program name Karyashala with File Number: AV/KAR/2020/0055 and received 1.5 Lakh Rupees sanctioned by **SERB** for an Event.
- Short listed for an Associate Professor post two times at Electrical and Computing engineering department of IIT Mandi during 2014-2015.
- Short listed for an Associate Professor post at Electronics Engineering department of IIT Bhbneshwar during 2016.
- Short listed for an Associate Professor post at Electrical Engineering department of IIT Bhilai during 2017.
- Short listed for a faculty position at Electrical Engineering department by IITRAM Ahmedabad, IIT Goa and IIT Dharwad during 2018.
- Short listed for an Associate Professor post two times at Electrical Engineering department of IIT Indore during 2016-2017.
- Short listed for an Associate Professor at Electrical Engineering department of IIT Patna during 2017.
- UPSC Indian Engineering Services Exam (IES) -2000 and IES-2008 Written Qualified in Electronics & Comm. Engineering Paper.
- Selected for BSNL (Junior Telecom Officer)-2002 JTO post through All India exam in Electronics & Telecommunication Engineering paper and appointed JTO in Maharashtra Telecom Circle.
- MHRD Scholarship received during M Tech and PhD programs. All India GATE -1999 Rank-93 in Instrumentation Engineering paper.
- Honorarium award of Rs. 3000 received from Indian J. Physics in 2010 for the publishing the review articles on Frontier topics.
- Awarded by "Shiksha Rattan Puraskar" and "certificate of excellence" by India International Friendship Society New Delhi for the year of 2011.
- Recipient of Award for "excellence in Research" for year 2016 under by EET CRS, 4<sup>th</sup> Science and technology Award, ceremony held on 12 June 2016 at Tulip Inn Bangalore
- Bestowed "Bronze" category in recognition of the contribution towards building nation for assessment year 2019-2020 by Ministry of Finance, Central board of Direct Taxes, Government of India,
- Elevated "IEEE Senior Member" Grade 2019.
- Rula International Research Peace Award Accredited by, "Idamas Learning Center, Malaysia "under the title "" *Distinguished Researcher in optical fiber sensors*" for the Year 2019.
- Recipient of Award for "outstanding faculty award" (Nomination Code FA16NC1219) by Venus International Faculty Awards-VIFA 2016, ceremony held on 9th July 2016 at Green Park Chennai
- Institute Award: "CANARA BANK RESEARCH PUBLICATION AWARD-2018" (Best Researcher in Electronics Engineering) given by IIT (ISM), Dhanbad.
- Institute Award: "CANARA BANK RESEARCH PUBLICATION AWARD-2017" (Best Researcher in Electronics Engineering) given by IIT (ISM), Dhanbad.

- Institute Award: "CANARA BANK RESEARCH PUBLICATION AWARD-2016" (Best Researcher in Electronics Engineering) given by IIT (ISM), Dhanbad.
- Nominated for Academic survey of QS Asia University Ranking of NITK Surathkal, India for the year 2020-2021.
- Recommended for International travel grants by **Department of Science and Technology** and registration fees to attend one international conference PIER-2009 USA in 2009 at Cambridge University, USA.
- Recommended and availed International travel grants by **Department of Science and Technology** to attend one international conference on Photonics 2016 in 2016 at Berlin, Germany.
- Recommended and availed International travel grants by "**Department of Science and Technology**" to attend one international conference on Photonics West SPIE- 2020 in San Francisco California USA.
- Honored with 1<sup>nd</sup> position in ECE Department of IIT(ISM) Dhanbad for appreciable performance in terms of cumulative highest Thomson Reutor (SCI index) paper publication during the years 2013-2017.
- **Post Doctoral Fellowship** of 1800 Euro per month in the program of Erasmus Mundus Mobility with Asia (EMMA)-4, Cohort 02 West 2013 at Department of Information Engineering University of Padova, Italy during Oct 2014-April 2015 (**Not availed**).
- Post Doctoral Fellowship of 1800 Euro per month in the program of Erasmus Mundus Mobility under Areas+ project program at Instrumentation and Sensor Division, School of Engineering and Mathematical Sciences, Northampton Square, City University London, EC1 V 0HB, UK during Oct 2014-April 2015 (Availed).
- **Visiting Scientist** under MOU Educational exchange programme in National United University, Miaoli Taiwan during 13 June 2014 to 13 July 2014.
- Availed the SPIE (the international society for optics and photonics) Travelling Grant as an Invited Speaker at DIT university Dehradun, of Conference on Recent Trends in Emerging Technologies (RTET-2015)
- India during December 19-20, 2015.
- Short listed for faculty post at "UNIVERSITI TEKNOLOGI PETRONAS (UTP)", in **Malaysia** recently (Not interviewed).
- Published My Biography in "Who's Who in the World" published by Marquis America since 1899 upcoming 2010 Edition which had been scheduled for publication in November 2009.
  \* http://www.marquiswhoswho.com \*
- "Best Citizen Award" for the year 2011 by best citizen publishing house New Delhi.
- Participated as BOCS member of B. Tech. Program of B. I.T. Sindri (Department of Higher, Technical Education & Skill development) Govt of Jharkhand.
- Visited Moscow State Institute of Radio Engineering, Electronics and Automation Moscow, Russia in August 2012 to attend one reputed international PIERs conference.

- Technical Program Committee member of 6th IEEE/International Conference on Advanced Infocomm Technology (IEEE/ICAIT 2013), which were held in Hotel Royal Hsinchu, Hsinchu, Taiwan from Jul. 6 to Jul. 9, 2013.
- Award for Excellence in Research (Certificate of Excellence) of 4<sup>th</sup>Science and Technology Award (http:<u>educationexpo.tv</u>) from "EET CRS Research wing for Excellence in Professional Education & Industry" which was held in Bangalore India during 12<sup>th</sup> June 2016.
- Outstanding Faculty (Optical Fiber Communication) of the faculty award VIFA 2016 (http:/<u>www.venus.info</u>) from Venus International Contemporary Academic Meet - VICAM 2016 (www.venusinfo.org/cam. html) at Chennai, India.
- Delivered an Invited Talk on "Photonic Microwave Arbitrary Waveform Generation with Adjustable Chirp Parameter based on Remote Sensing Applications" at "4<sup>th</sup> International conference on Photonics" to be held from 28-07-2016 to 30-07-2016 in Berlin Germany.
- Potential reviewers of the manuscript to be published in Journal of Electromagnetic waves and applications (JEMWA) and **progress in Electromagnetic research (PIERS)** letters being published by Cambridge USA.
- Potential reviewers of the **Journal of Optics (Springer)** published by the Optical Society of India since 2012.
- Potential reviewers of the European Physical Journal (Springer) published by France EDP sciences since 2014.
- Potential reviewers of the Applied Optics (OSA) published by the Optical Society of America since 2015.
- Potential reviewers of the **Optical and Quantum Electronics (Springer)** published from New York since 2015.
- Potential reviewers of the Journal of Computational Electronics (Springer) published from New York since 2015.
- Potential reviewers of the **Optics Communication** (Elsevier) since 2014.
- Potential reviewers of the Journal of Optical Communications since 2016.
- Potential reviewers of the Lasers in Engineering since 2016.
- Potential reviewers of the Photonic Network Communications (Springer) since 2016
- Potential reviewers of the IEEE Transactions on Instrumentation & Measurement since 2015.
- Potential reviewers of the IEEE Photonics Journal.
- Potential reviewers of the Optics Letters (OSA) USA since 2019.
- Potential reviewers of the **Journal of modern optics** (*Taylor and Francis*) published from U.K. London since 2016.

- Potential reviewers of the **Optik** (Elsevier) published from New York since 2016.
- Potential reviewers of the International Journal for Numerical Methods in Biomedical Engineering (*Wiley publisher*) since 2016
- Potential reviewers of the **Sadhana Academy Proceedings** in Engineering Science (Springer) published by Indian Academy of Science Bangalore 2015.
- Academic Council member of SPSU University Udaipur Rajasthan during sept 2009 to Nov 2009.
- Faculty in charge of the Electronics Engineering **Department of Indian School of Mines** Dhanbad since May 2010.
- Faculty In charge of M. Tech degree program of Electronics Engineering **Department of Indian School of Mines** Dhanbad since 2013.
- Being organized the short term course and national conference on Photonics and integrated optics at Indian School of Mines, Dhanbad in 2011.
- Organized the Photonics Simulation workshop funded by Optical Society of America (OSA) student chapter of ISM Dhanbad in 2014.
- Co-ordinator of International conference on Microwave and Photonics during Dec. 2011 and Dec. 2013 at Indian School of Mines Dhanbad.
- Nominated for Best PhD award at Electrical and Communication Engineering department, at I. I. Sc. Bangalore in 2009.
- My paper entitled, "DESIGN AND DEVELOPMENT OF DUAL AXIS SOLAR PANEL TRACKING SYSTEM FOR NORMALIZED PERFORMANCE ENHANCEMENT OF SOLAR PANEL", was recently listed on SSRN's Top Ten download list for: EngRN: Green Energy Engineering (EngRN) as on 28 Feb 2020.
- My student Mr. Ajay Kumar Awarded a Best M. Tech. Thesis award in the year 2011-2012 in the Department of Electronics Engineering Indian School of Mines Dhanbad
- Guided several students for their summer and winter industrial training program in Electronics Engineering department of ISM Dhanbad since 2010 onwards.
- Canteen secretary and council member of Hostel-1 of IIT Bombay during 2004-2005.
- Nominated as a faculty advisor for ECE dept. to monitor the academic activities of all SC/ST students since 2011.
- Editor member of the STM Journal of India since March 2011 having website: \*www.stmjournals.com/\*
- Member of the Editorial Board of i- manager's Journal on Circuits and Systems since 2012.
- Editor member of **International Journal of Optical Sciences** of India since March 2014 having website: \*<u>http://physics.journalspub.info/index.php/IJOS/about/editorialTeam\*</u>

- Editor member of **International journal of Solid State Material** of India since March 2014 having website: <u>http://physics.journalspub.info/index.php/IJOS/user/register</u>
- Editor member of Journal of Microwave Engineering and Technologies'' of India since March 2014 having website: <u>http://stmjournals.com/tech/index.php?journal=JoMET&page=about&op=editorialTeam</u>
- Member of the Editorial Board of i- manager's Journal on Circuits and Systems.
- Editor member of the JITBM International Journal of Information Technology and Business Management" Journal of India since April 2012 having website:\*<u>http://www.jitbm.com/</u>.
- Join on Aug 2012 as an "Editorial Board Member" of International Journal of Advanced Computer Research (IJACR) which is published under ACCENTS. http://eaas-journal.org/info/Editorial-Board/535/0 which is published under ACCENTS. http://eaas-journal.org/info/Editorial-Board/535/0.
- Join on Aug 2013 as an "Editorial Board Member" of International i-manager's Journal on Circuits and Systems having webpage: www.imanagerpublications.com
- Member of the Editorial Board of i- manager's Journal on Circuits and Systems.
- Join on Oct 2013 as an "Editorial Board Member" of International Bio info Publications Journals having webpage <a href="http://www.bioinfopublication.org/journal.php?opt=azjou&jouid=BPJ0000209&detail=editorial">http://www.bioinfopublication.org/journal.php?opt=azjou&jouid=BPJ0000209&detail=editorial</a>
- Join on Jan 2014 as an "Editorial Board Member" of Journal of Microwave Engineering (STM journal) having webpage: <u>http://stmjournals.com/tech/index.php?journal=JoMET&page=index</u>
- Implemented one ISM project of 5.8 lakhs under faculty research scheme.
- Shortlisted for INSA(INDIAN NATIONAL SCIENCE ACADEMY) Visiting Scientist Programme 2020 (FY2020-21)

#### 8.1. Membership/Fellowship of Professional Societies

- Optical Society of India-Fellow Member
- o International Academy of Physical Sciences (IAPS)- Life member
- Society of Electronics Engineering- Annual member (Dhanbad Chapter)
- o IEEE Photonics Society- Annual
- Indian Laser Association-*Life member*
- IEEE Communication Society-Annual
- Institution of Electronics and Telecommunication Engineers (IETE), India -Fellow (Life) Member
- o Indian Institute of Science (IISc) Alumni Association-Fellow (Life) Member
- Life member of Institution of Engineers (India)
- Annual member of European Physical Society
- World Research Council-Life member

# 8.2. Lab Set Up in ECE ISM Dhanbad

I have actively participated for setting up the following labs in department of Electronics Engineering Indian School of Mines:

Sr.	Name of	Name of Equipments/Software's	Qu	Total cost	Total Cost:		
No	Laboratory	Purchased	ant	per Items	%VAT+Deli		
			itv		verv		
			103		(er)		
					charges)		
		Light Runner	02	1265000/-	1265000/-		
		Analog Intensity Mach-zehnder	01	490000/-	490000/-		
		interferometer					
	Hardware for	Fiber Bragg grating	02	30000/-	30000/-		
	Optical fiber R&D lab	1. Mode Observation Trainer (Model FO- MOT)	01	90,000/-			
	+	2. Physics of Fiber Optic Lab (Model FO-PHY)	01	3, 50,000/-			
	Optical Fiber	3. Advanced Fiber Optic Communication Lab	01	1, 35,000/-			
	lau	4. Fiber Optic Communication Trainer kit	02	60,000/-	12. 22267.5/-		
		5. Advanced Fiber Optic Communication- Trainer kit (Model Link-B)	02	90,000/-	,,		
		6. Basic Fiber Optic Trainer kit (Model Link-C)	02	50,000/-			
		7. Physics of Fiber Optic Trainer kit (Model Link-D)	02	50,000/-			
		8. Laser Diode and Glass Fiber based Fiber Optic Trainer (Model Link-E)	02	100000/-			
		9. 850 nm Fiber optic LED Source and- Detector module (Model FOM-1A)	02	1, 61,460/-			
	Software for	1. "OPTI-SPICE Software"	01	490000/-			
	optical Fiber	2. "OPTI-GRATING Software"	01	380000/-	12,50000/-		
		3. "OPTI-FIBER Software"      01      380000/-					
	R&D lab	4. "OPTI-BPM Software"	01	480000/-	480000/-		
		1. Power Electronics Characteristics Trainer	01	10000/			
		(Nodel PEDIVITUOAD)	01	15 000			
		3. Characteristics of DIAC (Model THY01)	02	6000/-			

		4. Characteristics of TRIAC (Model THY02)	02	6000/-	
		5. Characteristics of DIAC and TRIAC (Model THY03)	02	6000/-	
		6. Characteristics of SCR, (Model THY04)		6000/-	88 100/
	Power Electronics Lab	7. Characteristics of Uni-junction Transistor (UJT) (Model THY06)	02	6000/-	88,1007-
	Licenomes Lub	8. SCR triggering using R Circuit (Model SCR00)	02	4000/-	
		9. SCR triggering using R-C Circuit (Model SCR01)	02	4000/-	
		10. SCR triggering using UJT relaxation oscillator (Model SCR04)	02	4000/-	
		11. Single Phase Half Wave Rectifier Trainer (Model RECT01)	02	4000/-	
		12. Chopper using SCR (Model CHOP01)		8000/-	
	Control System	1. Closed Loop Control system (Model CNT02)	02	5000/-	
	Lingineering	2. Closed Loop P.I.D. Control System (Model CNT04)	02	30,000/-	
		3. Basic feedback control system (Model CNT05)	02	5000/-	
		4. Type '0' Control system (Model CNT06)	02	8000/-	
		5. Type '1' Control system (Model CNT07)	02	8000/-	
		6. Type '2' Control system (Model CNT08)	02	8000/-	1, 28800/-
		7. Feed forward control system (Model CNT13)	02	8000/-	
		8. P Control system (Model CNT14)	02	8000/-	
		9. P-I Control system (Model CNT15)	02	8000/-	
		10. P-D Control system (Model CNT16)	02	8000/-	
		11. Bode plot Trainer (Model CNT21)	02	10000/-	
		12. First and second order control system (Model CNTFS100)	02	6000/-	
				Total cost	4,954,167.5/-

# 9. Consultancy work

Few of my activities related to research and consultancy work are as follows:

- International project evaluator/ reviewer of FIS-Italy **project** Italian fiscal code: **FIS\_00001983 del** 21/12/2021 22:51:02 in December 2022
- Delivered a talk as speaker in Five days FDP on "Recent Trends of communication: Photonics Technology" on Advancement of optical fiber technology and Microwave Photonics Technology for recent trends of communication from" 01.08.2022 to 05.08.2022 in VIT -Vellore.
- Delivered a talk as speaker in 5 days Online **AICTE Training and Learning (ATAL) Academy** FDP on " Recent Trend and Advancement of Optical Fiber Sensors" from 17<sup>th</sup> to 21<sup>st</sup> Jan. 2022 organized by Electronics & communication department of NIT Manipur-Imphal.
- Received INSA fellowship of Rs. 30000/- under the title of **Design and Development of Grating assisted Surface Plasmon Resonance (SPR) Chemical sensor with IoT monitoring system for the Indian coal mines, to visit Indian Institute of Science, Bangalore**, for the financial year 2020-21 (02 December 2021 to 02 Jan 2022) with INSA Sanction Letter No. & date: **INSA/SP/VSP-03/2020-21, 02 March 2020**
- Prepared Term end Examination question papers for the courses of Engineering Programme of Saveetha Institute of Medical and Technical Sciences, Chennai in Dec.2021
- 3 Lakhs Rupees sanctioned by **SERB** for an Event Title "Workshop on photonics sensors for the chemical and gas detection". On 29/11/2020 under the <u>Karyashala</u> with File Number: **AV/KAR/2020/0055.**
- Delivered a talk as speaker in one-week Online ATAL FDP on "Photonics" from 01 to 05 February 2021 organized by Electronics & communication department of NIT Karnataka.
- Delivered a talk as speaker in AICTE-AQIS Sponsored Short Term Training Program (STTP) from 07th 12th December 2020 on Artificial intelligence and 5G Communication technology organized by Electronics & communication department of Poornima College of Engineering, Jaipur
- Delivered a talk as speaker in One Week FDP on "Machine Learning Based 5G Wireless Communication Systems from 04.01.2021 to 08.01.2021 organized by communication Engineering department of VIT Vellore.
- Delivered a talk as speaker in IEEE Workshop on Advances in Nanophotonic devices & amp; Sensors from 07<sup>th</sup> 11<sup>th</sup> December 2020 organized by Electronics & communication department of NIT Karnataka
- Review of two Books published by Tata McGraw Hill on Electromagnetic wave subject and got Honorarium award
- 2 Lakhs Rupees consultancy done during one Short Term course on microwave and Photonics during May 2016 at ISM Dhanbad.
- Participated as a session chair and advisory committee member of some important international conferences including *IEEE*.
- Participated as a Session Chair in ICMAP-2018 at IIT(ISM) Dhanbad
- Participated as a Session Chair in OWT-2019 conference at NIT Jaipur
- Expert panel member of the selection committee, interview being conducted by *Central Institute of Mining* & *Fuel Research* Dhanbad for the position of project assistant Level-II under CSIR sponsored project
- Guided many B. Tech. and M. Tech. Students for their summer training in the ECE department of IIT(ISM) Dhanbad.
- Being organized the OSA (Optical Society of America) Symposium at Electronics Engineering Department of ISM Dhanbad during April 2013
- Setting up relationship with international universities in abroad for Research and R&D Purposes.
- Invited as an "Invited Speaker" to 6<sup>th</sup> IEEE/International Conference on Advanced Infocomm Technology held on July 6<sup>th</sup>-9<sup>th</sup>, 2013 at Hotel Royal Hsinchu, Taiwan with financial support.

- Delivered an "Invited talk" with Honorium of 3000 NTD (Taiwani Dollar) on "Optical switching devices" to "International Applied Photonics Conference 2014" on June 22<sup>th</sup>-24<sup>th</sup>, 2014 at National United University, Mialoi, Taipei Taiwan.
- Delivered a "talk" on "Advancement of Optical Fiber Sensor Technology" at RULA Award function on 15th August, 2019 at Grandeur Hall, Hotel Breeze Residency, Trichy, Tamil Nadu, India
- Delivered an "Invited talk" on "Application of Optical Sensor in Biomedical Engineering" to 1<sup>st</sup>workshop on Advanced Material and Instrumentation in Bio Medical Engineering on March8<sup>th</sup>-12<sup>th</sup>, 2014 at IIIT, Allahabad.
- Delivered a "Invited Lecture" on "Modeling of optical switching Devices and MEMS Temperature sensor" at on Jan.15<sup>th</sup>, 2015 at Instrumentation and Sensor Division, School of Engineering and Mathematical Sciences, Northampton Square, City University London.
- Delivered a "Invited Lecture" on "Optical Switching Devices" at on June.15<sup>th</sup>, 2015 at Electrical Communication Engineering Department of IISc Bangalore.
- Delivered a "Invited Lecture" on "Microwave Photonics" at 1<sup>ST</sup> Refresher program on "Recent Trends on Microwave Devices and Antennas" on Monday 9<sup>th</sup> Jan 2017 at Executive Development Center (EDC),IIT(ISM) Dhanbad

<b>PhD examined details</b>	(Thesis evaluation)
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S1.	Student Name	Title of Thesis	College/University	Examined by
No.				
1.	Ms. Sambhavi	Investigation of aluminum-	BITS Pilani-	Dr. S.K.Raghuwanshi
	Shukla	based plasmonic devices for	Hyderabad	
		sensing applications in the		
		near infrared region		
2.	Mr.	Design and analysis of	BITS Pilani-	Dr. S.K.Raghuwanshi
	Balasubramanian	waveguide Bragg gratings	Hyderabad	
	М	based optical MEMS		
	ID No-	accelerometer-A simulation		
	2013PHXF0414H	study		
3.	Vivek Tiwari	NA	ECE Department,	
	(Scholar No.		(MANIT)-Bhonal-	
	143214007)		(MART)-Bhopar- 462003 (MP) India	Dr. S.K.Raghuwanshi
			102005 (IVII ), IIIdiu	
4.	Amna Bedi	Modeling and performance	DIT University,	
	(Enrollment no.	analysis of fiber optic photonic	Dehradun	Dr. S.K.Raghuwanshi
	168161001)	sensors		
		Design and modeling of 2d	IIT Rorkee,	
5.	Ms. Swati Joshi	materials based optoelectronic	ROORKEE-247667,	Dr. S.K.Raghuwanshi
		devices	Uttarakhand	
		Investigation on BER	Birla Institute of	
		Performance of Multipath	Technology	
6.	Ajit Kumar	Multiple-Input Multiple-	MESKA-835215, Banahi	Dr. S.K.Raghuwanshi
		Output (MIMO)Visible	Nancili	
		communication System		

	Mr.	Design and analysis of	DIT University	
7.	kuldeep.choudhar	combinational and sequential	Dehradun	
	у	circuits for high speed	Mussoorie	Dr. S.K.Raghuwanshi
		communications	Diversion Road	
			Dehradun-248009,	
			Uttarakhand	
8.	Ifrah Amin	Numerical investigations of	NIT, Srinagar	Dr. S.K.Raghuwanshi
		gain enhanced ASE re-injected		
		EDFA with RFA pump		
		actuated spectrum slope		
		gradient		
		tailoring in ultra-dense WDM		
		environment		
9.	Mr. Chaluvadi V	Design and Analysis of	BITS, Pilani	Dr. S.K.Raghuwanshi
	Naga Bhaskar	cascaded fiber Bragg Grating		
	C	structures for Optical		
		transmission systems		
10.	Santhosh Kumar	DESIGN & OPTIMIZATION OF	NITK, Surathkal	Dr. S.K.Raghuwanshi
	Sahu	NANOPHOTONIC DEVICES		
		FOR IR BAND		
		APPLICATIONS		

# Software skills -

Sl.	Skill Title	Skill Level	Total	Last Used
No.		(Basic/Intermediate/Proficient)	Experience (years)	(Year)
1	C and C++	Basic	8	2017
2	MATLAB	Proficient	10	2022
3	COMSOL	Intermediate	5	2021
4	OPTI GRATING	Intermediate	4	2021
5	OPTI BPM	Intermediate	4	2021

# 10. Departmental/institutional Responsibility

• Faculty in charge of Electronic Engineering Department, IIT(ISM) during 2011-2012.

- M. Tech. (Electronics and Communication Engg) course coordinator during April 2013-May 2019.
- Coordinator of Direct PhD Admission Program at Electronic Engineering Department, IIT(ISM) during 2016-2017.
- All India Question paper setter to IIT(ISM) Dhanbad for M. Tech. (ECE)-ISM entrance exam (ISM-EE) during 2013-2015.
- Chairman moderation committee of Question paper for M. Tech. (ECE) during 2013-2018.
- Anti-Ragging Squad members of IIT(ISM) since 2012 onwards.
- Judge of Annual Games at IIT(ISM) during 2013-2014.
- JRF selection committee member of Electronic engineering department of IIT(ISM) during 2015-2016.
- JRF selection committee member of computer science department of IIT(ISM) during MAY 2019.
- JRF selection committee member of Physics department of IIT(ISM) during MAY 2016.
- JRF selection committee member of Electrical Engineering department of IIT(ISM) during 2017.
- Doctoral scrutiny committee (DSC) member from some sister department IIT(ISM) Dhanbad for PhD student of mechanical engineering department and Electrical Engineering department.
- DUGC (Departmental Undergraduate Committee) member of Electronics Engineering Department during 2021- 2022.
- DFSC (Department of faculty screening) member of Electronic Engineering Department, IIT(ISM) B.tech 1<sup>st</sup> year coordinator since 2018.
- B. Tech. 1<sup>st</sup> year (ECE) Coordinator during 2019.
- B. Tech. 2<sup>nd</sup> and 4<sup>th</sup> Semester (ECE) Coordinator since 2019.
- SC/ST student performance monitoring committee member during 2011
- Coordinator for MOU between IIT(ISM) Dhanbad and National United University Taiwan.

# **11. All India Selection**

• Graduate Aptitude Test In Engineering-1999 Percentile 90.93 Instrumentation Engineering Paper All India Rank in General Category-93

• Graduate Aptitude Test In Engineering-2004

Percentile 91.79 Electronics & Comm. Engineering Paper

- BSNL (Junior Telecom Officer)-2002
  Electronics & Telecommunication Engineering Post
  Posted at Maharashtra Telecom Circle
- Graduate Aptitude Test In Engineering-2007

Percentile 92.79 Electronics & Comm. Engineering Paper • Graduate Aptitude Test In Engineering-2008

Percentile 94.51

Electronics & Comm. Engineering Paper

• UPSC Indian Engineering Services Exam-2000

Written Qualified

Electronics & Comm. Engineering Paper

• UPSC Indian Engineering Services Exam-2008

Written Qualified

Electronics & Comm. Engineering Paper

# 12. Teaching/Research plan for next five years

My Doctoral and Post-Doctoral research work was mainly focused on inhomogeneous and nonlinear optical effects in DWDM (dense wavelength division multiplexing) optical communication systems. I had fabricated of various DWDM optical components and tested at high optical power level to estimate the effect of nonlinearity as well as in homogeneities of waveguide structures. Pulse propagation through various types of the optical waveguide structure need to study theoretically as well as experimentally. I am willing to set-up a fiber optic research lab in IIT(ISM) Dhanbad for the purpose to study on various types of MEMS (micro-electro-mechanical switch), FBG (fiber Bragg grating), PCF (photonic crystal fiber) and integrated ring resonator based optical components for DWDM applications.

My aim has been to perform an effective teaching and quality research work in the field of Electronics and Communication Engineering. Recently I have actively participated in setting up the following labs/manuals/ courses in department of Electronics Engineering at Indian Institute of Technology (ISM) :

- Setup the Control Systems lab in the Department of Electronics Engineering of IIT(ISM).
- Set up Power Electronics lab in the Department of Electronics Engineering of IIT(ISM).
- Purchased 14 lakhs rupees of Optical Communication Equipment's in Department of Electronics Engineering from *ECE plan fund*.
- Purchased 12 lakhs rupees of Optical Communication Software in Department of Electronics Engineering from *ECE plan fund*.
- Purchased 5 lakhs rupees of Software of Opti-BPM from ISM FRS Project fund

## 13. List of different courses developed & taught during Nov. 2008 to till now

Sl. No.	Title of the course taught	Postgraduate/Undergraduate	Sole instructor /Institute	Year
1.	Digital Image Processing	Undergraduate ( <b>B. Tech</b> )	Asansol Engineering College, Bengal	2008
2.	Electromagnetic Wave	Undergraduate ( <b>B. Tech</b> )	Asansol Engineering College, Bengal	2008
3.	Digital Signal Processing	Undergraduate ( <b>B. Tech</b> )	SPSU university, Udaipur	2009
4.	Network Theory	Undergraduate ( <b>B. Tech</b> )	SPSU university, Udaipur	2009
5.	Electronic Measurement & Instrumentation	Undergraduate ( <b>B. Tech</b> )	SPSU university, Udaipur	2009
6.	Microprocessor and its application	Postgraduate (MCA)	Mody Institute of Technology and Science, Sikar, Rajasthan	2010

7.	Embedded System design	Postgraduate ( <b>M. Tech</b> )	Mody Institute of Technology and Science, Sikar, Rajasthan	2010

I have been taught the following undergraduate courses since March 2010 at IIT(ISM) Dhanbad.

#### March 2010 – May 2010

Sl. No.	Name of the Course	Course No.	Semester	L	Т	Р
1.	Optical Communication	ECC 17102	VII B. Tech	3	0	0
2	Optical Communication Lab	ECC 17201	VII B. Tech	0	0	3

#### **July 2010 – December 2010**

Sl. No.	Name of the Course	Course No.	Semester	L	Т	Р
1.	Electronics Engineering	ECE 11101	I B. Tech	3	0	0
2.	Optical Communication	ECC 17101	VII B. Tech	3	0	0
3.	Optical Communication Lab	ECC 17201	VII B. Tech	0	0	3
4.	Electronics Engineering Lab	ECE 1120	I B. Tech	0	0	3

#### Jan 2011 – May 2011

Sl. No.	Name of the Course	Course No.	Semester	L	Т	Р
1.	Power Electronics	ECC 16103	VI B. Tech	3	0	0
2.	Electronics Engineering	ECE 12101	II B. Tech	3	0	0
3.	Power Electronics Lab	ECC 16203	VI B. Tech	0	0	2
4.	Electronics Engineering Lab	ECE 12201	II B. Tech	0	0	3

#### July 2011 – December 2011

Sl. No.	Name of the Course	Course No.	Semester	L	Т	Р
1.	Electronics Engineering	ECE 11101	I B. Tech	3	0	0
2.	Electronics Engineering Lab	ECE 11201	I B. Tech	0	0	3
3.	Optical Communication	ECC 17101	VII B. Tech	3	0	0
4.	Optical Communication Lab	ECC 17201	VII B. Tech	0	0	3
5.	Control Systems	ECC 15101	V B. Tech	3	0	0
6.	Control Systems Lab	ECC 15201	V B. Tech	0	0	2

January 2012 – May 2012									
Sl. No.	Name of the Course	Course No.	Semester	L	Т	Р			
1.	Power Electronics	ECC 16103	VI B. Tech	3	0	0			
2.	Power Electronics Lab	ECC 16203	VI B. Tech	0	0	2			
3.	Electronics Engineering	ECE 12101	II B. Tech	3	0	0			
4.	Electronics Engineering Lab	ECE 12201	II B. Tech	0	0	3			

#### July 2012 – December 2012

Sl. No.	Name of the Course	Course No.	Semester	L	Т	Р
1.	Control Systems	ECC 15101	V B. Tech	3	0	0
2.	Control Systems Lab	ECC 15201	V B. Tech	0	0	2

Sl. No.	Name of the Course	Course No.	Semester	L	Т	Р
1.	Power Electronics	ECC 16103	VI B. Tech	3	0	0
2.	Power Electronics Lab	ECC 16203	VI B. Tech	0	0	2
3.	Electronics Engineering	ECE 12101	II B. Tech	2	0	0
4.	Electronics Engineering Lab	ECE 12201	II B. Tech	0	0	3

#### January 2013 – till Now

# 14. References

S.No.	Name	Designation	Address	Contact No.
1.	Dr. Srinivas Talabattula(PhD Supervisor)	Professor	Applied Photonics Lab, Electrical& Electronics Communication Engineering Department ,Indian Institute of Science,	Tel Phone: 080-22932852 Fax: 080-23600465, Email: tsrinu@ece.iisc.ernet.in
			Daligatore-300012	
2.	Prof. B. M. Azizur Rahman (Post Doc Supervisor)	Professor and Dean of Photonics Instrumentation and Sensor Division	School of Engineering and Mathematical Sciences, Northampton Square, City University London, EC1 V 0HB, United Kingdom	<i>Tel. No.</i> : +442070408123 <i>Email</i> : b.m.a.rahman@city.ac.uk
3.	Prof. Nan-Kuang Chen(Associated with him while I was visited NUU Taiwan as an invited professor)	Professor and Director	Optoelectronics Research Center, Chief, International Affairs Division, Office of R&D, Department of Electro-Optical Engineering, National United University, Miaoli, Taiwan 360, R.O.C.	Telephone numbers: +886- 37-381728 E-mail address: nankuang@gmail.com
4.	Dr. Om Prakash	SO/H and Head, Fibre Grating Lab	Fibre Grating Lab, Government of India   Department of Atomic Energy, Raja Ramanna Centre for Advanced Technology, Indore , India	+918989935673 omprakash@rrcat.gov.in
5.	Prof. Virendra Kumar	Professor	Department of Electronics Engineering Indian Institute (ISM) Dhanbad-826004, Jharkhand, India	<i>Fax</i> : +91-326- 2296563 <i>Tel. No</i> .: + 91-326- 2296651 <i>Email</i> : vkumar52@hotmail.com
6.	Dr. Umesh Kumar Tiwari	Principal Scientist	Micro and Nano Optics Centre (μ- NOC), CSIR Chandigarh, India - 160020	(+91)-172-2657 umeshtiwari@csio.res.in

Spoken language skill [speak, read and write]- English and Hindi.

I do hereby confirm that the information given above is true and correct to the best of my knowledge and I bear the responsibility for the correctness of the above-mentioned particulars.

Place: Dhanbad

Date: 20/07/2023

(Signature)