


Title	Dr.	First Name	SANJEEV	Last Name	TYAGI	
Designation	Associate Professor					
Department	Electronics and Instrumentation Engineering					
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Education:						
Degree	Institution	Year	Details			
Doctor of Philosophy (Ph.D.)	UP Technical University, Lucknow / IIT(BHU), Varanasi	2012	Electronics Engg.			
Master of Technology (M.Tech.)	Panjab University, Chandigarh / Central Scientific Instrument Organisation (CSIO), Chandigarh	1998	Instrumentation Engg.			
Master of Science (M.Sc.)	University of Roorkee (now IIT Roorkee), Roorkee	1995	Physics			
Career Profile						
Organisation / Institution		Designation	Duration	Role		
Dept of Electronics and Instrumentation Engineering, MJP Rohilkhand University, Bareilly		Associate Professor	26 th August 20011 onwards	Teaching, Research and Administrative		
Dept of Electronics and Instrumentation Engineering, MJP Rohilkhand University, Bareilly		Reader	26 th August 2008 to 25 August 2011	Teaching and Research		
Dept of Electronics and Instrumentation Engineering, MJP Rohilkhand University, Bareilly		Sr. Lecturer	7 th October 2007 to 25 th August 2008.	Teaching and Research		
Dept of Electronics and Instrumentation Engineering, MJP Rohilkhand University, Bareilly		Lecturer	7 th October 2002 to 6 th October 2007	Teaching & Research		
National Research and Technology Consortium, Parwanoo (HP) (Govt. of HP)		Scientific Officer	25 th June 1998 to 6 th October, 2002	Industrial Research and Consultancy		
Department of Applied Physics, Regional Engineering College (now NIT), Kurukshetra (Haryana)		Junior Research Fellow	Oct. 1995 to Aug. 1996.	Experimental Research		
Research Interests / Specialization:						
(i) Mid-infrared Semiconductor Optoelectronics (ii) Physical Design of Electronics/ Instrumentation Systems. (iii) Metrology, Calibration and Quality Control. (iv) IPR and Entrepreneurship						
Teaching/Industrial Experience (Subjects/Courses Taught):						
Total: Teaching Experience : 19 years Industrial Research Experience: 04 years						
Subjects/Courses Taught: # Electronics Engg. Materials to B.Tech. (EI and EC) 2 nd year. # Transducer to B.Tech. (EI) 3 rd year # Microelectronics to B.Tech. (EC) 3 rd year						

	# Optical Fiber Communication to B.Tech. (EI and EC) 4 th year # Power Plant Instrumentation to B.Tech. (EI) 3 rd year # Metrology, Calibration and Data Analysis to B.Tech. (EI) 4 th year # Telemetry and Remote Control to B.Tech. (EI) 3 rd year # Optical Fiber Instrumentation to B.Tech. (EI) 3 rd year # Analytical Instrumentation to B.Tech. (EI) 4 th year
Subjects/Courses Floated:	# Metrology, Calibration and Data Analysis' for B.Tech. (EI) 4 th year. # Optical Fiber Instrumentation for B.Tech. (EI) 3 rd year. # Analytical Instrumentation for B.Tech. (EI) 4 th year # Soft Computing Techniques for B.Tech. (EI) 2 nd year
Labs. Setup:	# Developed Advanced Instrumentation, Optical Fiber, Transducer Lab. # Optoelectronics Research Lab. (Grant from DST, UGC New Delhi and UP-CST Lucknow)

Academic/Administrative Responsibilities Held: (Last Five years)	
	<ul style="list-style-type: none"> o General Secretary, Rohilkhand University Teachers Association (campus) (RUTA-C) for the session [2015-2016]. o Member Examination Committee, MJP Rohilkhand University, Bareilly [2015-2016] o Coordinator, Central Evaluation, Centre-14 (Chemistry), MJP Rohilkhand University, Bareilly [October 2018] o Coordinator, Central Evaluation, Centre-3 (Education), MJP Rohilkhand University, Bareilly [August 2020] o NTA Representative (Bareilly), for conducting NEET-2019 on 5th May 2019. o Associate Research Coordinator/Director, Directorate of Research, MJP Rohilkhand University, Bareilly [19 September 2020 onwards]

Publications/Training Course attended (LAST FIVE YEARS):	
Publication in Referred Journal: 09;	Training courses/FDP/STTP attended: 30
Publication in Conferences: 03;	Books/Books Chapters : 04

Invited Talks/Keynote address/Expert lecture delivered (Last Five years) : 06	
	<ol style="list-style-type: none"> 1. Invited talk on, "Calibration of Electronics Equipment," delivered at Department of Electronics and Communication Engg., College of Technology, GB Pant University of Agriculture and Technology, Pantnagar on 20 March. 2016. 2. Invited Lead Lecture on, "Studies on Mid-Infrared (MIR) Sources for Gas Sensor Instrumentation," Second All India Seminar on "Advances in Engineering and Technology for Sustainable Development" organized by Institution of Engineers (India), Published in proceeding ISBN 78-81-935237-4-2, pp. 39-44 Pantnagar Local Chapter, GBPUA&T Pantnagar, 25-26, Nov. 2017. 3. Invited talk on, "Fabrication Techniques of Integrated Circuits (ICs)," FDP on Microprocessors, Microcontroller and Its Applications, (Sponsored by AKTU, Lucknow) organized by Rajshree Institute of Management and Technology, Bareilly, Jan. 14-19, 2019. 4. Keynote lecture on, "VLSI: Development and Present Scenario," in TEQIP-III sponsored STC organized by Department of ECE, GB Pant University of Agriculture and Technology (GBPUAT), Pantnagar, Nov. 4-9, 2019. 5. Expert lecture on, "More about Electronic Testing and Measuring Instruments," delivered online to Teethankar Mahaveer University (TMU), Moradabad, December 12, 2020. 6. Expert lecture on, "The Intellectual Property Rights (IPR) and Its Ecosystem in India," delivered online to Birla Institute of Technology Ranchi, Deoghar Campus, January 28, 2021

Professional Societies Memberships: 15	
<ul style="list-style-type: none"> • Indian Physics Association (IPA) • Photonics Society of India (PSI) • Indian Laser Association (ILA) • Semiconductor Society (India) • IACSIT (Singapore) • Instrument Society of India (ISOI) • Optical Society of India (OSI) • Systems Society of India (SSI) • Metrology Society of India (MSI) • Institution of Electronics and Telecommunication Engineers (IETE) • Indian Association of Physics Teachers (IAPT) • Indian Society of Technical Education (ISTE) • Indian Science Congress Association (ISCA) • All India Council for Technical Skill Development • The Institute of Electrical and Electronics Engineers (IEEE) 	<ul style="list-style-type: none"> : Life Member [LM/1126] : Life Member [LM-164] : Life Member [LM-974] : Life Member [201101636] : Life Member [80341256] : Life Member [1919] : Life Fellow [L-561] : Life Member [32089] : Life Member [LM-1237] : Fellow [F-501638] : Life Member [L8219] : Life Member [LM-130037] : Life Member [L-40089] : Member [AICTSD/PROFESSOR/11555] : Senior Member [95560688]

Research Projects completed (Major Grants / Collaborations):

(A) Research Projects completed: 08

Sr. No.	Title of Project	Funding Agency/ Ref.	Duration/ Amount	Institute/University	Position
1.	Calibration and Validation of Data Products Obtained from Satellite Borne Remote Sensing Cameras	ISRO/ Respond	1 year/ 4.0 lacs	REC, Kurukshetra	JRF
2.	Precision Temperature Calibration System	DST, New Delhi [IDP/ Sen/07/97]	2 years/7.4 lacs	NRTC, Parwanoo	Co-PI
3.	Studies on Light Emitting Diode (LED) and Injection Laser Diode (ILD) based on Narrow Bandgap Semiconductors for Mid-Infrared Applications	UGC, New Delhi [F.No.-32-123/ 2006 (SR)]	2 years/0.91 lac	MJP Rohilkhand Univ. Bareilly	PI
4.	Analysis and Modeling of Mid-Infrared (Mid-IR) Emitters for their Applications in Optical Fiber Communication and Gas Instrumentation Systems	CST-UP, Lucknow (DO No. 1592 dtd. 31/5/2007)	2 years/2.96 lacs	MJP Rohilkhand Univ. Bareilly	PI
5.	Modeling of Injection Laser Diodes for Free Space Optical Communication in Mid-infrared (3-5 μ m) Spectral Region	FAST Scheme SERC, DST, New Delhi [Ref: SR/FT/ET-036/2009 dtd. 10/9/2009]	3 years/ 6.3 Lacs.	MJP Rohilkhand Univ. Bareilly	PI
6.	Analytical Modeling of Laser Diodes for Gas Sensor Instrumentation and Free Space Optical Communication in Mid-infrared (2-5 μ m) Spectral Region.	UGC, New Delhi [F.No. 39-393/2010(SR) dtd. 12/1/2011]	2 years/ 0.70 Lacs.	MJP Rohilkhand Univ. Bareilly	PI
7.	Computer Simulation of Long-Wavelength Vertical Cavity Surface Emitting Lasers (VCSELs) for Optoelectronics Applications	Council for Science and Technology-Uttar Pradesh, Lucknow [No. CST/597 dtd. 8/6/2011]	03 years/ 8.76	MJP Rohilkhand Univ. Bareilly	PI
8.	Comparative Studies on LEDs and Lasers Operating in Mid-infrared (2-5 μ m) Spectral Region	TEQIP-III, MJPRU, Bareilly	One year/2.0 Lacs	MJP Rohilkhand Univ. Bareilly	PI

Latest Publications: 09 (Last five years)

- (i) DS Gangwar and **Sanjeev Tyagi**, "Internet of things connected smart farm solution for sustainable agro-ecological and rural development," International Journal of Engineering and Future Technology, (ISSN: 2455-6432), vol.14; Iss. 2, pp. 64-71, January 2017.
- (ii) Dheerendra Singh Gangwar, Sanjeev Tyagi, Sanjay Kumar Soni, "Network lifetime maximization in wireless sensor network with multiple sink nodes," Discovery, 54(271), pp. 284-290, August 2018.
- (iii) D. S. Gangwar, S. Tyagi and S. K. Soni, "A Conceptual Framework of Agroecological Resource Management System for Climate Smart Agriculture," International Journal of Environmental Science and Technology, Vol. 16, Issue 08, pp. 4123-4132, June-2019. (Impact Factor 2.037).
- (xvi) Sundar Singh and **Sanjeev Tyagi** "Performance of Various LEDs for Gas Sensor Instrumentation in Mid-infrared (2-5 μ m) Spectral Region" International Journal of Engineering Research and Applications (ISSN: 2248-9622), vol. 9, no. 12, pp. 08-11, Dec. 2019.
- (iv) Sanjeev Tyagi and Sundar Singh, "Numerical Simulation of Mid-Infrared Double Heterostructures Laser Based on InAsSb/InAsSbP Material System," International Journal of Engineering Applied Sciences and Technology (ISSN No. 2455-2143), Vol. 4, Issue 8, pp. 165-167, 2019.
- (v) Sanjeev Tyagi and Sundar Singh, "Analytical Modeling of AlGaAs/GaAs Vertical Surface Emitting Lasers (VCSELs) operating at 850 nm for Free-Space Optical Communication," International Journal of Engineering Applied Sciences and Technology (ISSN No. 2455-2143), Vol. 4, Issue-9, pp. 165-167, January 2020.

- (vi) Sanjeev Tyagi, "The Comparative Studies on Modeling and Simulation of Sources Based on InAsSb Material System Operating in Mid-infrared (MIR) Spectra Region," Communicated to MOTL (Springer) April 2020.
- (vii) Sanjeev Tyagi, P.K. Saxena, and R. Kumar, "Numerical simulation of $\text{In}_x\text{Ga}_{1-x}\text{As}/\text{InP}$ PIN photodetector for optimum performance at 298 K," *Opt Quant Electron* **52**, 374, August 2020.
- (viii) DS Gangwar, S. Tyagi and S. K. Soni, "The Impact of Deployment Pattern and Routing Scheme on the Lifetime in Multi-Sink Wireless Sensor Network." *Journal of Wireless Personal Communication* (ISSN: 0929-6212, IF: 1.10), November 2020.
- (ix) DS Gangwar, Sanjeev Tyagi and S. K. Soni, "A Techno-Economic Analysis of Digital Agriculture Services: An ecological approach towards green growth," *International Journal of Environmental Science and Technology* (Springer, IF 2.540), April 2021.

Books/Book Chapter Published: 04

S.No	Title	Author's Name	Publisher	Year of Publication (ISBN)
1.	Analog and Digital Electronics	Sundar Singh and Sanjeev Tyagi	Pragati Prakashan, Meerut	2019 (ISBN: 978-93-89579-23-9)
2.	Modeling of Mid-infrared Sources for Pollutant Gases Detection Systems (Book Chapter no. 9)	Sanjeev Tyagi, Sundar Singh and Piyush Kuchhal	Soham Publication	2021 (ISBN: 978-81-949722-4-2)
3.	Technology Enabled Learning to Counter Effect of Covid-19 Pandemic on Education in India (Book Chapter no. 11)	Sundar Singh and Sanjeev Tyagi	Soham Publication	2021 (ISBN: 978-81-949722-4-2)
4.	Nanomaterials for Pharmaceutical Applications (Book pp. 221-265)	Sundar Singh, SB Tiwari and Sanjeev Tyagi	Springer book Emerging Trends in Nanotechnology	2021 (ISBN: 978-981-15-9904-0)

Ph.D. Supervised: 01

Mr. Deerendra Singh Gangwar, Assistant Professor, Faculty of Technology, UTU, Dehradun pursuing Ph.D. in ECE at Uttarakhand Technical University, Dehradun since Jan. 2015 (Thesis submitted)

Workshops/Conference Organised: 02

- (a) One day workshop on, "IPR Issues in Science and Technology (IPRIST-2018)," organized on 14th May 2018, sponsored by Council of Science and Technology-UP, Lucknow at MJP Rohilkhand University, Bareilly as Organizing Secretary.
- (b) 5-days technical workshop on, "Embedded-IoT System Design Using Matlab and Simulink," at Department of E&I Engg. MJP Rohilkhand University, Bareilly with technical collaboration with NIELIT, Gorakhpur from 21st - 25th October 2019 as Convener.

Reviewer of Journals/Conferences:

- (a) Optoelectronics and Advanced Materials-Rapid Communication (OAM-RC)
- (b) Journal of Electronics Materials (Springer)
- (c) Silicon (Springer)
- (d) Reviewers for several international/ national conferences sponsored by IEEE, Springer and Elsevier

References:

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