


<b>Title</b>	Dr.	<b>First Name</b>	SANJEEV	<b>Last Name</b>		
<b>Designation</b>	Professor & Head					
<b>Department</b>	Electronics and Instrumentation Engineering					
<b>Address (Campus) (Residence)</b>	MJP Rohilkhand University, Bareilly -243006 INDIA					
	House no.- 290, Green Park, Bisalpur Road, Bareilly- 243 006 INDIA					
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<b>Education:</b>						
<b>Degree</b>	<b>Institution</b>			<b>Year</b>	<b>Details</b>	
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	
<b>Academic Career Profile:</b>						
<b>Organisation / Institution</b>			<b>Designation</b>	<b>Duration</b>	<b>Role</b>	
Dept of Electronics and Instrumentation Engineering, MJP Rohilkhand University, Bareilly			Professor	26 <sup>th</sup> August 2014 to till date	Teaching, Research and Administrative	
Dept of Electronics and Instrumentation Engineering, MJP Rohilkhand University, Bareilly			Associate Professor	26 <sup>th</sup> August 2011 to 25 <sup>th</sup> August 2014	Teaching, Research and Administrative	
Dept of Electronics and Instrumentation Engineering, MJP Rohilkhand University, Bareilly			Reader	26 <sup>th</sup> August 2008 to 25 August 2011	Teaching, Research and Administrative	
Dept of Electronics and Instrumentation Engineering, MJP Rohilkhand University, Bareilly			Sr. Lecturer	7 <sup>th</sup> October 2007 to 25 <sup>th</sup> August 2008.	Teaching, Research and Administrative	
Dept of Electronics and Instrumentation Engineering, MJP Rohilkhand University, Bareilly			Lecturer	7 <sup>th</sup> October 2002 to 6 <sup>th</sup> October 2007	Teaching, Research and Administrative	
National Research and Technology Consortium, Parwanoo (HP) (Govt. of HP)			Scientific Officer	25 <sup>th</sup> June 1998 to 6 <sup>th</sup> 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	
<b>Research Interests / Specialization:</b>						
(i) Mid-infrared Semiconductor Optoelectronics (ii) Physical Design of Electronics/ Instrumentation Systems. (iii) Metrology, Calibration and Quality Control. (iv) IPR and Entrepreneurship (v) Wireless Sensor Network						
<b>Teaching/Industrial Experience ( Subjects/Courses Taught) Last 05 years:</b>						
<b>Total:</b> Teaching & Research Experience : 21 years Industrial Research/consultancy Experience : 04 years <b>Subjects/Courses Taught:</b> # Analytical Instrumentation to B.Tech. (EI) 4 <sup>th</sup> year # Instrument Design and Reliability to Integrated M.Tech+PhD (Dual Degree) students # Advances in Electronics and Instrumentation Engineering to Pre-PhD course work Students						

**Subjects/Courses Floated:**

- # Optical Fiber Instrumentation for B.Tech. (EI) 3<sup>rd</sup> year.
- # Analytical Instrumentation for B.Tech. (EI) 4<sup>th</sup> year
- # Soft Computing Techniques for B.Tech. (EI) 2<sup>nd</sup> year
- # Instrument Design and Reliability to Integrated M.Tech+PhD (Dual Degree)
- # Advances in Electronics and Instrumentation Engineering for Pre-PhD course work students

**Labs. Setup:**

- # Developed Advanced Instrumentation, Optical Fiber, Transducer Lab.
- # Research Lab. (Grant from DST, UGC New Delhi, TEQIP-III and UP-CST Lucknow)

**Academic/Administrative Responsibilities Held: (Last five years)**

- 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 5<sup>th</sup> May 2019.
- o **Associate Research Coordinator**, Directorate of Research (DoR), MJP Rohilkhand University, Bareilly [19 September 2020- 14 January 2021]
- o **Associate Director**, Directorate of Research (DoR), MJP Rohilkhand University, Bareilly [15 January 2021 – September 2023]
- o **Coordinator**, Pre-PhD course work, Faculty of Engineering and Technology (EC/EI/ME/CSIT/EE) 2023 [February 2023-August 2023]
- o **Head, Department of E&I Engineering**, MJP Rohilkhand University Bareilly [July 2021 onwards]

**Publications/Training Course attended (Last five years):**

Publication in Referred Journal: 11; Training courses/FDP/STTP attended: 30  
 Publication in Conferences: 03; Books Published : 02; Books Chapters :04

**Invited Talks/Keynote address/Expert lecture delivered (Last five years) : 06**

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: 11 (Last five years)**

- |  |   |                                 |
|--|---|---------------------------------|
| • Instrument Society of India (ISOI)   | : | Life Member [1919]              |
| • Optical Society of India (OSI)   | : | Life Fellow [L-561]             |
| • Systems Society of India (SSI)   | : | Life Member [32089]             |
| • Metrology Society of India (MSI)   | : | Life Member [LM-1237]           |
| • Institution of Electronics and Telecommunication Engineers (IETE), New Delhi | : | Fellow [F-501638]               |
| • Indian Association of Physics Teachers (IAPT)                                | : | Life Member [L8219]             |
| • Indian Society of Technical Education (ISTE)                                 | : | Life Member [LM-130037]         |
| • Indian Science Congress Association (ISCA)                                   | : | Life Member [L-40089]           |
| • All India Council for Technical Skill Development                            | : | Member [AICTSD/PROFESSOR/11555] |
| • The Institute of Electrical and Electronics Engineers (IEEE), USA            | : | Senior Member [95560688]        |
| • Institution of Engineers (India) Kolkata                                     | : | Fellow [F- 1266698]             |

**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 $\mu$ 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 $\mu$ 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 $\mu$ m) Spectral Region	TEQIP-III, MJPRU, Bareilly	One year/2.0 Lacs	MJP Rohilkhand Univ. Bareilly	PI

**Latest Publications: 11 (Last five years)**

- 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.
- 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.
- 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).
- Sundar Singh and **Sanjeev Tyagi** "Performance of Various LEDs for Gas Sensor Instrumentation in Mid-infrared (2-5 $\mu$ m) Spectral Region" International Journal of Engineering Research and Applications (ISSN: 2248-9622), vol. 9, no. 12, pp. 08-11, Dec. 2019.
- 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.
- 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.
- 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.
- Sanjeev Tyagi, P.K. Saxena, and R. Kumar, "Numerical simulation of In<sub>x</sub>Ga<sub>1-x</sub>As/InP PIN photodetector for optimum performance at 298 K," *Opt Quant Electron* **52**, 374, August 2020.

- ix. 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.
- x. 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.
- xi. Sundar Singh, Veerendra Singh, Sanjeev Tyagi, Nupur Saxena, Zishan H. Khan and Pragati Kumar, "Room temperature ferromagnetism in metal oxides for spintronics: a comprehensive review," Optical and Quantum Electron, vol. 55, pp. 122-163, January 2023.

#### 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. student Supervised: 01

Mr. Deerendra Singh Gangwar, Assistant Professor, Faculty of Technology, UTU, Dehradun pursuing Ph.D. in ECE at Uttarakhand Technical University, Dehradun. Date of award of PhD degree: 24<sup>th</sup> August 2021.

#### Ph.D. Student Under Supervision: 01

Ms. Shaifali Gupta, (JRF) joined on 27 March 2023. Area of Research WSN.

#### Workshops/Conference Organised: 04

- (a) One day workshop on, "IPR Issues in Science and Technology (IPRIST-2018)," organized on 14<sup>th</sup> 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 21<sup>st</sup> - 25<sup>th</sup> October 2019 as Convener.
- (c) One day Turnitin: iThenticate User Awareness workshop organized by Department of E&I Engineering, Directorate of Research and M/s Turnitin India Education Pvt. Ltd., on 22<sup>nd</sup> December 2021.
- (d) One day Turnitin: iThenticate User Awareness workshop organized by Department of E&I Engineering, Directorate of Research and M/s Turnitin India Education Pvt. Ltd., on 23<sup>rd</sup> March 2023.

#### 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:

1. **Dr. P. Chakrabarti**  
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