

Name **Dr. Jitendra Bahadur Maurya**
B.Tech (ECE), M.Tech (Digital Comm.), PhD (ECE)
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Current Research Specialization:

- Plasmonic sensors
- Modal analysis of unconventional optical fiber

Experience:

Sr. No.	Employer`s Name	Post Held	Length of Service		Nature of work	Subject Taught
			From	To		
1.	Govt. Engineering College Ajmer, Rajasthan, India	Assistant Professor (On Contract)	02/01/2018	Till Now	Teaching	IC Technology, EM & I, VLSI & OF Lab, μ P Lab
2.	Motilal Nehru National Institute of Technology Allahabad, U.P., India	Guest Faculty	17/07/2017	15/12/2017	Teaching	Analog and Digital Electronics Lab, Radar Engineering
3.	Divya Jyoti College of Engineering and Technology Ghaziabad, U.P., India	Assistant Professor (Regular)	30/10/2012	31/10/2013	Teaching	Basic Electronics, IC, DSP, OFC

Education and Qualifications:

Sr. No.	Examination Passed	Institute	University	Branch/ Subjects	Year of Passing	Class/ Percentage
1.	Ph.D.	MNNIT Allahabad	-	ECE	2017	10 CPI
2.	M. Tech	BIET (Govt.) Jhansi	UPTU	Digital Communication	2012	I/ 72.65
3.	B. Tech	KNGD Modi Engg. College	UPTU	ECE	2010	I/ 69.08
4.	10+2	GIC Allahabad	UP Board	PCM, English, Hindi	2004	I/ 65.00
5.	10	Vidya Bharti Hindi Vidyalaya, Surat	GSEB	Science, English etc.	2002	I/ 68.14

Professional Skills:

Programming Language	Language C, MATLAB, VHDL, Verilog
Laboratory	Microwave Engineering Lab, Analog and Digital Communication Lab, Basic Electronics Lab, Digital Electronics lab, Signal & System Lab (Through MATLAB), VLSI Lab through VHDL and Verilog on Xilinx ISE Tool.

Achievements:

- Qualified GATE 2010, 2011, 2014

Research Publication:

Patent	01
Project	01
SCI Journals	10 (Published), 03 (Under Revision)
International Conference	05 (Published)

Patent:

Title of the invention	:	Method to determine beam width of a dip in surface plasmon resonance sensor and its application thereof
Name of applicant	:	Motilal Nehru National Institute of Technology Allahabad, Uttar Pradesh, India.
Name of inventor	:	Jitendra Bahadur Maurya, Dr. Y. K. Prajapati
Application No.	:	201611005417 A
Date of filing of application	:	16/02/2016
Publication date	:	03/06/2016

Project:

Project title	:	Design an optical sensor using Graphene/MoS ₂ for biomedical application
Organizer	:	Design and Innovation Centre, MNNIT Allahabad
Sponsor	:	Ministry of Human Resource Development (MHRD), Govt. of India.
Mentor	:	Dr. Y. K. Prajapati
Date of issue	:	13-04-2016
Letter No,	:	DIC:15/R&C/2016-16
Total cost (Rs.)	:	49,900/-
Status	:	Completed

Published research papers in SCI international journal:

1. J.B. Maurya and Y.K. Prajapati, "A Novel Method to Calculate Beam Width of SPR Reflectance Curve: A Comparative Analysis," IEEE, Sensors Letters, Vol. 1, No. 4, Aug. 2017, DOI (identifier) 10.1109/LSENS.2017.2709549, ISSN: 2475-1472.
2. J.B. Maurya and Y.K. Prajapati, "Influence of dielectric coating on performance of surface plasmon resonance sensor," Springer, Plasmonics, Vol. 12, No. 4, pp. 1121-1130, Aug. 2017, DOI: 10.1007/s11468-016-0366-3, ISSN: 1557-1955 (Print) 1557-1963 (Online), **Impact factor: 2.139**.
3. J.B. Maurya, Y.K. Prajapati, and R. Tripathi, "Effect of molybdenum disulfide layer on Surface plasmon resonance biosensor for the detection of bacteria," Springer, Silicon, DOI: 10.1007/s12633-016-9431-y, 13 Aug. 2016, ISSN: 1876-990X (Print) 1876-9918 (Online), **Impact factor: 0.829**.
4. S. Agrawal, Y.K. Prajapati, J.B. Maurya, "Effect of metallic adhesion layer thickness on surface roughness for sensing application," IEEE, Photonics Technology Letters, Vol. 28, No. 21 pp. 2415-2418, 01 Nov. 2016, **DOI: 10.1109/LPT.2016.2597856**, ISSN: 1041-1135, **Impact factor: 2.375**.
5. J.B. Maurya and Y.K. Prajapati, "A comparative study of different metal and prism in the surface plasmon resonance biosensor having MoS₂-Graphene," Springer, Optical and Quantum Electronics, Vol. 48, No. 5, pp. 280-291, 01 May 2016, DOI 10.1007/s11082-016-0562-6, ISSN: 0306-8919 (Print) 1572-817X (Online), **Impact factor: 1.055**.
6. J.B. Maurya, Y.K. Prajapati, V. Singh, J.P. Saini, R. Tripathi, "Improved performance of the surface plasmon resonance biosensor based on graphene or MoS₂ using silicon," Elsevier, Optics Communications, Vol. 359, pp. 426-434, 15 Jan. 2016, DOI: 10.1016/j.optcom.2015.10.010, ISSN: 0030-4018, **Impact factor: 1.588**.
7. J.B. Maurya, Y.K. Prajapati, V. Singh, J.P. Saini, "Sensitivity enhancement of surface plasmon resonance sensor based on graphene-MoS₂ hybrid structure with TiO₂-SiO₂ composite layer," Springer, Applied Physics A-Material Science & Processing, Vol. 121, No. 2, pp. 525-533, 01 Nov. 2015, DOI: 10.1007/s00339-015-9442-3, ISSN: 0947-8396 (Print) 1432-0630 (Online), **Impact factor: 1.455**.

8. J.B. Maurya, Y.K. Prajapati, V. Singh, J.P. Saini, R. Tripathi, "Performance of graphene–MoS₂ based surface plasmon resonance sensor using silicon layer," Springer, Optical and Quantum Electronics, Vol. 47, No. 11, pp. 3599-3611, 01 Nov 2015, DOI: 10.1007/s11082-015-0233-z , ISSN: 0306-8919 (Print) 1572-817X (Online), **Impact factor: 1.055.**
9. Y.K. Prajapati, J.B. Maurya, V. Singh, and J.P. Saini, "Modal analysis and dispersion curves of an elliptical W-type single mode fiber," Springer, Optics and Spectroscopy, Vol. 118, No. 5, pp. 821-828, 01 May 2015, DOI: 10.1134/S0030400X15050185, ISSN: 0030-400X (Print) 1562-6911 (Online), **Impact factor: 0.716.**
10. J.B. Maurya, Y.K. Prajapati, V. Singh, and J.P. Saini, "Effect of cladding layers on the mode of circular optical waveguides," Elsevier, Optik-International Journal for Light and Electron Optics, Vol. 124, No. 11, pp. 1066-1069, 30 June 2013, DOI: 10.1016/j.ijleo.2013.01.007, ISSN: 0030-4026, **Impact factor: 0.835.**

SCI journal under revision:

1. J. B. Maurya and Y. K. Prajapati, "Influence of Adhesion layer on Performance of Surface Plasmon Resonance Sensor," IET Optoelectronics, Manuscript ID: OPT-2017-0049.
2. J. B. Maurya and Y. K. Prajapati, "Two-Dimensional Layered Nanomaterial Based One-Dimensional Photonic Crystal Refractive Index Sensor," MDPI, Sensors, Manuscript ID: sensors-233212.
3. J. B. Maurya, Y. K. Prajapati, S. Raikwar, and J.P. Saini "A Silicon-Black Phosphorous based Surface Plasmon Resonance Sensor for the detection of NO₂ Gas," Optik - International Journal for Light and Electron Optics, Manuscript ID: AP-848

SCI journal ready for communication:

1. J. B. Maurya and Y. K. Prajapati, "Comparative Analysis of Silicon and Black Phosphorous as an Add-Layer in Nanomaterial based Plasmonic Sensor"

Published research paper in international conference:

1. "Sensitivity Improvement of Graphene-Silicon Based One-Dimensional Photonic Crystal Biosensor," by J. B. Maurya* and Y.K. Prajapati, 13th International Conference on Fiber Optics and Photonics (Photonics-2016), December 4-8, 2016, IIT, Kanpur, India, (pp. W3A-22), Optical Society of America, ISBN: 978-1-943580-22-4
<https://www.osapublishing.org/abstract.cfm?URI=Photonics-2016-W3A.22>
2. "Effect of noise on constellation diagram of 100 Gbps DP-QPSK systems under influence of different digital filters," Divya Sharma*, J. B. Maurya, Y. K. Prajapati, IEEE International Conference on Microwave and Photonics (ICMAP2015), organized by Indian School of Mines, Dhanbad, India, 11-13 Dec. 2015. DOI: 10.1109/ICMAP.2015.7408787, ISBN: 978-1-4673-6897-1 (Print), ISBN: 978-1-4673-6898-8 (Online)
3. "Field confinement of stacked multilayer slab waveguide using graphene," by J. B. Maurya*, Y. K. Prajapati, V. Singh, J. P. Saini, 12th International Conference on Fiber Optics and Photonics (Photonics-2014), December 13-16, 2014, IIT, Kharagpur, India, Optical Society of America, DOI: 10.1364/PHOTONICS.2014.M4A.25, SBN: 978-1-55752-882-7 ©OSA.
<http://www.opticsinfobase.org/abstract.cfm?URI=Photonics-2014-M4A.25>
4. "Effect of eccentricity on dispersion of W-type elliptical fibers," Y. Prajapati*, J. B. Maurya, V. Singh, and J. P. Saini, IEEE International Conference on Microwave and Photonics (ICMAP-2013), organized by Indian School of Mines, Dhanbad, India, 13-15 Dec. 2013, ISBN 978-1-4799-2174-4/13/\$31.00@2013IEEE.
5. "Shifting of modes for M- type triple- clad fiber," J. B. Maurya*, Y. Prajapati, V. Singh and J. P. Saini, International Conference on Communications & Electronics (ICCE-2012) organized by Krishna Institute of Engineering and Technology (KIET), Ghaziabad, India, 19-20 Oct. 2012, pp. 51-53, ISBN 978-93-81583-69-2©KIET.

***Presenting Author**

Thesis:

Ph.D.	<p>Design and Fabrication of Plasmonic Sensor Based on Graphene and MoS₂ for Biosensing</p> <p>Infectious diseases are a major cause of deaths worldwide. Detection of the infection on the early stage is the main problem because in maximum cases the detection of infection is observed after the severity of the diseases. Hence, a plasmonic sensor based on MoS₂ and graphene is designed and fabricated to detect the infection at the early stages of the diseases progression. The graphene takes the advantage of attaching these</p>
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	biomolecule (DNA and bacteria) with the help of π -stacking property between graphene and carbon rings presented in the biomolecules. MoS ₂ adsorbs the dye-labelled ssDNA probe via the van der Waals force between nucleobases and the basal plane of MoS ₂ . In addition of these attachment specialties of graphene and MoS ₂ , these have large surface to volume ratio which enhances the adsorption of biomolecules.
M.Tech.	Wave propagation in dielectric waveguide with arbitrary refractive index profile using Transfer Matrix Method As the optical signal travels along the optical fiber the signal got disperse due to Intersymbol Interference and due to which the dispersion occurs. This dispersion creates problem to distinguish the wave at the receiver end of the repeater or destination. To minimize such dispersion I have changed the refractive index profile of multilayer fiber by optimizing the width of the different layers.
B.Tech.	GSM Robot with CCTV camera There is a risk of human life in the rescue operation of bomb blast, fire flared sites, etc. Here we have designed and implemented a Robot which can be operated with the help wireless GSM network, which increases the range of operation than the pre-existing IR Robot. This Robot can be operated with the help of two mobile phone one on the Robot and another in the hand of operator.

Short Term Courses attended:

Sr. No.	Course Type	Industry Name	Organizer	Duration	
				From	To
1.	GIAN	X-ray Absorption and its Application to Nanomaterials	Motilal Nehru National Institute of Technology Allahabad, Uttar Pradesh, India	21/12/2017	28/12/2017
2.	GIAN	Advances in Nanotechnology and its application in future electronics	Motilal Nehru National Institute of Technology Allahabad, Uttar Pradesh, India	06/11/2017	10/11/2017
3.	Workshop	National workshop on Advances in Wireless and Optical Networks	Motilal Nehru National Institute of Technology Allahabad, Uttar Pradesh, India	02/06/2014	07/06/2014

Industrial Training:

Sr. No.	Industry Name	Duration		Description
		From	To	
1.	BSNL Exchange Modinagar Ghaziabad, U.P.	02/07/09	29/07/09	Here the basic parts of an Ex-change were shown to me. And the process of establishing the call from mobile to mobile and the switching system was explained to us.

References:

Name	Dr. Y. K. Prajapati	Dr. Vivek Singh	Prof. J. P. Saini	Prof. Rajeev Tripathi
Designation	Assistant Professor	Associate Professor	Director	Director
Full Address	ECE Department MNNIT, 211004, Allahabad	Physics Department BHU, 221005, Varanasi	NSIT, New Delhi	MNNIT Allahabad
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