

## Brief Resume

**1. Name: Dr. AkashSrivastava**

**2. Mobile no:** +91-8657265074

**Email:**[akash2011srivastav@gmail.com](mailto:akash2011srivastav@gmail.com)

**Skype ID:**live:..cid.327ca74abc66cdda



### **3. Personal Details**

Date of Birth : 11 August 1990

Gender : Male

MaritalStatus : Married

Spouse : Dr. Swati Srivastava

Nationality : Indian

Category : General

Mother's Name : Seema Srivastava

Father's Name : Lachman ji

Physical Status : Fit

Permanent Address : V&Po. Pahitipur, Akabarpur, Distt.Ambedkarnagar, Uttar Pradesh

Corresponding Pin-224168

address : Photonics R&D Lab, Second Floor, New Academic Building, IIT (ISM)

Google ScholarH- Dhanbad-826004

index : 8

Orcidid : [0000-0002-2085-8085](https://orcid.org/0000-0002-2085-8085)

Scopus author id : [57208015672](https://scopus.com/authid/detail.url?authorid=57208015672)

WoS Research ID : [ABD-4191-2020](https://www.researchgate.net/publication/344191202)

Vidwan ID : 440955

Total Citation : 395

Google Scholarlink : <https://scholar.google.co.in/citations?hl=en&user=XrBiBYUAAAAJ>

Software Skills/

Technical update

: Proficient in FDTD Lumerical, MATLAB, COMSOL Multiphysics, OptiSystem, Origin, IE3D, as well as MS Word, Excel, ChatGPT, and AI tools.

## 5. Educational Qualifications (All qualifications are in regular mode)

Degree	Subjects	College/University	Year of joining	Year of leaving	Percent age/ CGPA
<b>High School (10<sup>th</sup>)</b>	Hindi, English, Math, Science, Social Science, Drawing	Ram Dev Janta Inter College, Katheri, Ambedkar Nagar (U.P.Board)	2004	2005	71 %
<b>Intermediate (12<sup>th</sup>)</b>	Physics, Chemistry, Math, English, Hindi	Ram Dev Janta Inter College, Katheri, Ambedkar Nagar (U.P.Board)	2005	2007	72 %
<b>B.Sc.</b>	Physics, Chemistry, Mathematics	Dr Ram Manohar Lohiya Awadh University Ayodhya (UTTARPradesh) (A state government university of UP Gov.)	2007	2010	63.5 %
<b>M.Sc</b>	Electronics Science	Dr Ram Manohar Lohiya Awadh University Ayodhya (UTTAR Pradesh)	2010	2012	63.8%
<b>M.Tech</b>	Communication Engineering	Galgotias University, Greater Noida	2012	2014	7.65/10 (CGPA)
<b>PhD</b>	<b>(Electronics and Communication Engineering)</b> Topic: Sensing Performance Enhancement in SPR Based Sensor Using Two Dimensional and Related Nanomaterials	Department of Electronics and Communication Engineering, Motilal Nehru National Institute of Technology, Allahabad Prayagraj, India	July 2018	January 2022	7.5 CPI
<b>Shodh Ganga link</b> <a href="http://hdl.handle.net/10603/414622">http://hdl.handle.net/10603/414622</a>					

**6. Research Interest:** Optical Sensors, Plasmonic Devices, Optical Fibers, Nanotechnology, Photonic Integrated Circuit, Microwave Photonics

➤ **About M. Tech project thesis-**

**Project Name:** “E-shape microstrip patch antenna with the parasitic element”

**Description:** My M.Tech. Project work was intended to increase the gain, bandwidth, and efficiency of the Microstrip patch antenna by using parasitic elements. **My work was based on IE3D software**

➤ **About M. Sc project work.**

I have done a minor project on Semiconductor bulk material-based humidity sensors.

## 7. Details of Employment

S.No.	Position held	Organization/Institute	Date of Joining	Date of Leaving
	Faculty in ECE Department	IIT Ranchi	2 Aug 2024	Till date
1.	Institute Post-Doctoral Fellow	IIT (ISM) Dhanbad	15 May 2023	22 July 2024
2.	Assistant professor	Kamla Nehru Group of Institution Sultanpur Uttar Pradesh (NAAC-A Grade Autonomous College), India	Sep2021	12 May 2023
3.	Junior Research Fellow and Senior Research Fellow in BRNS Sponsored Project	Motilal Nehru national institute of Technology (MNNIT- Allahabad), India	Dec2017	July 2020
4.	Junior Research Fellow (ISRO Sponsored Project)	Indian Institute of Technology (ISM) Dhanbad, India	Sep 2015	Dec2016

## 7. Detail of Project under which I have served as a ProjectStaff

### About project Work 1

Project Title	Photonic Microwave Arbitrary Waveform Generation with Adjustable Chirp Parameter based on Remote Sensing Applications
The research area of project work:	Microwave photonics
Duration of project	Two years
Name of Principal Investigator	<b>Dr. Sanjeev Kumar Raguwanshi.</b> (Assistant Professor ECE/ Indian Institute of Technology (ISM), Dhanbad)
Project funding agency	Indian Space Research Organization, Ahmadabad
Workplace for Project	IIT ISM Dhanbad

### About project Work 2

Project Title	Role of Graphene and MoS <sub>2</sub> on Performance of Surface Plasmon Resonance Based Sensors: An Application to Bio Sensing
Research area of project work:	Plasmonic Sensor
Duration of project	Three years(completed)
Name of Principle Investigator	Dr. Yogendra Kumar Prajapati
Project funding agency	(Associate Professor MNNIT Allahabad) (BRNS)Department of Atomic Energy, Mumbai
Workplace for Project	MNNIT Allahabad

### About project Work 3

Project Title	Synthesis of Metamaterial for sensing Applications
Research area of project work:	Plasmonic sensor
Duration of Project	25/06/2018 to 13/07/2018
Project Scheme	Indian Nanoelectronics Users Program (INUP)
Workplace for Project	IIT Bombay Nano Fabrication Unit (IIT-BNF)

## 9. Publication in SCIIndex,Journal = 11

1. S. K. Singh, A. Srivastava, L. K. Dwivedi, and Sunil. P. Singh, "Detection of biological contamination protozoa in drinking water using surface plasmon resonance-based technique," *Optical Review*, vol. 30, no. 4, pp. 478–484, Jun. 2023(SCI Impact Factor **1.047**)
2. S. K. Raghuvanshi, **Akash Srivastava**, V. Palodiya, and P. Pareek, "Generation of a high chirp ratemicrowave signal by using external optical modulation technique for RADAR application: theory and experiment," *Optical and Quantum Electronics*, vol. 55, no. 1, Nov. 2022,(SCI Impact Factor **3**)
3. **Akash Srivastava**& Y. K. Prajapati. Surface plasmon resonance (SPR)-based biosensor using MXene as a BRE layer and magnesium oxide (MgO) as an adhesion layer. *Journal of Materials Science: Materials in Electronics*, vol. 33(11), pp. 8519-8528, 2022.(SCI Impact Factor**2.8**)
4. **Akash Srivastava**, A., Verma, & Y. K. Prajapati, Theoretical study of hazardous carbon-di-oxide gas sensing using MIM structure-based SPR sensing scheme. *IET Optoelectronics*, vol. 15(4), pp. 167-177, 2021 (SCI Impact Factor **1.742**)
5. **Akash Srivastava** and Y. K. Prajapati, "Effect of sulfosalt and polymers on performance parameter of SPR biosensor," *Optical and Quantum Electronics*, vol. 52, no. 10, Sep. (2020). (SCIImpactfactor:**2.794**)
6. **Akash Srivastava**, R. Das, and Y. K. Prajapati, "Effect of Perovskite material on performance of surface plasmon resonance biosensor," *IET Optoelectronics*, vol. 14, no. 5, pp. 256–265, Oct. 2020. (SCI Impact factor:**1.742**)
7. **AkashSrivastava**, AlkaVerma,RitwickDas,Y.K.Prajapati"ATheoreticalApproachtoImprovethethePerformance of SPR Biosensor using MXene and Black Phosphorus", *Optik - International Journal for Light and Electron Optics* Vol.203, pp.1-9,2020 (SCI Impactfactor:**3.1**)
8. **Akash Srivastava**, Y. K. Prajapati "Performance Analysis of Silicon and Blue Phosphorene/MoS<sub>2</sub>Hetero- Structure Based SPR Sensor" *Photonic Sensors*, vol.9(33), pp 1–9, Feb 2019 (SCI Impact Factor **4.4**)
9. Y.K. Prajapati, **Akash Srivastava** "Effect of blueP/MoS<sub>2</sub> Heterostructure and graphene layer on the performance parameter of SPR sensor: Theoretical insight" *Superlattice and Microstructure*, 129, pp.152- 162, 2019 (SCI Impactfactor:**2.658**)
- 10.S. K. Raghuvanshi, N. K. Srivastava, **Akash Srivastava** and B.S. Athokpam, "Effect of Laser Modulation on Dispersion Induced Chirp Microwave Signal Generation by using Temporal Pulse Shaping Technique" *Wireless Personal Communication(Springer)*, July 2017, Volume 95, Issue 2, pp 1451–1468 (SCI impact factor **2.2**)
11. Sanjeev Kumar Raghuvanshi, Nimish Kumar Srivastava and **Akash Srivastava** "A Novel Approach to Generate a Chirp Microwave Waveform Using Temporal Pulse Shaping Technique." *International Journal of Electronics (Taylor & Francis)* , PP 1689-1699, Volume 104, 2017 - Issue 10 (SCI ImpactFactor**1.336**)

### • Paper in Accepted/review

- Akash Srivastava, Devendra Chack "Detection of Melanoma, Fibroblasts, and Adipose Skin Cancer Cell Lines in Human Blood using Surface Plasmon Resonance Sensing Technique" *IEEE Transactions on Nanotechnology*, AcceptedSubmission ID- TNANO-00353-2023
- Akash Srivastava, Devendra Chack "Plasmonic Nanoantenna-Based Sensing Systems for Comprehensive Air Quality Assessmentin*Plasmonics*,*Journal Springer* (Submission ID c9f87978-0728-4f48-91a2-92ce8b449185), Under Review

## 10. Publication in ScopusIndex Journal= 06

1. S. K. Singh, **Akash Srivastava**, and L. K. Dwivedi, "A Theoretical analysis of Milk

adulteration/contamination detection in camel, buffalo and cow milk using SPR Technique,” IOP-Publishing Journal of Physics: Conference Series, vol. 2426, no. 1, p. 012040, Feb. 2023, doi: 10.1088/1742-6596/2426/1/012040. **(Corresponding Author)**

2. **Akash Srivastava**, S. K. Raghuvanshi, “Novel Approach to Generate Chirped Waveform by using Chirped Lithium Niobate Mach-Zehnder Modulator” International Journal of Signal Processing, Image Processing and Pattern Recognition. Vol.9(7), pp.315-328, 2016
3. N. K. Srivastava, **Akash Srivastava**, S. K. Raghuvanshi “Microwave Waveform Generation with High Chirp Rate and Central Frequency using Dual-Parallel Mach-Zehnder Modulator for an Efficient Microwave Beam Steering Network”, Microwave Review - Vol. 24(2), December 2018
4. Sanjeev Raghuvanshi, **Akash Srivastava** and Bidhanshel S. Athokpam. “Review on Photonic Generation of Chirp Arbitrary Microwave Waveforms for Remote Sensing Application” Journal of Optical Communications, vol. 38(4) July 2016
5. S. K. Raghuvanshi, Ritesh. Kumar, **Akash Srivastava** and Nimish Kr. Srivastava “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
6. S. K. Raghuvanshi and **Akash Srivastava** Review of microwave photonics technique to generate the microwave signal by using photonics technology. Journal of Optical Communications, vol. 39(1), pp. 2018

#### 11. Conference Publication = 06

1. **Akash Srivastava** “High Refractive Index Prism Zinc Selenide (ZnSe) Based SPR Sensor Provides Large Dynamic Range for Sensing Application” WNCST2021 Conference VIT University Vellore, India
2. **Akash Srivastava**, S. Srivastava “WiMAX-Filters at Different Frequency Spectrums” EPCECE Conference Jawaharlal Nehru University (JNU) 2014, Proceeding AEEE-Research India Publication, Volume 4, pp. 15-20(2014)
3. **Akash Srivastava** “Microwave Filters and Design-Survey” ICACCT- 2013 IEEE Delhi Section, APIIT SD Engineering College, Proceeding to Inderscience Publisher, UK, IETE, ISBN 978-93-83083-38-1, Volume 3, pp 172-176, (2013)
4. **Akash Srivastava** and S. K. Raghuvanshi “High chirp rate Arbitrary microwave waveform generation by using improved temporal pulse shaping” IONS, International OSA Network of Students, IIT (ISM) Dhanbad, 7-10 September, 2016, IONS-DHN/2K16/112
5. **Akash Srivastava** and S. K. Raghuvanshi, “Arbitrary chirped microwave waveform generation by using MZI: A review” Recent trends in Emerging Technologies (RTET), DIT university, 2015
6. Susheel Kumar Singh, **Akash Srivastava**, L. K. Dwivedi “Application of Surface Plasmon Resonance (SPR) Technique in Sensing Application” International Journal of Scientific Research in Science and Technology Volume 9 | Issue 14 | Print ISSN: 2395-601, 2022 National conference on “Smart materials and Devices for sustainable Technologies” organized by Lal Bahadur Shastri Degree college Gonda Uttar Pradesh, 20-21 June 2022

#### 12. Bookchapter in International Book = 05

1. **Akash Srivastava**, Alka Verma, and Y.K. Prajapati, “Bloch Surface Wave (BSW) Based Biosensor-An Alternative of SPR Technique,” Advances in VLSI, Communication, and Signal Processing, pp. 555–563, 2022, doi: 10.1007/978-981-19-2631-0\_48.
2. **Akash Srivastava**, Alka Verma, and Y.K. Prajapati “Effect of 2D, TMD, perovskite, and 2D metal carbide/nitride material on performance parameters of SPR biosensor” Handbook of Nanomaterials for Sensing Applications, edition-1, chapter 04, pp.57-90, Publisher, Elsevier ISBN 9780128207833, <https://doi.org/10.1016/B978-0-12-820783-3.00005-1>
3. Shivam Singh, **Akash Srivastava**, Sanat Kumar Pandey and Y.K. Prajapati Single-Side-Polished,

Gold-Coated SPR-Based PCFRI Sensor, Recent Trends in Electronics and Communication. Lecture Notes in Electrical Engineering, vol 777, pp.299-307, Springer, Singapore, 2022, [https://doi.org/10.1007/978-981-16-2761-3\\_28](https://doi.org/10.1007/978-981-16-2761-3_28)

4. Akash Srivastava, **Shivam Singh**, Y.K. Prajapati, "Application of Carbon Nano Tube (CNT) in Glucose Liquid Sample Sensing Using SPR Technique," **Recent Trends in Electronics & Communication** (2021), vol. 777, pp.309-321, Springer, Singapore. [https://doi.org/10.1007/978-981-16-2761-3\\_29](https://doi.org/10.1007/978-981-16-2761-3_29).
5. Akash Srivastava, Sajal Agarwal "Enhancement of Dynamic Range of surface plasmon resonance (SPR) biosensor using high refractive index prism" Book chapter in "Opto-VLSI Devices and Circuits for Bio-medical and Healthcare Applications" Taylor and Francis Group CRC Press, Chapter- 1, ISBN-9781003431138

### 13. Author/Co-Author in Published Book

1. Name of Book -Text Book of "**Basic Electronics**" by Krishna Prakashan Media Pvt. Ltd., ISBN-9789394511965(co-author)
2. Name of Book -Text Book of "**Digital Electronics**" by Krishna Prakashan Media Pvt. Ltd, ISBN- 9789387620469(co-author)

### 14. Patent (Awarded and Filed)

<b>Title of Patent (Awarded)</b>	System and Method to Generate Dual-Chirped Arbitrary Microwave Waveform
<b>Patent Number</b>	425114
<b>Application No.</b>	201731016052
<b>Date of Award</b>	14/03/2023
<b>Patentee</b>	Dr. Sanjeev Kumar Raghuvanshi, Mr. Ritesh Kumar, Mr. Nimish Kumar Srivastava, Mr. Akash Srivastava et al.

"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"

2.

<b>Title of Patent Published</b>	Novel Photonic crystal Fiber based Biosensor with integrated Surface Plasmon Resonance for Ultrasensitive Detection of Disease Biomarkers
<b>Date of publication</b>	28/07/2023
<b>Application No.</b>	202311044904
<b>Date of Filed</b>	04/07/2023

### 15. Membership of Professional Societies

1. Active member of IEEE Student chapter, Uttar Pradesh (IEEE Member number is95728106)
2. Active member of SPIE ISM Student chapter (SPIE Member number is3734119).

### 16. Other Academic and social activity

1. Session Chair in three days international conference "Artificial Intelligence and Smart Communication" AISC-2023 during 27-29 January 2023 organized by GL Bajaj College Noida.
2. Member of **Annual Quality Assurance Report-Writing Cell and NAAC** of KNIPSS Sultanpur College.
3. Peer Reviewer of the 9th International Conference on Biomedical Engineering and Biotechnology (ICBEB 2020), China
4. Given a tutorial entitled "Basics of Opti System Software and its Application in Microwave Photonics Link" in a short-term course Recent Trends in Microwave and Photonic Technology (RTMPT)" organized by Department of Electronics Engineering, Indian School of Mines, Dhanbad, Jharkhand during May 27-29, 2016.

### 17. Reviewer of SCI/WoS/Scopus Journals

1. Optical and Quantum Electronics-Springer
2. Optics and Laser Technology-Elsevier
3. Optical Materials Express-OSA

### 18. Prizes received in competitions, state

1. Win first prize in debate competition under the aegis of police department, Ambedkarnagar, UttarPradesh, India
2. Recipient of 2400 INR scholarship under Prof. Laxmikant inspirational scholarship award for top merit student in M.Sc. electronics firstyear 2011.

### 19. Professional Training/Workshop/Short Term Course/Webinar

I have obtained the following Professional training.

Training program	Organization Institute/Organized by	Duration
Technology based Entrepreneurship Training Program on Internet over Thing	GL Bajaj Greater Noida	Four Week
INUP hands on trainingworkshop on Nanofabrication Technologies	IIT Bombay	One Week
One-week Workshop entitled“Advanced Embedded System and Microelectronics” (AESM- 2019)	MNNIT Prayagraj	One Week
One-week Workshop entitled“Advances inwireless and opticalnetworks” AWON-2019	MNNIT Prayagraj	One Week
Two days lecture series on good research practices	IIIT Prayagraj	Two Days
Imaging and applied opticscongress and optical sensors and sensing congress	Optical Society of America (OSA)	Five days
International webinar on material synthesis andcharacterization (IWMSC)	RMLAU Ayodhya, India and Florida Polytechnic University USA	Three Days
Short term course Recent Trends in Optical Engineering(RTOE-2020)	NIT Surat /MMMU Gorakhpur.	One week
Short term courseOptoelectronics and Nanophotonics	IIT-Gowahati	six days
FDP on “Advances in Electronic and Photonic Devices for Optical Fibre Communication and Bio-chemical Sensing”	IIT Indore	three days
FDP on “Recent Trends in Photonics Technology”	JIIT Noida	one week
FDP on " <b>Photonics</b> " sponsored by AICTE Training and Learning (ATAL) Academy	National Institute of Technology Karnataka	one week
TEQIP III Sponsored online STC on “Recent advances in RF and Photonics”	IIT Guwahati	Oneweek
Recent Advancements in RF & Microwave Circuits andDevices	BENNETT University Noida	Oneweek
2 <sup>nd</sup> IEEE Workshop on Advances in Nanophotonics devices and sensors	NIT Karnataka Surathkal	Oneweek
High end workshops on photonics sensor for chemical and gas sensing	IIT ISM Dhanbad sponsored by SERB Govt. of INDIA	One week
Hand on Training on Microwave and Photonics Related Sophisticated Equipment and Components	MNNIT Allahabad under STUTI Program by DST	One week

**Reference:**Reference Will available on request

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.

Dr. Akash Srivastava



