Curriculum-Vitae

Dr. Vipin Sharma

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Area of Interest: X-ray Spectroscopy, Plasmonics

Scopus ID: 58798974900

Carrier Objective:

I take on challenges in the scientific community and modern techniques, excelling in them with my knowledge and energy, positive attitude, excellent interpersonal skills, and communication skills, and contributing to the growth of the organization and adding values.

Academic Qualification:

Standard	Board/University	Year of Passing	Subjects
High School	U.P. Board, Allahabad	2009	Hindi, English, Sanskrit, Social Science, Science, Mathematics
Intermediate	U.P. Board, Allahabad	2011	Hindi, English, Physics, Chemistry, Mathematics
B.Sc.	Dr. RML Avadh University, Ayodhya	2014	Physics, Mathematics
M.Sc.	Dr. RML Avadh University, Ayodhya	2016	Physics (Sp. Electronics)
Ph. D. (Physics)	Dr. RML Avadh University, Ayodhya	2024	Physics

Topic of Research: "A Theoretical Study of Plasmon Excitation Processes and Surface Plasmon Resonance Based Biosensors".

Supervisor: Dr. L. K. Dwivedi (Professor & Head, K.N.I.P.S.S. Sultanpur)

Teaching Experience: Working as Assistant Professor (Part-Time) from 04 August. 2018 to till date at Kamla Nehru Institute of Physical & Social Sciences, Sultanpur.

Technical Skills:

MATLAB Software, COMSOL Software, Origin Software, MS Office, Spectrometer,

List of Publications:-

(a) International Journal Papers:

1. **Vipin Sharma,** Lalit Kr. Dwivedi, Sachin Singh, Arun Uniyal, Vaibhav Srivastava & Sunil P. Singh**, "Analytical Study on Effect of Perovskite Halides based Surface Plasmon Resonance Sensor for Detection of Sugar in Soft Drinks"** in Sensing and Imaging (2025) **[ESCI ISSN: 1557-2072 IF = 2.0]**

2. **Vipin Sharma,** Lalit Kr. Dwivedi, Sachin Singh & Ganga Ram Mishra, "**Numerical Study of Surface Plasmon Resonance (SPR)-based Sensor for Early Pregnancy Detection by Urine Samples"** in Journal of Optics (2025) [**ESCI ISSN:0974-6900 IF=2.0]**

3. Anmol Garg, **Vipin Sharma**, Sameer Sinha & Lalit Kr. Dwivedi, **"Theoretical Determination of Intensity of Satellite Structure of the Tungsten (W) L$\alpha_{1,\,2}$ X-Ray Spectrum**, " in International Journal of Scientific Research in Science and Technology (IJSRST) (2024) **[UGC Listed UGC No. 64011 ISSN: 2395-6011]**.

4. **Vipin Sharma,** Lalit Kr. Dwivedi, Sachin Singh & Ganga Ram Mishra, "**Glucose Level Monitoring in Human Blood Samples by Surface Plasmon Resonance Sensor Using Cerium Oxide and Black Phosphorus Nanomaterials"** in **Journal of Optics (2024)[ESCI ISSN: 0974-6900 IF = 2.0].**

5. **Vipin Sharma,** Lalit Kr. Dwivedi & Susheel Kr. Singh, **"Graphene-coated Surface Plasmon Resonance (SPR)- based sensor for Detection of Preservatives in Milk: A Theoretical Investigation"** in International Journal of Scientific Research in Science and Technology (IJSRST) (2023) **[UGC Listed UGC No. 64011 ISSN: 2395-6011]**.

6. **Vipin Sharma,** & Lalit Kr. Dwivedi, **"Plasmon Effects in Non-Diagram Spectra of Calcium (Ca) and Cobalt (Co),"** in International Journal of Scientific Research in Science and Technology (IJSRST) (2023) **[UGC Listed UGC No. 64011 ISSN: 2395-6011].**

7. **Vipin Sharma,** & Lalit Kr. Dwivedi, **"Plasmons in Non-diagrams X-ray spectra of Scandium and Titanium compounds,"** in International Journal of Scientific Research in Science and Technology (IJSRST) Pg.276-281 Vol.. 10. (2023) [**UGC Listed UGC No. 64011 ISSN: 2395-6011].**

***Research Papers Under Review**

1. Theoretical Study of Silicon Carbide-based Surface Plasmon Resonance (SPR) Sensor for Detection of Tuberculosis in Blood Plasma in **Journal of Optics [OPTI-D-25-00903]**

(b) Book Chapter:

1. **Vipin Sharma,** Lalit Kr. Dwivedi, Susheel Kr. Singh & Akash Srivastava**,** "**Fundamental Concepts of Surface Plasmon Resonance Technique for Biosensing Application"** in Recent Advances in Multifunctional Materials, Swaranjali Publication, Sector 10-B Vasundhara Ghaziabad (U.P.) (2023) ISBN 978-93-5470-813-8.

2. Susheel Kr. Singh**,** Akash Srivastava, Lalit Kr. Dwivedi, & **Vipin Sharma, "Use of Optical Fibres for Sensing Purpose: A Theoretical Note"** in Recent Advances in Multifunctional Materials, Swaranjali Publication, Sector 10-B Vasundhara Ghaziabad (U.P.) (2023) ISBN 978-93-5470-813-8.

(c) Books:

1. Ashish Sahu, L. K. Dwivedi, S.P. Singh, **Vipin Sharma**, Akash Srivastava, "Digital Electronics" Krishna Prakashan, Meerut, (2023). ISBN:978-93-87629-46-9.

2. S. K. Singh, L. K. Dwivedi. S. P. Singh, **Vipin Sharma**, "Demonstrative Aspects of Optics & Lasers" Krishna Prakashan, Meerut, (2023) ISBN: 978-81-962578-4-2.

3. S. K. Singh, **Vipin Sharma**, "Classical & Statistical Mechanics" Krishna Prakashan Meerut, (2023) ISBN 978-81-962578-0-4.

4. M. K. Tiwari, S. K. Singh L. K. Dwivedi, S. P. Singh, A. Kumar **Vipin Sharma**, "Solid State & Nuclear Physics" Krishna Prakashan Meerut, (2024) ISBN:978-81-19804-72-6.

5. Ashish Sahu, S.K. Singh, L. K. Dwivedi, S.P. Singh, **Vipin Sharma**, "Digital Electronics" Krishna Prakashan, Meerut, (2024). ISBN:978-81-19804-68-9.
6. Lalit Kumar, L. K. Dwivedi, R. K. Srivastava, **Vipin Sharma**, Jitendra Singh, S.K. Singh, S. K. Nigam, A. K. Singh, "Newtonian Mechanics" Meerut,(2024).ISBN: 978-93-91152-54-3.
7. S. K. Singh, **Vipin Sharma**, "Quantum Mechanics & Spectroscopy" Meerut.(2024) ISBN:978-81-962578-1-1.

Conference Attended/Paper Presentation: -

(a) International

1. **Sensitivity Enhancement of Gallium Nitride-based SPR sensor for Early-Stage HIV Detection in Human Blood** in the International Conference on Emerging Trends in Complex Systems, Advanced Materials and Photonics, jointly organized by Guru Ghasidas Vidhwavidyalaya, Bilaspur, India, The State of New York, Albany, USA and IISER, Mohali, India on Feb. 27 & 28 , 2025 in hybrid mode
2. **Numerical Study of Surface Plasmon Resonance (SPR)-based Sensor for Early Pregnancy Detection by Urine Samples,** International Conference on Energy, Functional Materials and Photonics (PPICEFP-2024) organized by Department of Physics and Material, MMMUT, Gorakhpur during March 1-2, 2024.
3. **A Numerical Study for Determination of Sugar Content in Soft drinks using Surface Plasmon Resonance (SPR)-Based Sensing Technique** in the International Conference on "Advancement in Functional Materials" during Feb.08-10, 2024.
4. **Plasmons in Non-diagrams X-ray spectra of Scandium and Titanium Compounds,** in International Conference on **Materials Science and Spectroscopy (ICMSS-21)** organized by the School of Science, Maharishi University of Information Technology, Lucknow, Uttar Pradesh, India during Sept. 22-24, 2021.

(b) National

1. **Nanomaterials and Surface Plasmon Resonance-Based Biosensors: A Review,** National Conference on Recent Advances in Physical and Biological Sciences organized by Department of Physics and Electronics, Kamla Nehru Institute of Physical and Social Sciences, Sultanpur during March 28-29, 2024.
2. **Generalized Mechanism of Plasmon Effects in Non-diagram X-ray Spectra of Elements $11 \leq Z \leq 17$,** in National Conference on XRD and TEM for Crystallographic and Medical Applications (NSBAT-2023) organized by Department of Physics, Kisan P.G. College, Bahraich during March,27-28,2023.
3. **Plasmon Effects in Non-Diagram X-ray Spectra of Ca,** in National Conference on XRD and TEM for Crystallographic and Medical Applications (NSBAT-2023) organized by Department of Physics, Kisan P.G. College, Bahraich during March, 27-28,2023.
4. **Plasmon Effects in Non-Diagram X-ray Spectra of Cobalt (Co),** in Second National Conference on Computational and Characterization Techniques in Engineering & Sciences (CCTES-23) organized by Department of Applied Science & Humanities, REC, Ambedkar Nagar during Feb.,27-28, 2023.
5. **Fundamental Concept of Surface Plasmon Resonance Technique (SPR) for Biosensing Application,** in National Seminar on "Recent Advances in Multifunctional Materials

organized by Department of Physics, M.L.K. P.G. College, Balrampur, U.P. during December 17-18, 2022.

6. **Surface Plasmon Resonance (SPR)- based Biosensors: A Pragmatic Approach,** in National Conference on Smart Materials and Devices for Sustainable Technologies (NCSMSDT-2022) organized by LBS Degree College, Gonda, U.P during June 20-21,2022.

References:

[1] Dr. L. K. Dwivedi (Professor and Head), Department of Physics & Electronics K. N. I. P. S. S. Sultanpur, U.P. (Email: lalitsln67.2011@gmail.com) Mob. No. +919415531264.

[2] Dr. S. P. Singh (Principal), Saltant Bahadur P.G. College Badalapur (Email: spsinghkni@gmail.com) Mob. +919415156909.

[3] Dr. Sameer Sinha (Professor & Head) Department of Physics & Electronics, G. S. P. G. College Sultanpur (Email: sameerganpat@gmail.com) Mob. No. +919415156109.

Declaration:

I hereby declare that all the information furnished above is true to the best of my knowledge and belief.

Place: Sultanpur
Date: 08/06/2025

(Dr. Vipin Sharma)
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