

Ch. Balluram Godara Government Girls College, Srigananagar

Faculty-Profile

Name: Dr. Vivek Sharma

Subject: Physics

Designation: Assistant Professor

Academic Qualifications: Ph.D., NET, SET.

Area of Specialization: Laser Wakefield Acceleration

Teaching Experience: UG: 6 Years; PG: 1 Year.



Publications:

- **Research Papers Published in Journals:**
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Sr. No.	Title of the paper	Year of Publication	Details of Publisher	Indexing (UGC/Scopus /WOS)
1	Enhanced laser wakefield by beating of two co-propagating Gaussian laser pulses	2023	Journal of Optics, Springer	SCOPUS & UGC CARE
2	Excitation of the Laser wakefield by asymmetric chirped laser pulse in underdense plasma	2023	Journal of Optics, Springer	SCOPUS & UGC CARE
3	Effect of frequency chirp and pulse length on Laser wakefield excitation in underdense plasma	2023	Brazilian Journal of Physics	SCOPUS & UGC CARE
4	Electron acceleration in obliquely magnetized underdense plasma by a circularly polarized laser pulse.	2023	Optical and Quantum Electronics	SCOPUS & UGC CARE
5	Lasers wakefield acceleration in underdense plasma with ripple plasma density profile	2023	Journal of Optics, Springer	SCOPUS & UGC CARE
6	Effect of wiggler magnetic field on wakefield excitation and electron energy gain in laser wakefield acceleration.	2023	Zeitschrift für Naturforschung A	SCOPUS & UGC CARE
7	Effect of different Gaussian-like laser profiles on electron energy gain in laser wakefield acceleration	2023	Optical and Quantum Electronics	SCOPUS & UGC CARE
8	Enhanced Laser Wakefield Acceleration Utilizing Hermite-Gaussian Laser Pulses in Homogeneous Plasma	2023	Journal of Optics, Springer	SCOPUS & UGC CARE
9	Efficient THz generation by Hermite-cosh-Gaussian lasers in plasma with slanting density modulation	2023	Journal of Optics, Springer	SCOPUS & UGC CARE
10	The resonant Terahertz radiation by p-polarized chirped laser in hot plasma with slanting density modulation	2023	Journal of Optics, Springer	SCOPUS & UGC CARE
11	Laser Wakefield Effect: A comparative Study of Gaussian and sinh-Gaussian Pulse Characteristics	2024	Brazilian Journal of Physics	SCOPUS & UGC CARE

12	Electron Acceleration in Collisionless Plasma: Comparative Analysis of Laser Wakefield Acceleration using Gaussian and cosh-squared-Gaussian Laser Pulses.	2024	Journal of Optics, Springer	SCOPUS & UGC CARE
13	Optimizing Laser-Driven Electron Acceleration with Sinh-Squared Gaussian Pulses	2024	Journal of Optics, Springer	SCOPUS & UGC CARE
14	Magnetic Field Effects in Laser Wakefield Excitation: A Study Using Hermite-Gaussian Laser Pulses in Homogeneous Plasma	2024	Journal of Optics, Springer	SCOPUS & UGC CARE
15	Enhancing Electron Acceleration with Sinh-Squared Gaussian Pulse under External Magnetic Fields	2024	Journal of Optics, Springer	SCOPUS & UGC CARE
16	Analyzing Electron Acceleration Mechanisms in Magnetized Plasma Using Sinh-Gaussian Pulse Excitation	2024	Journal of Optics, Springer	SCOPUS & UGC CARE
17	Maximizing Energy Efficiency in Laser-Plasma Electron Acceleration through Pulse Length and Plasma Density Optimization	2024	Journal of Optics, Springer	SCOPUS & UGC CARE
18	Exploring Sin-Gaussian Laser Pulses for Efficient Electron Acceleration in Plasma	2024	Optical and Quantum Electronics	SCOPUS & UGC CARE
19	A Comprehensive Study of Magnetic Field-Induced Modifications in Sin-Gaussian Pulse-Driven Laser wakefield acceleration	2024	Journal of Optics, Springer	SCOPUS & UGC CARE
20	Optimizing Terahertz emission with Hermite-Gaussian laser beams in collisional slanted up density plasma	2024	Journal of Optics, Springer	SCOPUS & UGC CARE

➤ **Research Papers Published in Conference Proceedings: -**

Sr. No.	Title of the paper	Year of Publication	Details of Publisher	Date & Details of conference
1	To study the effect of laser frequency-chirp on trapped electrons in laser wake-field acceleration	2022	Journal of Physics Conference Series SCOPUS & UGC CARE	25.6.21-26.6.21, Recent advances in fundamental and applied research, LPU, Phagwada

➤ **Organized Conferences/Seminar:**

Sr. No.	Title of the conference	Date & Details of conference
1.	INTERNATIONAL SEMINAR ON SOCIO-ECONOMIC CONCERNS OF LITERATURE, CULTURAL AND EDUCATIONAL IN THE GLOBAL SCENARIO	18-01-24, JOINTLY ORGANISED BY CH.B.R.G. GOVERNMENT GIRLS COLLEGE SRI GANGANAGAR, AND PURVKATHAN WORKED AS MEMBER ORGANISING COMMITTEE.

➤ **Invited Talks/Lectures:**

Sr. No.	Topic of talks	Date of talk	Organizing institution
1	KARYA- Knowledge Augmentation in Young Aspirants through Research	15-02-2022	Govt N.M. College, Hanumangarh

➤ **Chapters in Edited Books: -**

Sr. No.	Title of the Book	Year of Publication	Details of Publisher	ISSBN /ISSN No.
1.	Recent advances in Science	2019-20	RADHIA BOOKS NEW DELHI.	ISBN-978-81-93409-8-2
2.	New Frontiers: Emerging Science and Technology	2023-24	LOVELY PROFESSIONAL UNIVERSITY, PHAGWARA	978-81-19334-69-8 2023

➤ **Papers presented in Conferences/Seminars: -**

Sr. No.	Title of the paper	Date & Details of conference
1	भौतिक जगत में व्याप्त निराशा में आशा की एकमात्र किरण – संस्कृत व हिन्दी साहित्य	18-01-2024, International seminar on Socio-Economic Concerns of Literature, Cultural and Educational in the Global Scenario, CBRG college SGNR.
2	Study the Effect of Plasma Density on Laser Wake-field Acceleration	24.3.2023-25.3.2023, Recent advances in fundamental and applied research, LPU, Phagwada
3	Review on effect of two-color laser scheme on laser wake field acceleration	7.12.22, International symposium on recent trends in optical materials and photonic devices, Guru Ghasidas vishwavidhyalaya, Bilaspur (Chattisgarh)
4	A review on factors affecting electron acceleration LWFA	12.8.22-14-8-22, International conference on multidisciplinary approach towards sustainable development and climate change for a viable future, Raj Rishi Govt. autonomous college, Alwar
5	Review of literature- Laser plasma interaction	16.7.22-17.7.22, Modern trends in research methodology, Tania university, Sriganaganagar
6	भौतिक विज्ञान के संदर्भ में पर्यावरण संरक्षण	25.12.21, वैश्विक जलवायु प्रदूषण और जलवायु परिवर्तन – वैदिक समाधान, Mata Krishnavanti college, Padampur
7	To study the effect of laser frequency chirp on trapped electrons in LWFA	25.6.21-26.6.21, Recent advances in fundamental and applied research, LPU, Phagwada
8	Effect of Asymmetric laser pulse on Laser wakefield acceleration.	27.5.21-29.5.21, Second international conference on Advances in Plasma science and technology, Sri Shakti institute, Coimbatore, Tamilnadu
9	Mathematical modelling of algal growth in ponds around Sriganaganagar	29.11.19- 30.11.19, International conference on environmental ethics, resource management and regional management, Dr. B.R.A. Government college, Sriganaganagar

➤ **Training Programmes, FDPs and MOOCs Attended:**

Sr. No.	Date	Title of the FDPs and MOOCs
1	07-02-2019 to 06-03-2019	Orientation Course
2	28-07-2022 to 11-08-2022	Refresher Course
3	01-08-2021 to 06-08-2021	Gyan Ganga – Initiatives for teaching learning excellences in Physics
4	02-04-2020 to 10-06-2020	Learning Physics Through Simple Experiments (IIT Kanpur)
5	26-01-2020 to 19-05-2020	Advanced Course on Special theory of Relativity (IIT Kanpur)

6	06-12-2019 to 07-12-2019	Faculty development program
7	15-08-2019 to 18-11-2019	Basics of Quantum Mechanics (IIT Kanpur)
8	29-07-2019 to 31-07-2019	Training of trainers (IPR)
9	18-11-2022 to 26-11-2022	Professional Development Programme on 'Implementation of NEP-2020 for University and College Teachers'

➤ **You tube channel: -**

Sr. No.	Year of start of channel	Link of You tube channel
1	2019	https://www.youtube.com/c/VivekSharmaPhysics