

## RESUME

- 1) Name : Dr. Arun Gaur
- 2) Contact information : Department of Physics, Hindu College Sonipat
- 3) Email : garun\_1965@yahoo.co.in
- 4) Education : M.Sc Ph.D
- 5) Title of Thesis : Nonlinear Processes in Optical Materials Using Pulsed Lasers
- 6) Academic Positions : (i) Associate Professor & Head  
(ii) Dean Sciences and member of Staff council of college
- 7) Teaching Experience : 31 years
- 8) Courses taught : Electrodynamics & Wave propagation, Lasers and Optics
- 9) Research areas of Interest : Nonlinear Processes in materials
- 10) Awards and Honors : (i) Acharya devo bhava award 2020 for Most Supportive Teacher on 5/9/2020.  
(ii) Shikshak Samman Samaroh 2021 for Outstanding Contribution towards education on 5/9/2021 by MLA Sonipat.  
(iii) Best Teacher Award 2021 in recognition of Continuing Excellence in teaching on 24/9/2021 by Lions Club Sonipat.  
(iv) Rashtra Nirmarta award 2021 on 5/10/2021 by Manav Adhikar Sanrakshan Sangh Sonipat.

### 11) Research papers in Peer-Reviewed Journals and in UGC CARE List

Sr.No.	Title of the Paper	Name of the Journal With Volume/Page no. and Year  Web of Science / SCOPUS /UGC listed / Peer- reviewed Journals  *Source record ID. in UGC Care List 2023	Authors	Impact Factor, if any  Web of Science / SCOPUS
1	Pulsed Laser induced photo-conductivity in II-VI Crystal : ZnSe	<b>Solid State Communications, (England), Source record ID. 29886* in UGC Care List 2023,</b>  Vol 68 No.1 P. 39-42, (1988). ISSN 0038-1098, Publisher-Elsevier (UK).	R.D.Singh, A.K.Sharma, Arun Gaur and Devender Mohan	<b>1.80</b>
2	Multiphoton photoconductivity in an indirect band gap crystal: CdI <sub>2</sub>	<b>Solid State Communications (England), Source record ID. - 29886* in UGC Care List 2023,</b> Vol.72, No.6, P.595-598, (1989). ISSN 0038-1098, Publisher-Elsevier (UK).	R.D.Singh, A.K.Sharma, Arun Gaur and N.V.Unnikrishaan	<b>1.80</b>
3	Study of cracks in Melt-grown cadmium iodide crystals	<b>Crystal Research and Technology (Germany), Source record ID. - 24673* in UGC Care List 2023</b>  No.4 25, 87-91,(1990). ISSN 0232-1300	S.K.Chaudhary, Arun Gaur and G.C.Trigunat	<b>1.63</b>

4	Photo quenching in laser grade dyes: Part-1	<b>Journal of Luminescence (Netherland), Source record ID. - 12179 *, in UGC Care List 2023</b> Vol.43, 363, (1989). ISSN 0022-2313	Devender Mohan, <b>Arun Gaur</b> , A.K.Sharma and R.D.Singh,	<b>3.59</b>
5	Dependence of electron mobility on the order of absorption (one-four in semiconductors)	<b>Crystal Research and Technology (Germany) , Source record ID. - 24673 *, in UGC Care List 2023</b> No. 7, 25, K-174-179, (1990). ISSN 0232-1300	R.D.Singh, <b>Arun Gaur</b> and A.K.Sharma,	<b>1.63</b>
6	Concentration and pump intensity dependent gain studies for FDS, CV and Rh 590(CI) and CV mixture	<b>Optics Communication, Source record ID. - 12352 *, in UGC Care List 2023</b> Elsevier (North-Holand). 833 (1991). P. 2325, ISSN 0030-4018 (on line)	<b>Arun Gaur</b> , L.Taneja, A.K.Sharma, Devender Mohan and R.D.Singh	<b>2.31</b>
7	Concentration dependence optical gain characteristics of C-485, C-440 and Rh-B	<b>Journal of Luminescence , Source record ID. - 12179* in UGC Care List 2023</b> Elsevier (North-Holand) 50, 127-131, (1991). ISSN 0022-2313	Devender Mohan, L.Taneja, <b>Arun Gaur</b> , A.K.Sharma and R.D.Singh,	<b>3.59</b>
8	Energy transfer excitation in a N <sub>2</sub> – laser-pumped C-485-Rh-B dye mixture through optical gain characteristics	<b>Journal of Photo chemistry and photo biology A: Chemistry (Switzerland), Source record ID. - 26966* , in UGC Care List 2023</b> 68, 77-84, (1992). ISSN 1010-6030	D.Mohan, Sujata Sanghi, R.D.Singh, K.Mahandiratta and <b>Arun Gaur</b>	<b>4.29</b>
9	A pulsed N <sub>2</sub> -laser study of the effects of substituents on the efficiency of coumarin	<b>Optics Communication, Source record ID. - 12352*, in UGC Care List 2023</b> Elsevier (North-Holand) 106, 79-83,(1994) .ISSN 0030-4018 (on line)	L.Taneja, <b>Arun Gaur</b> , A.K.Sharma and R.D.Singh	<b>2.31</b>
10	Pulsed laser induced photo-conductivity in an Indirect band gap crystal: PbI <sub>2</sub>	<b>Physica Status Solidi (B): Basic Research, Source record ID. - 29140*, in UGC Care List 2023</b> 219, 421 (2000). ISSN 1521-3951(on line), Wiley-VCH/ISSN 0370-1972	D.S.Ahlawat, <b>Arun Gaur</b> , Nageshwar Singh and R.D.Singh	NO but in the U.G.C Care List 2023
11	Two Photon Photoconductivity of ZnS using XeCl laser	<b>Modern Physics Letters B, Source record ID. - 29055*, in UGC Care List 2023</b> Vol. 17, 1265, (2003). ISSN 0217-9849 (Print), ISSN 793-6640 (on line). World Scientific	D.S.Ahlawat, R.D.Singh and <b>Arun Gaur</b>	<b>1.66</b>
12	Multiphoton photoconductivity and optical nonlinearities in ZnSe and CdSe direct band gap crystals	<b>J.of Optics A: pure and applied optics, Source record ID. – 12205, in UGC Care List 2023</b> Vol. 9,1-5, (2007). Impact factor = <b>1.742</b> , ISSN 1464-4258(Print) 1741-3567 (online). Publisher-IOP Publishing (UK). This Journal has changed its name from 2010 now it has become <b>Journal of Optics (UK)</b> <b>Source record ID. - 19700189500*, in UGC Care List 2023</b> Impact factor = <b>1.847</b>	<b>Arun Gaur</b> , D.K.Sharma, D.S.Ahlawat and Nageshwar Singh  Arun Gaur was the External Supervisor of D.K.Sharma	<b>1.74</b>
13	Optical Nonlinearities in direct and indirect band gap crystals on Z-scan technique with nanosecond laser by	<b>Solid State communications, Source record ID. - 29886*, in UGC Care List 2023</b>	<b>Arun Gaur</b> , D.K.Sharma, D.S.Ahlawat and Nageshwar Singh	<b>1.80</b>

		Vol., 141, 445, (2007). ISSN 0038-1098, Publisher-Elsevier (UK).	Arun Gaur was the External Supervisor of D.K.Sharma	
14	Photo excited carrier life time in direct and indirect band gap crystals on the Z-scan Technique at 532nm	<b>International Journal of Modern Physics B,</b> <b>Source record ID. - 28075*, in UGC Care List 2023</b>  Vol.21, No.17, 1-6 (2007). ISSN 0217-9792 (Print) 1793-6578 (online). Publisher-World Scientific (Singapore).	<b>Arun Gaur,</b> D.K.Sharma, K.S.Singh and Nageswar Singh  Arun Gaur was the External Supervisor of D.K.Sharma	<b>1.21</b>
15	Laser Induced Multiphoton Photoconductivity in Direct and Indirect band gap Crystals Using Z-Scan Technique	<b>Modern Physics Letters B,</b> <b>Source record ID. - 29055*, in UGC Care List 2023</b>  Vol 23, No 23, 2783-2789 (2009). ISSN 0217-9849(Print) 1793-6640 (online). Publisher-World Scientific (Singapore).	<b>Arun Gaur,</b> D.K.Sharma, K.S.Singh and Nageswar Singh  Arun Gaur was the External Supervisor of D.K.Sharma	<b>1.66</b>
16	Intensity Dependent Nonlinear Absorption in Direct and Indirect band gap crystals under nano and pico second Z-scan	Optics and Photonics Journal, Vol.2.98104,(2012). Scientific Research ISSN/ISBNno.2160889X (*Corresponding Author)	Dimpal Sharma, Poonam Gaur, B.P.Malik,Nageswar Singh and <b>Arun Gaur*</b> *Corresponding Author and was the Co-Supervisor of Mrs. Dimple Sharma	<b>No</b>
17	Study of transmittance dependence of closed-aperture Z-scan curves in the materials with nonlinear refraction and strong absorption	<b>Optik,</b> <b>Source record ID. - 110152*, in UGC Care List 2023 : International Journal for Light and Electron Optics</b> Publisher-Elsevier  123 (17) (2012) 1583–1587. Elsevier ISSN/ISBN no.0030-4026,	<b>Arun Gaur,</b> Poonam Gaur, Dimple Sharma, Gaur, Dimple Sharma, D. K. Sharma, Nageswar Singh, B. P. Malik  Arun Gaur was the Co-Supervisor of Mrs. Poonam Gaur	<b>2.44</b>
18	Termination of nonlinear absorption and refraction in direct and indirect band gap crystals by Z-scan method	<b>Electrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy,</b> <b>Source record ID - 24530*,</b> 197 (2012) 45–49. Elsevier ISSN/ISBN no.1386-1425, Impact Factor = <b>4.098</b> Publisher-Elsevier	Poonam Gaur, Dimple Sharma, Nageswar Singh, B. P. Malik and <b>Arun Gaur</b>  Arun Gaur was the Co-Supervisor of Mrs. Poonam Gaur	<b>4.098</b>
19	Nonlinear optical properties of cobalt and iron doped CdSe nanoparticles using Z-scan technique	<b>Physica B: Condensed Matter, Source record ID - 291 in UGC Care List 2023</b>  177 (2015) 332-338. Elsevier ISSN/ISBN no.0921-4526, Publisher-Elsevier	Poonam Gaur, B. P. Malik and <b>Arun Gaur</b>  Arun Gaur was the Co-Supervisor of Mrs. Poonam Gaur	<b>2.43</b>
20	Preparation of Zinc doped CdSe nanoparticles and determination of their nonlinear optical properties using Z-scan technique in thick media	<b>NANO ,</b> <b>Source record ID. - 11300153732*, in UGC Care List 2023</b>  Vol. 10, No. 2 (February 2015). World Scientific ISSN/ISBN no.1793- DOI: 10.1142/S1793292015500186.	Poonam gaur, Dimple Sharma, B. P. Malik and <b>Arun Gaur</b>  Arun Gaur was the Co-Supervisor of Mrs. Poonam Gaur	<b>1.55</b>
21	Pulsed laser induced optical nonlinearities in undoped, Copper doped and Chromium doped CdS Quantum Dots	<b>Journal of Optics, Source record ID. - 19700189500*, in UGC Care List 2023</b>  Vol. 17, 045502, (2015). IOP Publishing	Dimple Sharma, B. P. Malik, <b>Arun Gaur</b>  Arun Gaur was the Co-Supervisor of Mrs.	<b>2.51</b>

		(UK). ISSN/ISBN no.2040-8978,	Dimple Sharma	
22	Two and four photon absorption and nonlinear refraction in undoped, Chromium doped and Copper doped ZnS Quantum dots,	<b>Journal of Physics and Chemistry of Solids,</b> <b>Source record ID. - 28564*, in UGC Care List 2023,</b> 87, 163-170, (2015). Elsevier ISSN/ISBN no.0022-3697,	Dimple Sharma, B.P. Malik, <b>Arun Gaur,</b> Arun Gaur was the Co-Supervisor of Mrs. Dimple Sharma	<b>3.99</b>
23	Measurement of nonlinear absorption and optical limiting in undoped and Fe doped ZnO quantum dots using pulsed laser	<b>Indian Journal of Physics,</b> <b>Source record ID. - 145208*, in UGC Care List 2023</b> Vol 90, 11, 1293-1298, (2016). IACS co-published with Springer ISSN/ISBN no.0973-1458,	Dimple Sharma, B.P. Malik, <b>Arun Gaur,</b> Arun Gaur was the Co-Supervisor of Mrs. Dimple Sharma	<b>1.80</b>

12) Books authored which are published by National Publisher

Sr. No.	Title of the Book	Name and category of Publisher	Authors
1	Electronics DEVICES For BSc Ist Year	Jyoti Prakashan National Publisher	Dr. Arun Gaur
2	Electricity Magnetism & Electromagnetic Theory for BSc Ist Year	Jyoti Prakashan National Publisher	Dr. Arun Gaur
3	Quantum MECHANICS for BSc IIIrd Year	Jyoti Prakashan National Publisher	Dr. Arun Gaur
4	Student PHYSICS Lab Manual for BSc IInd Year	Luxmi Publishing House National Publisher	Dr. Arun Gaur & Dr. Shalini Sharma
5	Student PHYSICS Lab Manual for BSc IIIrd Year	Luxmi Publishing House National Publisher	Dr. Arun Gaur, Shikha Maurya & Dr. Shalini Sharma

13) Research Guidance

Sr. No.	Program	Name of University	No. of students supervised / Degree awarded
1	Ph.D	Ch. Charan Singh University, Meerut	Dhruv Kumar Sharma, Registration no. Res-2/A/6417 Notification- Ph.D on dated 26/07/2012
2	Ph.D	DCRUST, Murthal	Pooman Registration no. 09171006, Notification no. - Ph.D/2015/4 dated 18/11/2015
3	Ph.D	DCRUST, Murthal	Dimple Sharma Registration no.09171002, Notification- Ph.D/2016/3 dated 10/05/2016

4	Ph.D	M.D. University Rohtak	Satish Kumar Registration no. 1075607546 Ph.D Notification no. 2017/2 dated 26/05/2017
5	M.Phil	CDLU Sirsa	Vinay Kumari Registration no. 06-DE-8148 (2006-07)
6	M.Phil	CDLU Sirsa	Dimple Sharma Registration no. 06-DE-8149 (2006-07)

(14) Research Projects Completed

Sr. No.	Title	Name of funding agency with the Amount	No. of Investigators
1	Study of multiphoton absorption processes in optical materials using high power pulsed lasers.	UGC New Delhi 45000/-	Dr. Arun Gaur

15) Paper presentation in Seminars/Conferences/fullpapers in Conference Proceedings

Sr. No.	Title of the Paper/lecture	Organized by (with dates)	Level
1	Three Photon absorption in direct and indirect band gap crystals under Z - scan measurement.	<b>Paper presented</b> in National Conference on Photonics & Materials Science (NCPMS-2008) Oct. 24-25, (2008) Department of Applied Physics G.J. University of Science and Technology, Hisar (Haryana).	National
2	Two Photon Absorption in Direct and Indirect band gap crystals under Nano and Picosecond Z-scan.	<b>Paper presented</b> in National Conference on Recent Advances in Material Science [NCRAMS-2012] Sponsored by : University Grants Commission, New Delhi Feb. 25-26, (2012) at Dyal Singh College Karnal (Haryana)	National
3	Comparative study of transmittance dependence closed aperture Z-scan curves in the direct, indirect band gap and doped crystals – <b>CP-33</b> .	<b>Paper presented</b> in the form of <b>Poster</b> in National Conference on Functional Materials (NCFM-2012) at G.V.M. Girls College Sonapat during 24-25 September, (2012).	National
4	<ol style="list-style-type: none"> <li>Nonlinear Optical Properties of Photoconductive Z-scan in Direct and Indirect band gap crystals - <b>P-03</b>.</li> <li>Intensive Dependent three photon absorption in Direct and Indirect band gap crystals under Nano and Picosecond Z-scan - <b>P-08</b>.</li> <li>Determination of</li> </ol>	<b>Paper presented</b> in National Conference on Advanced Materials & Devices (NCAMD -2013) in the form of <b>three posters P-03, P-08, P-33</b> held at Hindu College, Sonapat on February 27-28, (2013) .	National

	Nonlinear Absorption and refraction in Direct and Indirect band gap crystals by Z scan method - <b>P-33.</b>		
5	Synthesis of Co doped CdSe Nanoparticles and study of their optical properties. <b>CP-78</b>	<b>Paper presented</b> in Electoceramics Materials and Devices (NSEMD-2014) in the form of <b>poster (CP-78)</b> at G.V.M. Girls College, Sonipat on February 21-22, (2014).	National
6	<ol style="list-style-type: none"> <li>Free carrier lifetime in optical material using Z-scan measurement - <b>P-2.</b></li> <li>Study of coupling factor and transmittance in optical material using Z-scan technique - <b>P-3.</b></li> <li>Determination of optical non linearity in ZnSe semiconductor with Z - scan technique - <b>P-5.</b></li> </ol>	<b>Paper presented</b> in National Seminar on Recent Trends in Physics (NSRTP – 2015) Paper Presented in the form of <b>three posters – P-2, P-3, P-5</b> at Hindu College, Sonipat on March 14-15, (2015).	National
7	Refractive nonlinearity in Direct and Indirect band gap crystals on the closed aperture Z - scan technique.	<b>Paper presented</b> in Frontiers in Physics, Materials Science & Nanotechnology (FPMSN – 2022), <b>OP-24</b> at Chaudhary Devi Lal University, Sirsa Haryana on March 25-26, (2022).	International
8	<ol style="list-style-type: none"> <li>Nonlinear intensity dependent optical absorption coefficients in GaN and CdI<sub>2</sub> crystals by Z - scan technique.</li> <li>Carrier lifetime and refractive nonlinearity in Direct and Indirect band gap crystals on the Z - scan technique.</li> <li>Optical nonlinearity in ZnO (Direct band Crystals) and CdI<sub>2</sub> (Indirect band gap Crystal)</li> </ol>	<b>Paper presented</b> in Haryana State Council for Science Innovation and Technology Sponsored 3 Days online National Conference (26-28 February, 2022) on Indian Scientific Heritage (ISH 2022) <b>Presented 3 papers</b> at Hindu Girls College on February 26-28, (2022).	National
9	Non Linear optical absorption and photoexcited carrier lifetime in direct band gap crystals on the single beam open aperture Z – scan technique.	<b>Paper presented</b> in Multi Disciplinary National Conference on Emerging Trends in Modern Science and Technology Sponsored by Higher Education Department Haryana on March 29-30, (2023) at S.D. (PG) College Panipat	National
10	Pulsed laser induced photo-conductivity in ZnS crystal: (Part-II)	<b>Paper Published</b> by R.D.Singh, <b>Arun Gaur</b> and A.K.Sharma Proceedings. Of International LASER SCIENCE Conf. TUC-5, 327 (2-6 Oct.1988) Published by American Inst. Of Physics U.S.A. (1988)	International
11	Multiphoton Photoconductivity in an Indirect Band Gap Crystal	<b>Paper Published</b> by D.S.Ahlawat, <b>Arun Gaur</b> , and R.D.Singh Proceedings of the NLS Dec 10-12, P 260-61 (1997) ,Physical Research Laboratory, Ahmedabad	National
12	Band gap and Laser induced multiphoton photoconductivity in PbI <sub>2</sub> crystal	<b>Paper Published</b> by D.S.Ahlawat, <b>Arun Gaur</b> , Nageshwar Singh and R.D.Singh Proceedings of the NLS Dec 15-17, P 99-100 (1999) School of Physics, University of Hydrabad.	National
13	Study of laser enhanced mobility in Lead Iodide	<b>Paper Published</b> by D.S.Ahlawat, <b>Arun Gaur</b> , Nageshwar Singh and R.D.Singh Proceeding Of NLS (DAE-BRNS) P. 165, CAT Indore Dec 19-21, (2001).	National
14	Non- Linear Photoconductivity of ZnS Using XeCl Laser	<b>Paper Published</b> by D.S.Ahlawat, <b>Arun Gaur</b> , and R.D.Singh Proceeding Of DAE-BRNS National Laser Symposium Nov. 14-16, (2002)	National
15	Electron Mobility Behaviour Under High Laser Fields	<b>Paper Published</b> by D.S.Ahlawat, <b>Arun Gaur</b> , D. Mohan and R.D.Singh Proceeding Of NLS-2003, Dec 22-24, (2003) IIT Kharagpur India, P- 339.	National

16	Analysis of phonon assisted three photon absorption in case of indirect band gap crystals	<b>Paper Published</b> by <b>Arun Gaur</b> , D.K.Sharma,D.S.Ahlawat, Nageshwar Singh and R.D.Singh, P411-412 DAE-BRNS, NLS-4 (BARC) Jan. 10-13, (2005).	National
17	Absorption and fluorescence of CsI (TI) and CsI (TI) In crystals	<b>Paper Published</b> by D.K.Sharma, D.S.Ahlawat and <b>Arun Gaur</b> , Nageshwar Singh and H.S.Vora, NLS-5,VIT, Tamil Nadu during 7-10 December (2005), Page No. 185-186.	National
18	Optical nonlinear absorption and refraction in direct and indirect band gap crystals on the Z - scan technique	<b>Paper Published</b> by D.K.Sharma, <b>Arun Gaur</b> , D.S.Ahlawat and Nageshwar Singh, International. Conf. CDAMOP-2006, University of Delhi, Delhi during 21-23 March (2006). Page No. 124.	International
19	Two Photon Absorption and Refraction in Bulk of the Semiconducting Materials	<b>Paper Published</b> by Vinay Kumari, Vinod Kumar, B P Malik, Devendra Mohan and <b>Arun Gaur</b> International Conference on Light – Optics : phenomena, material, devices and characterization; Calicut Kerala India 23-25 May 2011 Proceedings published by American Institute of Physics (API), 1391, 694 (2011)	International
20	Information security using multiple encryptions	<b>Paper Published</b> by Satish kumar garg, S.P. Gupta, Varun Gaur and <b>Arun Gaur</b> Proceedings of DHE Sponsored National Seminar on recent developments in Advanced Materials and Photonics, Hindu College Sonipat March 05, (2016) , page no. 30.	National
21	Nonlinear Absorption in undoped and Fe doped ZnS Quantum dots using Pulsed Laser	<b>Paper Published</b> by D.Sharma, <b>A.Gaur</b> , P.gaur, and B.P.Malik. Proceedings of DHE Sponsored National Seminar on recent developments in Advanced Materials and Photonics, Hindu College Sonipat March 05, (2016) , page no. 67.	National
22	Determination of three photon absorption in nanocrystalline CdSe under low intensity laser	<b>Paper Published</b> by Poonam Gaur, B.P.Malik and <b>ArunGaur</b> Proceedings of DHE Sponsored National Seminar on recent developments in Advanced Materials and Photonics, Hindu College Sonipat, March 05, (2016) , page no. 88.	National

