

Curriculum Vitae



Contact information:

1. **Name:** Dr. Mohinder Singh
2. **Designation:** Assistant Professor
3. **Department:** Physics
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7. **Areas of specialization:** Nuclear and radiation physics,
Non-destructive testing

Personal information:

8. **Father's name:** S. Ashok Singh
9. **Mother's name:** Smt. Kamaljit Kaur
10. **Spouse' Name:** Mrs. Manjit Kaur
11. **Date of Birth:** 12th March, 1986
12. **Address for Correspondence:** #196, Urban Estate Patiala

13. **Academic Qualifications:**

Sr.No	Degree	Year	Board/Univ./	Marks(%)	Division	Subjects Studied
1	B.Sc.	2007	Punjabi University Patiala	65.67	1 st	Physics, Chemistry, Mathematics, Punjabi, English.
2	M.Sc.	2009	Punjabi University Patiala	74.25	1 st	Physics
3.	GATE	2009			Qualified	
4.	CSIR (JRF)	2010	UGC-CSIR		Qualified	Physical Sciences
5.	Ph. D. (Course Work)	2013	Punjabi University Patiala		B+	Radiation Physics, Research Methodology, Techniques in Experimental physics.

Nuclear physics, Classical mechanics, Quantum mechanics, Waves and Optics, Engineering physics at postgraduate and graduate level. Besides this, I am/was a member of various administrative committees such as, Departmental Research Board, Subject Expert, Hostel management, admission cell, Question setter etc. I have also published my research as a book chapter. There are my 15 research papers published in National/International peer reviewed journals. Along with this, I have technical proficiency in handling different radioactive sources of different strengths and I have an experience handling the statistical data analytically on the machine.

20. Administrative/Academic Experience

1. Worked as member of ACD of Department of basic and applied sciences.
2. Wardenship in a hostel in the university campus.
3. Member of various Departmental Committees (Admission Committee, Fee Concession Committee, Orientation Committee, Discipline Committee, Anti- Ragging).
4. Secretary Indian Society for Radiation Physics (ISRP).
5. Member of ACD of Department of Physics for the session 2023-24

20. Citations of Research publications (as per Google Scholar)

	All	Since 2018
Citations	66	66
h-index	5	5
i10-index	3	3

21. List of Published Research Papers

(a) Published in National/International Journals.

1.	A Compton scattering technique to determine wood density and locating defects in it. Akash Tondon, Mohinder Singh , B. Singh, B. S. Sandhu AIP Conference Proceedings 1675 (2015) 020048 https://aip.scitation.org/doi/abs/10.1063/1.4929206
2.	Compton scattering technique in concentration and fluid-fluid interface measurements using low resolution detector. Akash Tondon, Mohinder Singh , B.S. Sandhu and Bhajan Singh NSRP-20 Conf. Proc. , ISBN 978-93-82845-96-6, (2015). https://www.ndt.net/search/docs.php3?id=21219

3.	Use Of Gamma Ray Back Scattering For The Detection Of Foreign Body In Dalbergia Sissoo Wood Akash Tondon, Mohinder Singh , B. Singh, B. S. Sandhu Non-Destructive Evaluation (NDE)-INDIA (2016) https://doi.org/10.1016/j.apradiso.2017.08.031
4.	A Compton scattering technique for concentration and fluid-fluid interface measurements using NaI(Tl) detector Akash Tondon, Mohinder Singh , B. Singh, B. S. Sandhu Nuclear Instruments and Methods in Physics Research B 403 (2017) , 21–27 https://doi.org/10.1016/j.nimb.2017.04.080
5.	Non-destructive study of wood using the Compton scattering technique Akash Tondon, Mohinder Singh , B. Singh, B. S. Sandhu Applied Radiation and Isotopes, 129 (2017), 204–210 https://doi.org/10.1016/j.apradiso.2017.08.031
6.	Molar extinction coefficient of organic compounds as a function of effective atomic number Mohinder Singh , Akash Tondon, B. S. Sandhu, and Bhajan Singh AIP Conference Proceedings 1953 , (2018) 140129. https://doi.org/10.1063/1.5033304
7.	Effective Atomic Number Dependence of Radiological Parameters of Some Organic Compounds at 122 KeV Gamma Rays Mohinder Singh , Akash Tondon, Bhajan Singh and B. S. Sandhu Journal of Nuclear Physics, Material Sciences, Radiation and Applications, 5 (2018) 299-310 https://jnp.chitkara.edu.in/index.php/jnp/article/download/62/39
8.	Energy dependence of radiation interaction parameters of some organic Compounds Mohinder Singh , Akash Tondon, B. S. Sandhu, and Bhajan Singh Radiation Physics and Chemistry, 145 (2018) 80-88 https://doi.org/10.1016/j.radphyschem.2017.12.020
9.	Effect of addition of cerium (III) nitrate hexahydrate on gamma ray interaction properties in acetone at various gamma energies obtained by Compton scattering technique Mohinder Singh , Akash Tondon, Bhajan Singh and B. S. Sandhu Chemical Physics 525 (2019) 110377 https://doi.org/10.1016/j.chemphys.2019.05.004
10.	Importance of Voxel Size in Defect Localization Using Gamma-Ray Scattering Akash Tondon, Mohinder Singh , B. S. Sandhu, and Bhajan Singh Nuclear Science and Engineering (2019), 193 , 1265-1275. https://doi.org/10.1080/00295639.2019.1614802
11.	Study of radiation interaction parameters for organic compounds at gamma photon energies different from available standard radioisotope. Mohinder Singh , Akash Tondon, B. S. Sandhu, and Bhajan Singh Chinese Journal of Physics 65 (2020) 221–234 https://doi.org/10.1016/j.cjph.2020.03.009
12.	Radiation Interaction Characteristics of Solutions of La(NO ₃) ₃ .6H ₂ O and Sm(NO ₃) ₃ .6H ₂ O in Acetone Using Compton Scattering Technique. Mohinder Singh , Akash Tondon, B. S. Sandhu, and Bhajan Singh. Nuclear Science and Engineering (2022) 196, 1172-1193. https://doi.org/10.1080/00295639.2022.2067737

13.	Estimating the mineral density of trabecular bone using Compton scattering Akash Tondon, Mohinder Singh , Bhajan Singh and B. S. Sandhu. Applied Radiation and Isotopes (2023) 191, 110530 https://doi.org/10.1016/j.apradiso.2022.110530 .
14.	Compton scattering geometry: a tool to study radiation interaction characteristics of rare earth compounds doped in low-Z organic compound. Mohinder Singh , Akash Tondon, B. S. Sandhu, and Bhajan Singh. Radiochimica acta (2023) https://doi.org/10.1515/ract-2022-0094
15.	Estimating the mineral density of trabecular bone using Compton scattering Akash Tondon, Mohinder Singh , Bhajan Singh , B.S. Sandhu Applied Radiation Isotopes (2023) 191, 110530 https://doi.org/10.1016/j.apradiso.2022.110530

(b) **Papers in the Symposia/Conferences/Seminars:**

1.	Evaluation of Radiological parameters for various organic compounds at different Energies. Mohinder Singh , Akash Tondon, Bhajan Singh and B. S. Sandhu Two Days National Conference on “Research Trends In Physics And Electronics (NPE-2016)” S. G. G. S. Khalsa College Mahilpur, Nov. 25, 26 (2016)
2.	Variation of mass attenuation coefficient of Organic compounds as a function of Effective atomic number at different energies. Mohinder Singh , Akash Tondon, Bhajan Singh and B. S. Sandhu 20 th Punjab Science Congress. IET Bhaddal, Ropar, Punjab. Feb, 7-9, 2017.
3.	Variation of mass attenuation coefficient of Organic compounds as a function of Effective atomic number at different energies. Mohinder Singh , Akash Tondon, Bhajan Singh and B. S. Sandhu 5th International Conference on Advancements in Engineering & Technology-2017(ICAET), B. G. I. E.T., Sangrur, Punjab. March 24, 25 (2017).
4.	Energy dependence of Effective Atomic Number and Electron Density for various Organic compounds. Mohinder Singh , Akash Tondon, Bhajan Singh and B. S. Sandhu International Conference on Advancements in Science and Technology (ICAST), Mohali, April, 20, 21 (2017).
5.	Energy dependence of molar extinction coefficient and effective atomic number of organic compounds. Mohinder Singh , Akash Tondon, Bhajan Singh and B. S. Sandhu Two-day National Seminar on Recent Trends in Chemistry Chemistry department, Punjabi University Patiala, 15-16 Feb (2018).
6.	Z_{eff} dependence of radiological parameters at 511 keV gamma energy. Mohinder Singh , Akash Tondon, Bhajan Singh and B. S. Sandhu 21 st Symposium on Radiation Physics (NSRP21) Indore, March 5-7 (2018).
7.	Compton scattering: A tool to study the radiation interaction parameters for low-Z organic compounds. Mohinder Singh , Akash Tondon, B. S. Sandhu and Bhajan Singh 23 rd Punjab Science Congress, February 7-9 (2020), SLIET, Longowal, Sangrur.

8.	Study of radiation interaction parameters using Compton scattering technique. M. Singh , A. Tondon, B. S. Sandhu and B. Singh 22nd National Symposium on Radiation Physics (NSRP-22) November 8-10, 2019 Jawaharlal Nehru University, New Delhi, India
9.	Experimental evaluation of radiation transmission factors for some polymeric materials at six gamma energies obtained by Compton scattering technique. Mohinder Singh , Amandeep Sharma, Bhajan Singh, B. S. Sandhu 23 rd National Symposium on Radiation Physics (NSRP-23) to be held at University of Mysore, Manasagangotri, Mysuru on January 19-21, 2023
10.	Evaluation of transmission factors by Compton Scattering technique for some Inorganic compounds. Mohinder Singh , Rajni Devi, B. S. Sandhu and Bhajan Singh One Day National Seminar on Condensed Matter Physics and Materials (CMPM-2023) on 8th May, 2023, Science Auditorium, Punjabi University, Patiala.

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