



DR. NITIN SHARMA

Assistant Professor & Head of Department (Physics)

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EDUCATION

- 2019 – 2025** **Ph.D. in Experimental Nuclear Physics** — Central University of Jharkhand (CUJ), Ranchi
Research Area: Heavy ion-induced nuclear reactions above the Coulomb barrier
- 2013 – 2015** **M.Sc. (Hons.) Physics** — Panjab University, Chandigarh
Specialization: Experimental Techniques in Nuclear Physics
- 2010 – 2013** **B.Sc. (Hons.) Physics** — Panjab University, Chandigarh

PROFESSIONAL EXPERIENCE

- Sep 2024 – Present** **Assistant Professor** — Department of Physics, RIMT University, Mandi Gobindgarh
- Oct 2019 – Aug 2022** **Project Associate** — UGC-DAE-CSR Sponsored Project, CUJ Ranchi
Project: Study of incomplete fusion dynamics and role of various entrance channel parameters above the Coulomb barrier

ADMINISTRATIVE & ACADEMIC RESPONSIBILITIES

- **Head of the Department (Physics):** Jan 2026 – Present
- **Member, R&D Cell:** RIMT University (July 2026 – Present)
- **Assistant Editor:** RIMT International Journal of Multidisciplinary Research (Mar 2026 – Present)
- **Departmental Exam Coordinator:** Sep 2024 – Dec 2025
- **Academic Mentorship:** Guided 2 Master's thesis students

RESEARCH PUBLICATIONS — JOURNAL ARTICLES

1. Nitin Sharma, Dharmendra Singh, Amritraj Mahato, Rajesh K Sahoo, Jagatjyoti Mohapatra, Lupteindu Chhura, Pankaj K Giri, Sneha B Linda, Harish Kumar, Suhail A Tali, M Afzal Ansari, S. Kumar, I. Ahmed, R. Kumar, KS Golda, S. Muralithar, R.P. Singh, "Evidence of compound nucleus theory in the population of incompletely fused composite system $^{160}\text{Dy}^{**}$ ", *European Physical Journal A*, Vol. 60, Art. 72 (2024).
2. Nitin Sharma, Dharmendra Singh, Amritraj Mahato, Pankaj K Giri, Sneha B Linda, Harish Kumar, Suhail A Tali, M Afzal Ansari, I. Ahmed, S. Kumar, R. Kumar, KS Golda, S Muralithar, RP Singh, "Role of incomplete fusion in production of ^{155}Tb ", *Journal of Radioanalytical and Nuclear Chemistry*, Vol. 333, pp. 1541-1546 (2024).
3. Nitin Sharma, Dharmendra Singh, Amritraj Mahato, Pankaj K Giri, Sneha B Linda, Harish Kumar, Suhail A Tali, M Afzal Ansari, I. Ahmed, S. Kumar, R. Kumar, KS Golda, S Muralithar, RP Singh, "Measurement of angular distributions and excitation functions in $^{16}\text{O} + ^{146}\text{Nd}$ system", (*Communicated*).
4. Amritraj Mahato, Dharmendra Singh, Nitin Sharma, Pankaj K. Giri, Sneha B. Linda, Harish Kumar, Suhail A. Tali, M. Afzal Ansari, Asif Ali, Nabendu Kumar Deb, N. P. M. Sathik, S. Kumar, R. Kumar, S. Muralithar, and R. P. Singh, "Disentangling fractional momentum transfer in the $^{19}\text{F} + ^{154}\text{Sm}$ system", *Physical Review C*, Vol. 107, 014601 (2023).
5. Amritraj Mahato, Dharmendra Singh, Nitin Sharma, Pankaj K. Giri, Sneha B. Linda, Harish Kumar, Suhail A. Tali, M. Afzal Ansari, Asif Ali, Nabendu Kumar Deb, N. P. M. Sathik, S. Kumar, R. Kumar, S. Muralithar, and R. P. Singh, "Effects of entrance channels on breakup fusion induced by ^{19}F projectiles", *Physical Review C*, Vol. 106(1), 014613 (2022).
6. Amritraj Mahato, Pankaj K Giri, D Singh, Nitin Sharma, Sneha B Linda, Harish Kumar, Suhail A Tali, Nabendu K Deb, M Afzal Ansari, R Kumar, S Muralithar, RP Singh, "Effect of projectile breakup in the system $^{19}\text{F} + ^{154}\text{Sm}$ ", *Indian Journal of Pure Applied Physics*, Vol. 58, 386 (2020).
7. Rahbar Ali, D Singh, Suhail A Tali, Harish Kumar, Mohd Asif Khan, Nitin Sharma, Jagatjyoti Mohapatra, Lupteindu Chhura, M Afzal Ansari, MH Rashid, R Guin, S K Das, Rakesh Kumar, S. Muralithar, "Systematic Study of Incomplete Fusion Dynamics with Various Entrance Channel Parameters", *Indian Journal of Pure Applied Physics*, Vol. 61 (2023).
8. Rajesh Kumar Sahoo, Dharmendra Singh, Amritraj Mahato, Nitin Sharma, Jagatjyoti Mohapatra, Lupteindu Chhura, Rahul Mahato, Pankaj K. Giri, Sneha B. Linda, Harish Kumar, Suhail A. Tali, Asif Ali, Rahbar Ali, S. Kumar, Nabendu K. Deb, N.P.M. Sathik, M. Afzal Ansari, R. Kumar, S. Muralithar, R.P. Singh, "Breakup Fusion of ^{18}O with ^{144}Sm ", *Journal of Polymer Composites*, Vol. 11, Special Issue 7 (2023).

9. Rahul Mahato, Dharmendra Singh, Nitin Sharma, Rajesh Kumar Sahoo, Lupteindu Chhura, Amritraj Mahato, Pankaj K. Giri, Sneha B. Linda, Harish Kumar, Rahbar Ali, Suhail A. Tali, S. Kumar, M. Afzal Ansari, R. Kumar, S. Muralithar and R. P. Singh, "Medically relevant radioisotope production through low energy heavy ion reactions", *Journal of Radioanalytical and Nuclear Chemistry*, Vol. 333, pp. 4779-4785 (2024).
10. Rajesh K Sahoo, Dharmendra Singh, Amritraj Mahato, Pankaj K Giri, Nitin Sharma, Lupteindu Chhura, Rahul Mahato, Sneha B Linda, Harish Kumar, Suhail A Tali, M Afzal Ansari, Rahbar Ali, R Kumar, S Muralithar, RP Singh, "Noncompound fusion reactions at low bombarding energy", *Physical Review C*, Vol. 110, 044607 (2024).
11. Lupteindu Chhura, Dharmendra Singh, Amritraj Mahato, Nitin Sharma, Rajesh K Sahoo, Rahul Mahato, Pankaj K Giri, Sneha B Linda, Harish Kumar, Suhail A Tali, M Afzal Ansari, Rahbar Ali, R Kumar, S Muralithar, RP Singh, "A comparative study of ^{14}N and ^{16}O projectiles on ^{148}Nd target at low energy through experimental analysis", *Physica Scripta*, Vol. 100, 015311 (2024).
12. Rajesh K Sahoo, Dharmendra Singh, Amritraj Mahato, Pankaj K Giri, Nitin Sharma, Lupteindu Chhura, Rahul Mahato, Sneha B Linda, Harish Kumar, Suhail A Tali, Rahbar Ali, M Afzal Ansari, R Kumar, S Muralithar, RP Singh, "A study on the effect of neutron excess on compound and non-compound nuclear reaction cross sections at above barrier energies", *European Physical Journal A*, Vol. 61, Issue 5 (2025).
13. Dharmendra Singh, Amritraj Mahato, Nitin Sharma, Rajesh K Sahoo, Rahul Mahato, Lupteindu Chhura, Mohd. Usman, Rahbar Ali, M Afzal Ansari, M. Ismail, "Production of ^{57}Co and ^{51}Cr isotopes for medical applications in the interaction of ^{16}O projectile with ^{45}Sc target", *Nuclear Physics, Section A*, Vol. 1066, 123285 (2025).
14. Amritraj Mahato, Dharmendra Singh, Pankaj K Giri, Nitin Sharma, Harish Kumar, Rahbar Ali, R Tripathi, SS Ghugre, M Afzal Ansari, R Kumar, S Muralithar, RP Singh, "Role of asymmetry and deformation parameters in the population of high spin states associated with incomplete fusion", *Chinese Journal of Physics*, Vol. 100, pp. 208-225 (2026).

CONFERENCE PAPERS & ABSTRACT BOOKS

1. Nitin Sharma et al., "Break-up Fusion in the $^{16}\text{O}+^{146}\text{Nd}$ System by Measurements of Excitation Function of Evaporation Residues", *AIP Conference Proceedings* 2352(1): 050046 (2021).
2. Nitin Sharma et al., "Measurement of angular distributions of evaporation residues populated through complete and incomplete fusion in $^{16}\text{O} + ^{146}\text{Nd}$ system", *Proceedings of 65th DAE-BRNS Symposium On Nuclear Physics*.
3. Amritraj Mahato et al., "Systematic study on low energy incomplete fusion dynamics and its correlation with various entrance channel effects", *Proceedings of 64th DAE-BRNS Symposium On Nuclear Physics*.
4. Amritraj Mahato et al., "Incomplete fusion dynamics in $^{19}\text{F} + ^{154}\text{Sm}$ system at energies 4-6 MeV/nucleon", *Abstract book of National Conference AMRP-2020*.
5. Rahbar Ali et al., "Study of break-up fusion reaction in $^{16}\text{O}+^{156}\text{Gd}$ system", *Proceedings of 67th DAE-BRNS Symposium On Nuclear Physics* (2023).
6. Amritraj Mahato et al., "Incomplete fusion dynamics in $^{19}\text{F} + ^{154}\text{Sm}$ system at energies 4-6 MeV/nucleon", *AIP Conference Proceedings* 2352(1): 050042 (2021).
7. Amritraj Mahato et al., "Effect of projectile breakup in the system $^{19}\text{F} + ^{154}\text{Sm}$ ", *Abstract book of ICNFP-2019*.
8. Amritraj Mahato et al., "Fabrication of isotopically enriched thin ^{191}Ir targets on carbon backing for the study of fusion-fission dynamics", *Proceedings of 65th DAE-BRNS Symposium On Nuclear Physics*.
9. Rajesh K Sahoo et al., "Breakup fusion of ^{18}O projectile with ^{154}Sm at energy 3-7 MeV/nucleon", *Proceedings of DAE Symposium on Nuclear Physics 66* (2022).
10. Lupteindu Chhura et al., "Production of ^{157}Dy from ^{14}N induced reaction", *Proceedings of DAE Symposium on Nuclear Physics 66* (2022).
11. Jagatjyoti Mohapatra et al., "Complete and incomplete fusion studies of evaporation residues populated in $^{12}\text{C}+^{154}\text{Sm}$ system", *Proceedings of DAE Symposium on Nuclear Physics 66* (2022).
12. Rahul Mahato et al., "Identification of evaporation residues populated through complete and incomplete fusion in $^{16}\text{O}+ ^{154}\text{Sm}$ system", *Proceedings of 67th DAE Symposium on Nuclear Physics* (2023).
13. Rahul Mahato et al., "Probing of Incomplete Fusion Dynamics by Measurement of Excitation Function of Evaporation Residues for the $^{16}\text{O} + ^{154}\text{Sm}$ System", *Abstracts Books of ICNTRM* (2023).
14. Rajesh K. Sahoo et al., "Role of Entrance Channel Parameters on α -Break up in Heavy Ion Induced Reactions", *Proceedings of 67th DAE Symposium on Nuclear Physics* (2023).
15. Lupteindu Chhura et al., "Role of Zeta Parameter in ^{16}O -Induced Reactions at Low Energies", *Proceedings of 67th DAE Symposium on Nuclear Physics* (2023).
16. Lupteindu Chhura et al., "Investigation of Incomplete Fusion Dynamics at I_{crit} ", *Proceedings of 68th DAE Symposium on Nuclear Physics* (2024).

17. Rajesh K Sahoo et al., "Probing of breakup fusion of ^{18}O projectile with ^{154}Sm target through forward recoil range distributions", *Proceedings of 68th DAE Symposium on Nuclear Physics* (2024).
18. Nitin Sharma et al., "PRODUCTION OF ^{155}Tb VIA HEAVY-ION INDUCED REACTIONS ON NEODYMIUM TARGETS", *Proceedings of 12th International Conference on Isotopes - 12ICI* (2026).
19. Rahbar Ali et al., "EXCITATION FUNCTION MEASUREMENTS OF Tb-149 IN THE B-10+Nd-142 SYSTEM", *Proceedings of 12th International Conference on Isotopes - 12ICI* (2026).
20. Mohd Usman, Nitin Sharma et al., "STUDY OF THE REACTION DYNAMICS FOR THE PRODUCTION OF Tm-167", *Proceedings of 12th International Conference on Isotopes - 12ICI* (2026).

TECHNICAL & SCIENTIFIC SKILLS

Programming & Coding: Python, FORTRAN, C, C++

Nuclear Reaction & Simulation Software: EMPIRE, PACE-4, TALYS, ALICE-91, CCFULL, CANDLE, SRIM, XCOM, PHY-X/PSD, SUMRULE

Data Analysis & Visualization: Origin, Xmgrace

Languages: English, Punjabi, Hindi

AWARDS & CERTIFICATIONS

- **National Qualifications:** Qualified GATE (2019) & CUCET (2019)
- **Best Oral Presentation Award:** 6th International Conference on Multidisciplinary Research, RIMT University (Dec 2024)
- **NCC Certificate:** NCC 'C' Certificate (No. 1 CHD AIR SQN)
- **Computer Applications:** 120-Hour Computer Application Certification