# CURRICULUM VITAE


**Name:** Mohd Shariq Asnain

**Present Position:** Research Scholar

**Date of Birth:** 04-01-1995

**Address/Office:** Department of Physics,
Aligarh Muslim University
Aligarh-202002 (U.P.), India

**E-mail:** asnainshariq@gmail.com

**Contact No:** +91-8938985212




## Educational Qualifications:

| | | | | |
|---|---|---|---|---|
| **Ph.D.** | **2019-Continue** | **Submitted** | **Aligarh Muslim University (AMU), Aligarh** | **Experimental Nuclear Physics** |
| **M.Sc.** | **2016-2018** | **First Div.** | **Aligarh Muslim University (AMU), Aligarh** | **Physics** |
| **B.Sc. (Hons.)** | **2013-2016** | **First Div.** | **Aligarh Muslim University (AMU), Aligarh** | **Physics** |

**Field of Research:** Experimental Nuclear Physics **(Accelerator based Nuclear Reaction Studies)**

**Title of Ph.D. Thesis: A study of fusion incompleteness in heavy ion interactions at low energies.**

**Title of M.Sc. Thesis: Analysis of Recoil Range Distribution in $^{16}O+^{89}Y$**

**Research Project: Worked as JRF under DST-SERB funded research Project for three (03) years**

## Academic Honors:

(1) **Qualified CSIR-NET in 2018 (June) AIR-104**

**(2) Won Best Poster Award @ Conference on Low Energy Nuclear Reaction Dynamics, March 7-9, 2022, AMU, Aligarh**

## List of Publications in International Journals

1. **Investigating the influence of input angular momentum on independence hypothesis in heavy-ion induced fusion reactions**
   **M. Shariq Asnain,** Manoj Kumar Sharma, Mohd. Shuaib, Aquib Siddique, Ishfaq Majeed Bhat, B. P. Singh, and R. Prasad
   **Nucl. Phys. A 1041, 122786 (Available online 7 November 2023)**

2. **Decomposing the linear momentum transfer components in break-up fusion reactions: An experimental study of the $^{19}F+^{159}Tb$ system**
   **M. Shariq Asnain,** Mohd. Shuaib, Ishfaq Majeed, Manoj Kumar Sharma, Vijay Raj Sharma, Abhishek Yadav, Devendra P. Singh, Pushpendra P. Singh, Sushil Kumar, R. Kumar, B. P. Singh, and R. Prasad
   **Phys. Rev. C 106, 064607 (2022)**

3. **Systematic study of fusion suppression for tightly bound projectiles at above-barrier energies**
   **M. Shariq Asnain,** Mohd. Shuaib, Ishfaq Majeed, Manoj Kumar Sharma, Vijay Raj Sharma, Abhishek Yadav, Devendra P. Singh, Pushpendra P. Singh, Sushil Kumar, R. Kumar, B. P. Singh, and R. Prasad
   **Phys. Rev. C 105, 014609 (2022)**

4. **Effect of non-$\alpha$-cluster projectile on incomplete-fusion dynamics: Experimental study of the 14N + 181Ta**
   **M. Shariq Asnain,** Mohd. Shuaib, Ishfaq Majeed, Manoj Kumar Sharma, Vijay Raj Sharma, Abhishek Yadav, Devendra P. Singh, Pushpendra P. Singh, Unnati Gupta, Rudra N. Sahoo, Arshiya Sood, Malika Kaushik, Sushil Kumar, R. Kumar, B. P. Singh, and R. Prasad
   **Phys. Rev. C 104, 034616 (2021)**

5. **Understanding the low energy incomplete fusion reactions**
   Abhishek Yadav, Gobind Ram, **M. Shariq Asnain,** Ishfaq Majeed, Mohd. Shuaib, Manoj Kumar Sharma, Vijay R. Sharma, Pushpendra P. Singh, Devendra P. Singh, Unnati Gupta, Indu Bala, Sunita Gupta, R. Kumar, B. P. Singh, and R. Prasad.
   **Phys. Rev. C 107, 044605 (2023)**

6. **Role of precursor nuclei in heavy-ion induced reactions at low energies**
   Ishfaq Majeed, Mohd. Shuaib, **M. Shariq Asnain,** Manoj Kumar Sharma, Abhishek Yadav, Vijay R. Sharma, Pushpendra P. Singh, Devendra P. Singh, Unnati Gupta, Rudra N. Sahoo, Arshiya Sood, Malika Kaushik, Sushil Kumar, R. Kumar, B. P. Singh, and R. Prasad.
   **Phys. Rev. C 105, 054607 (2022)**

7. **Effect of projectile structure on break-up fusion for 14N+175Lu system at intermediate energies**
   Ishfaq Majeed, Mohd. Shuaib, **M. Shariq Asnain,** Vijay R. Sharma, Abhishek Yadav, Manoj Kumar Sharma, Pushpendra P. Singh, Devendra P. Singh, Unnati Gupta, R. N. Sahoo, Arshiya Sood, Malika Kaushik, R. Kumar, B. P. Singh, and R. Prasad.
   **Nucl. Phys. A 1021, 122421 (2022)**

8. **New experimental approach for developing a mass-energy systematics for pre-compound emission**
   Manoj Kumar Sharma, Mamta Sarswat, Sushant Arora, Satyendra Kumar, Mohd. Shuaib, Ishfaq Majeed, **M. Shariq Asnain,** B. P. Singh, R. Prasad, Vijay Raj Sharma, Abhishek Yadav, Pushpendra P. Singh, and Devendra P. Singh
   **Phys. Rev. C 104, L031601 2021 (Letter)**

9. **Systematic Study of fusion-fission like events in 19F + 175Lu interactions at low energies**
   Ishfaq Majeed, Mohd. Shuaib, **M. Shariq Asnain,** Vijay R. Sharma, Abhishek Yadav, Manoj Kumar Sharma, Pushpendra P. Singh, Devendra P. Singh, R. Kumar, R. P. Singh, S. Muralithar, B. P. Singh, and R. Prasad.
   **Nucl. Phys. A 1014, 122236 (2021)**

10. **A systematic experimental study of pre-compound emission in α-particle induced reactions on odd mass nuclei A=103-123**
    Manoj Kumar Sharma, Mahesh Kumar, Mohd. Shuaib, Ishfaq Majeed, **M. Shariq Asnain,** Vijay R. Sharma, Abhishek Yadav, Pushpendra P. Singh, Devendra. P. Singh, B. P. Singh, and R. Prasad
    **Eur. Phys. J A 56, 247 (2020)**

## List OF Papers/Posters presented in National/International Conferences/Symposia

1. **Fabrication of $^{172,174}$Yb targets on Al-backing using vacuum evaporation technique at IUAC**
   **M. Shariq Asnain**, Aquib Siddique, Gobind Ram, Mohd Shuaib, Abhishek Yadav, Indu Bala, R. Kumar, Manoj Kumar Sharma, B. P. Singh, and R. Prasad
   **Proceedings of the 66$^{th}$ DAE Symp. on Nucl. Phys. (2022), IIT Indore, Madhya Pradesh, India**

2. **A unified description of break-up fusion excitation functions at above barrier energies**
   **M. Shariq Asnain**, Mohd Shuaib, Aquib Siddique, Ishfaq Majeed, Manoj Kumar Sharma, Abhishek Yadav, Pushpendra P. Singh, Vijay R. Sharma, Sunita Gupta, R. Kumar, B. P. Singh and R. Prasad
   **Proceedings of the 66$^{th}$ DAE Symp. on Nucl. Phys. (2022), IIT Indore, Madhya Pradesh, India**

3. **Determination of α-source activity using CR-39 detector: An Experimental Study**
   **M. Shariq Asnain**, Aquib Siddique, Mohd. Shuaib, Manoj Kumar Sharma, Samveel Ansari and B. P. Singh
   **Book of Abstracts, Page 103, $^{28}$th International Conference on Nuclear Tracks and Radiation Measurements (28th ICNTRM-2023), Gurugram University, Gurugram, Haryana**

4. **Effect of one neutron excess on breakup fusion in heavy ion collision**
   **M. Shariq Asnain**, Mohd Shuaib, Ishfaq Majeed, M. Aquib Siddique, Manoj Kumar Sharma, Vijay R. Sharma, Abhishek Yadav, Pushpendra P. Singh, Devendra P. Singh, Sunita Gupta, B. P. Singh and R. Prasad
   **Two days symposia at Variable Energy Cyclotron Center (VECC), 23-24 January, 2023.**

5. **Validation of Bohr independent hypothesis in heavy ion interactions**
   **M. Shariq Asnain**, Mohd Shuaib, Ishfaq Majeed, Manoj Kumar Sharma, B. P. Singh and R. Prasad
   **Proceedings of the 66$^{th}$ DAE Symp. on Nucl. Phys. (2022), Cotton University,**

**Assam, India**

6. **Understanding the linear momentum transfer components in the residues produced in 19F+159Tb reaction**
   **M. Shariq Asnain**, Mohd Shuaib, Ishfaq Majeed, Manoj Kumar Sharma, Abhishek Yadav, Pushpendra P. Singh, Devendra P. Singh, R. Kumar, B. P. Singh and R. Prasad
   **Proceedings of the 66$^{th}$ DAE Symp. on Nucl. Phys. (2022), Cotton University, Assam, India**

7. **Suppression of fusion cross-section in case of tightly bound projectiles at above barrier energies (Won Best Poster Award)**
   **M. Shariq Asnain**, Mohd. Shuaib, Ishfaq M. Bhat, Manoj Kumar Sharma, B. P. Singh and R. Prasad
   **Conference on Low Energy Nuclear Reaction Dynamics, March 7-9, 2022, Aligarh Muslim University, Aligarh**

8. **A comparative study of fusion cross-section for 12C, 18O, 19F + 159Tb systems employing various reduction procedures**
   **M. Shariq Asnain**, Mohd. Shuaib, Ishfaq M. Bhat, Vijay R. Sharma, Abhishek Yadav, Manoj Kumar Sharma, Pushpendra P. Singh, Devendra P. Singh, R. Kumar, R. P. Singh, S. Muralithar, B. P. Singh and R. Prasad
   **Centenary Celebration Conference on Nuclear Structure and Nuclear Reactions, March 2-4 2020, Department of Physics, AMU, Aligarh**

9. **Role of projectile structure in low energy incomplete fusion Reactions**
   **M. Shariq Asnain**, Mohd. Shuaib, Ishfaq Majeed, Vijay R. Sharma, Abhishek Yadav, Manoj Kumar Sharma, Pushpendra P. Singh, Devendra P. Singh, R. Kumar, R. P. Singh, S. Murlithar, Sunita Gupta, B. P. Singh, R. Prasad
   **Proceedings of the DAE Symp. on Nucl. Phys. 64, 423 (2019)**

10. **Deciphering the role of entrance channel parameters in heavy-ion reactions at low energies**
    **M. Shariq Asnain**, Mohd. Shuaib, Ishfaq Majeed, Mahesh Kumar, Manoj Kunar Shatrma, Sunita Gupta, B. P. Singh, R. Prasad

**International Conference on New Frontiers in Nuclear Physics (ICNFNP 2019) held at Dept. Of Physics, Banaras Hindu University, Varanasi, India during Oct. 14-17, 2019**

11. **Effect of non-alpha cluster beam 19F on incomplete fusion fraction for different targets at energies ≈ 4-7 MeV/nucleon**
    Mohd. Shuaib, Ishfaq Majeed, **M. Shariq Asnain**, Mahesh Kumar, Vijay R. Sharma, Abhishek Yadav, Manoj Kunar Sharma, Pushpendra P. Singh, Devendra P. Singh, Unnati Gupta, R. Kumar, R. P. Singh, S. Muralithar, B. P. Singh, R. Prasad
    **International Conference on New Frontiers in Nuclear Physics (ICNFNP 2019) held at Dept. Of Physics, Banaras Hindu University, Varanasi, India during Oct. 14-17, 2019**

12. **Excitation function measurements and the study of dynamical aspects of complete fusion reactions in 14N + 175 Lu system at low energies**
    Ishfaq Majeed, Mohd. Shuaib, **M. Shariq Asnain**, Mahesh Kumar, Vijay R. Sharma, Abhishek Yadav, Manoj Kunar Shatrma, Pushpendra P. Singh, Arshiya Sood, Malika Kaushik, Rudra N. Sahoo, Devendra P. Singh, Unnati Gupta, R. Kumar, R. P. Singh, S. Muralithar, B. P. Singh, R. Prasad
    **International Conference on New Frontiers in Nuclear Physics (ICNFNP 2019) held at Dept. Of Physics, Banaras Hindu University, Varanasi, India during Oct. 14-17, 2019**

13. **Experimental study of incomplete fusion dynamics in $^{19}$F + $^{181}$Ta system at excitation energies near Coulomb Barrier**
    Mahesh Kumar, Ishfaq Majeed, Mohd. Shuaib, **M. Shariq Asnain**, Abhishek Yadav, Devendra P. Singh, Pushpendra P. Singh, Unnati Gupta, R. Kumar, R. P. Singh, S. Muralithar, Manoj kumar Sharma, B. P. Singh, R. Prasad
    **International Conference on New Frontiers in Nuclear Physics (ICNFNP 2019) held at Dept. Of Physics, Banaras Hindu University, Varanasi, India during Oct. 14-17, 2019**

14. **Incomplete fusion studies in $^{14}$N + $^{175}$Lu system**
    Ishfaq Majeed, Mohd Shuaib, **M. Shariq Asnain**, Mahesh Kumar, Abhishek Yadav, Manoj Kumar Sharma, Pushpendra P. Singh, Devendra P. Singh,

Unnati Gupta, Rudra Narayan Sahoo, Arshiya Sood, Malika Kaushik, R. Kumar, R. P. Singh, S. Muralithar, B. P. Singh, R. Prasad

**Proceedings of the DAE Symp. on Nucl. Phys. 64, 331 (2019), University of Lucknow, Lucknow, India**

15. **Experimental study of the production of residues populated via complete fusion and/or incomplete fusion in $^{19}F + ^{181}Ta$ System**

Mahesh Kumar, Manoj K. Sharma, Mohd. Shuaib, Ishfaq Majeed, **M. Shariq Asnain**, Rudra N. Sahoo, Arshiya Sood, Malika Kaushik, Vijay R. Sharma, Abhishek Yadav, Pushpendra P. Singh, Devendra P. Singh, Unnati Gupta, R. Kumar, R. P. Singh, S. Muralithar, B. P. Singh, R. Prasad

**Proceedings of the DAE Symp. on Nucl. Phys. 64, 387 (2019), University of Lucknow, Lucknow, India**

16. **Deciphering the influence of optical model parameters in heavy ion induced reactions**

Alpna Ojha, Sunita Gupta, Mohd. Shuaib, Pushpendra P. Singh, Abhishek Yadav, **M. Shariq Asnain**, B. P. Singh, R. Prasad

**Proceedings of the DAE Symp. on Nucl. Phys. 64, 491 (2019), University of Lucknow, Lucknow, India**

17. **A study of Universal Fusion Function in $^{19}F + ^{181}Ta$ system at low excitation energies**

Mahesh Kumar, Manoj Kumar Sharma, Mohd. Shuaib, Ishfaq Majeed, **M. Shariq Asnain**, Rudra N. Sahoo, Arshiya Sood, Malika Kaushik, Vijay R. Sharma, Abhishek Yadav, Pushpendra P. Singh, Devendra P. Singh, Unnati, R. Kumar, R. P. Singh, S. Muralithar, B. P. Singh, and R. Prasad

**Centenary Celebration Conference on Nuclear Structure and Nuclear Reactions, March 2-4 2020, Department of Physics, AMU, Aligarh**

18. **Reduction of fusion Excitation function in $^{12,13}C$, $^{14}N$, $^{19}F + ^{175}Lu$ system**

Ishfaq Majeed, Mohd. Shuaib, **M. Shariq Asnain**, Mahesh Kumar, Vijay R. Sharma, Abhishek Yadav, Manoj Kumar Sharma, , Pushpendra P. Singh, Devendra P. Singh, Unnati Gupta, Rudra N. Sahoo, Arshiya Sood, Malika Kaushik, R. Kumar, R. P. Singh, S. Muralithar, B. P. Singh, and R. Prasad

**Centenary Celebration Conference on Nuclear Structure and Nuclear Reactions, March 2-4 2020, Department of Physics, AMU, Aligarh**

## List of Workshops/Schools/Webinars/Training Program attended

| S. No. | Topic | Place | Date |
|---|---|---|---|
| 1 | National Webinar on *Perspectives, Challenges, and Opportunities for Students in the Field of Nuclear Reactor Physics in the Indian Context* | Department of Physics, Akal University, Talwandi Sabo, Bathinda | 3rd March, 2022 |
| 2 | School on *"Nuclear structure using gamma ray spectroscopy"* (Online Mode) | Inter University Accelerator Centre (IUAC), New Delhi | 20-24th September, 2021 |
| 3 | Workshop on Nuclear Physics (NPW-2022) (Online Mode) | Sardar Vallabhbhai National Institute of Technology (SVNIT) Surat, India | April 12-16, 2022 |
| 4 | One week *"Synergistic Training program Utilizing Advanced Research Instrumentation"* | Department of Physics, Aligarh Muslim University | 6th-12th May, 2022 |
| 5 | Workshop on *"The Practical Application of Nuclear Security"* | Amity Institute of Nuclear Engineering & Technology, Amity University, Noida, UP | 15th-17th June, 2022 |
| 6 | One day *"Training Program on Nuclear Instrumentation"* | Department of Physics, Aligarh Muslim University | 20th June, 2022 |
| 7 | One Week Training Program on DST Supported Advanced Research Instruments | Department of Physics, Aligarh Muslim University | 18th-24th July, 2022 |
| 8 | One day Training Program on *"Nuclear Radiation Detection"* | Department of Physics, Aligarh Muslim University | 30th July, 2022 |

**References:**


1. Prof. B. P. Singh, Department of Physics, Aligarh Muslim University, Aligarh
   Email: bpsinghamu@gmail.com

2. Prof. Manoj Kumar Sharma, Department of Physics, University of Lucknow, Lucknow
Email: manojamu76@gmail.com