CURRICULUM VITAE

Personal Details:

Name **Dr. Mohammad Ikram**
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Current Position:

Assistant Professor at Department of Physics, Harsh Vidya Mandir (PG) College, Raisi, Haridwar (UK)

Academic Employment:

- Assistant Professor (Contractual) at Department of Physics, Aligarh Muslim University, Aligarh (Session 2019 – May 2020)
- Assistant Professor (Contractual) at Department of Physics, Aligarh Muslim University, Aligarh (01 August, 2018 – 2019)
- Research Associate sponsored by CSIR, New Delhi executed at Department of Physics, Aligarh Muslim University, Aligarh (June 01, 2017 - July 31, 2018)
- Guest Faculty at Department of Physics, Aligarh Muslim University, Aligarh (Session 2016 - 17)
- Guest Faculty at Department of Physics, Aligarh Muslim University, Aligarh (Session 2015 - 16)

Academic Qualification:

Degree/Examinations	University/Board	Year of Passing	Aggregate Marks (%)	Division / Awarded
Ph.D. (Physics)	Aligarh Muslim University, Aligarh	2015	-	Awarded
M. Phil. (Physics)	Aligarh Muslim University, Aligarh	2011	67.80	Awarded
M.Sc. (Physics)	Aligarh Muslim University, Aligarh	2007	66.67	First
B.Sc.(Hons.)Physics	Aligarh Muslim University, Aligarh	2004	58.93	Second
Intermediate	UP Board, Allahabad	2001	58.80	Second
High School*	UP Board, Allahabad	1999	69.33	First

* Distinction in science

Research Interests:

- Superheavy Nuclei, Neutron-rich Nuclei, Drip-line Nuclei, Hypernuclei, Multi-strange systems and Neutron Star Phases: Nuclear Pastas and Nuclear Memos

Fellowship Awarded:

- ✓ Research Associateship under Council of Scientific & Industrial Research (CSIR), New Delhi
- ✓ JRF under DST-PURSE Programme during Ph.D.
- ✓ UGC Non-NET Fellowship during M.Phil/Ph.D.

Professional Training:

Science and Engineering Research Council (SERC) school on **"Modern Trends in Nuclear Structure and Dynamics"**, at Indian Institute of Technology, Roorkee, India, and February 06 - 24, 2012.

Institute/University visited:

Short term visitor of Institute of Physics (IOP), Bhubaneswar, India.
Research Collaboration with Institute of Physics, Bhubaneswar, India

Courses Taught (UG level):

- ✓ Laboratory classes of B.Sc.(Iyr, IIyr and IIIrd year).
- ✓ Theory papers: Element of Modern Physics-I, Mechanics, Wave and Optics, Thermal Physics and Analog system and Application-I along with computer programming course like FORTRAN.

National/International conferences attended/ paper presented:

- *DAE International Symposium* on **"Nuclear Physics"** at BARC, Mumbai, India, December 10-14, 2018.
- *62th DAE-BRNS Symposium* on **"Nuclear Physics"** at Institute of Engineering and Technology, Thapar, Patiala, India, December 20-24, 2017.
- International Workshop on **"The Frontiers in Electroweak Interaction of Leptons and Hadrons"** at AMU, Aligarh, India November 2-6, 2016.
- National Conference on **"Recent Trends in Nuclear Physics"** at AMU, Aligarh, India, February 15-16, 2016.
- **"National Science day"** celebration-2013 at AMU, Aligarh, India, February 28, 2013.

- *DAE Symposium* on **"Nuclear Physics"** at *University* of *Delhi*, India, December 3-7, 2012.
- Workshop on **"The Frontiers of Nuclear and Particle Physics"** at AMU, Aligarh, India, March 19-20, 2012.
- National Seminar on **"Contemporary Trends in Nuclear Physics"** at AMU, Aligarh, India, October 20-21, 2010.
- National Workshop on **"Oxide Materials"** at AMU, Aligarh, India May 12-13, 2009.

Research Score:

- Total Research Interest=93.4
- Research Gate Score=20.76,
- Total Citation=44
- h-index=4
- Top h cited research:
  Ground state properties and bubble structure of superheavy nuclei

Publications:

A) Publications in Refereed Journals [15]

1. Effects and contribution of isovector-scalar (**δ**) meson on **Σ**-hypernuclei
   M. Ikram, A. A. Usmani and S. K. Patra (manuscript under preparation).
2. Structural analysis of Z=125 nuclei

   Usuf Rahaman and **M. Ikram** Indian Journal of Pure & Applied Physics **57**, 630 (2019).
3. Two proton knockout cross section $\boldsymbol{\sigma}_{2p}$ (^{44}s---→^{42}Si): Strong evidence of magicity and sphericity of $^{42}_{14}Si_{28}$
   Syed Afsar Abbas, Anisul A. Usmani, Usuf Rahaman and **M. Ikram** (e-Print: arXiv:1907.10342).
4. Puzzling radii of calcium Isotopes: $^{40}Ca \rightarrow {}^{44}Ca \rightarrow {}^{48}Ca \rightarrow {}^{52}Ca$, and duality in the structure of $^{42}_{14}Si_{28}$ and $^{48}_{20}Ca_{28}$

Syed Afsar Abbas, Anisul A. Usmani, Usuf Rahaman and **M. Ikram** (e-Print: arXiv:1908.04026).

5. Theoretical studies on structural and decay properties of Z=119 superheavy nuclei
   M. Ikram, Asloob A. Rather, A. A. Usmani, B. Kumar and S. K. Patra, (e-print: arXiv:1709.07311 (2018).)

6. The role of the elemental nature of A=3 nuclei in neutron-rich nuclei
   Anisul A. Usmani, Syed Afsar Abbas, Usuf Rahaman, **M. Ikram** and Farooq Hussain Bhat, Int. J Mod. Phys. E **27**, 1850060 (2018).

7. A study of multi-Λ hypernuclei within Spherical Relativistic Mean Field approach
   Asloob A. Rather, **M. Ikram**, A. A. Usmani, B. Kumar and S. K. Patra, Braz. J Phys **47**, 628 (2017).

8. Structural and decay properties of Z=132, 138 superheavy nuclei
   Asloob A. Rather, **M. Ikram**, A. A. Usmani, B. Kumar and S. K. Patra, Euro. Phys. Jour. A **52**, 372 (2016).

9. Quest for magicity in hypernuclei
   M. Ikram, Asloob A. Rather, B. Kumar, S. K. Biswal and S. K. Patra, Int. J Mod. Phys. E **25**, 1650103 (2016).

10. Effects of isovector scalar δ-meson in Λ-hypernuclei
    M. Ikram, S. K. Singh, S. K. Biswal and S. K. Patra, Int. J. Mod. Phys. E, **24**, 1550019 (2015).

11. Λ-hyperon interaction with nucleons
    M. Ikram, S. K. Singh, S. K. Biswal, M. Bhuyan and S. K. Patra, Mod. Phys. Lett. A **29**, 1450099 (2014).

12. A relativistic mean field study of multi-strange system
    M. Ikram, S. K. Singh, A. A. Usmani and S. K. Patra, Int. J. Mod. Phys. E **23**, 1450052 (2014).

13. Formation of medium-heavy elements in rapid neutron captures process
    M. Ikram, S. K. Singh and S. K. Patra, Journal of Nuclear Physics, Material Sciences, Radiation and application, **2**, 1 (2014).

14. Fully correlated variational Monte Carlo study of $^{4}_{\Lambda}$H and $^{4}_{\Lambda}$H* hypernuclei
    M. Imran, A. A. Usmani, **M. Ikram**, Z. Hasan and F. C. Khanna, J. Phys. G: Nucl. Part. Phys. **41**,065101 (2014).

15. Ground state properties and bubble structure of synthesized superheavy nuclei

S. K. Singh, **M. Ikram** and S. K. Patra, Int. J. Mod. Phys. E **22**, 1350001 (2013).

B) Proceedings in international/national conferences/workshops[17]

1. A contribution of isovector-scalar meson on **Σ**-hypernuclei

   M. Ikram and Usuf Rahaman, Proceedings of the DAE Symp. on Nucl Phys. **63**, 218 (2018).

2. Role of hyperons in neutron stars

   Ishfaq A. Rather, **M. Ikram** and M.Imran, Proceedings of the DAE Symp. on Nucl Phys. **63**, 794 (2018).

3. Prediction of decay modes of Z=128 superheavy nuclei within the mass range $301 \leq A \leq 338$

   Usuf Rahaman and **M. Ikram**, Proceedings of the DAE Symp. on Nucl Phys. **63**, 128 (2018).

4. Triton clustering in neutron-rich nuclei

   Anisul Usmani, Syed Afsar Abbas, Usuf Rahaman and **M. Ikram**, Proceedings of the DAE Symp. on Nucl Phys. **63**, 248 (2018).

5. A comparative study of spin-orbit interaction in nuclei and hypernuclei

   M. Ikram, Asloob A. Rather, M.Imran, and S. K. Patra, Proceedings of the DAE Symp. on Nucl Phys. **62**, 168 (2017).

6. Prediction of decay modes of Z=119 superheavy nuclei within the mass range $286 \leq A \leq 310$

   Asloob A. Rather, **M. Ikram**, and S. K. Patra, Proceedings of the DAE Symp. on Nucl Phys. **62**, 170 (2017).

7. Behaviour of the potential due to strangeness degree of freedom in ${}^{4}_{\Lambda}H$ and ${}^{4}_{\Lambda}H^{*}$ hypernuclei

   M. Imran, **M. Ikram**, and Z. Hasan, Proceedings of the DAE Symp. on Nucl Phys. **62**, 352 (2017).

8. Search for Λ shell closures in multi-Λ hypernuclei

Asloob A. Rather, **M. Ikram**, M. Imran, S. K. Biswal and S. K. Patra, Proceedings of the DAE Symp. on Nucl Phys. **61**, 178 (2016).

9. Competition between α, β decay and spontaneous fission in Z=132superheavy nuclei

   Asloob A. Rather, **M. Ikram**, Bharat Kumar, S. K. Biswal and S. K. Patra, Proceedings of the DAE Symp. on Nucl Phys. **61**, 202 (2016).

10. Role of space exchange correlation in light hypernuclei

    M. Imran, **M. Ikram**, Asloob A. Rather, Z. Hasan and A. A.Usmani, Proceedings of the DAE Symp. on Nucl Phys. **61**, 310 (2016).

11. Stability of multihypernuclear objects

    M. Ikram, Asloob A. Rather, A. A.Usmani and S. K. Patra, Proceedings of the National conference on Nucl Phys. P[11], p-37 (2016).

12. A study of hypernuclei with isovector scalar meson

    M. Ikram, S. K. Singh, S. K. Biswal and S. K. Patra, Proceedings of the DAE Symp. on Nucl Phys. **59**, 132 (2014).

13. Comparative study of effective force parameters NL3 and NL3*
    S. K. Singh, **M. Ikram**, S. K. Biswal, M. Bhuyan and S. K. Patra, Proceedings of the DAE Symp. on Nucl Phys. **58**, 116 (2013).

14. Space-Exchange correlation effects in $^{4}_{\Lambda}$H hypernucleus

    M. Imran, **M. Ikram**, Z. Hasan and A. A. Usmani, Proceedings of the DAE Symp. on Nucl Phys. **58**, 300 (2013).

15. Study of bubble structure in superheavy nuclei
    S. K. Singh, **M. Ikram** and S. K. Patra, Proceedings of the DAE Symp. on Nucl Phys. **57**, 352 (2012).

16. A relativistic mean field study of even-even superheavy nuclei
    M. Ikram and A. A. Usmani, Proceedings of the DAE Symp. on Nucl Phys. **57**, 278 (2012).

17. Formation of drip-line nuclei and rapid neutron capture process
    M. Ikram and S. K. Patra, Proceedings of the DAE Symp. on Nucl Phys. **57**, 618 (2012).

Declaration

I hereby declare that all the informations provided by me in this curriculum vitae are factual and correct to the best of my knowledge and belief.

Mohammad Ikram