

CURRICULUM VITAE OF PROFESSOR DR Q. N. USMANI

1. Name : Qamar Nasir Usmani
2. Date of Birth : October 10, 1943
3. Research Highlights : Significant Major Publications 48
Citations 1100 , h-index 16, i10-index 22.
Major Area of Interest : Theoretical Physics
4. Highest Educational Qualifications: PhD (1980), Theoretical Nuclear Physics from Aligarh Muslim University Aligarh India
5. Title of Ph.D. Thesis : A study of Short Range Nucleon-
Nucleon Correlations in Light Nuclei.
6. Number of PhD students Advised: As a main supervisor I have produced seven Phds. Currently I am main supervisor of two PhD students at University Malaysia Perlis.
7. Membership of Academic Societies: (1) American Physical Society (2) Semiconductor Society of India.
8. Journal Referee: Physical Review C, Physical Review Letters and Physics Letters B.
9. Positions Held
 - (a) U.G.C. Research Fellow, Department of Physics, Aligarh Muslim University, Aligarh, India, July 1965 to August 1968.
 - (b) Lecturer in Physics, Department of Physics, Aligarh Muslim University, August 1967 to February 1984
 - (c) Reader in Physics, Department of Physics, Aligarh Muslim University, February 1984 to August 1986.
 - (d) Professor of Physics, Department of Physics, Jamia Millia Islamia, New Delhi, since September 1986 to December 23, 2006.
 - (g) Head, Department of Physics, Jamia Millia Islamia, Jan 1987 to Jan 1989.
 - (h) Head, Department of Physics, Jamia Millia Islamia, Feb 1992 to March 1994.
 - (i) Dean, Faculty of Natural Sciences, Jamia Millia Islamia, Jan 1992 to March 1995.
 - (j) Acting Vice-Chancellor, Jamia Millia Islamia, in October 2006.
10. Publications : For details see Major publications.
11. Academic positions in countries other than India in august universities/institutes of higher learning:
 - (a) D.Ph.T CEN Saclay (Atomic Energy Commission of FRANCE) for four months, April 1, 1978 to July 31, 1978.
 - (b) University of Illinois at Urbana Champaign, Illinois, USA. August 1980 to July 1982. Research Associate
 - (c) University of Illinois at Urbana Champaign, Illinois, USA. August 1982 to May 1983. Visiting Research Assistant Professor.
 - (d) Argonne National Laboratory, Argonne for three months, June- August, 1983. Research Scientist.
 - (e) University of Illinois at Urbana Champaign, Urbana, for two months 15 May to 14 July 1984, Visiting Research Assistant Professor.
 - (f) Argonne National Laboratory, Argonne, July 15 to August 14, 1984. Research Scientist.

- (g) University of Illinois at Urbana Champaign, Urbana, for two months 20 May to 19 July 1985. Visiting Scholar.
 - (h) University of Illinois at Urbana Champaign, Urbana, for two months Dec12,1987 to Feb 12 1988. Visiting Scholar.
 - (i) NORDITA, Copenhagen (DENMARK) for two months from June 1 to July 31, 1988.
 - (j) Argonne National Laboratory, Argonne, July 1 to September 30, 1990. Visiting Scholar.
 - (k) Argonne National Laboratory, Argonne, for two months in 1991. Visiting Scholar.
 - (l) D.Ph.T CEN Saclay (Atomic Energy Commission of FRANCE) for two months, 15 March 1993 to 14 May 1993. Visiting Scholar
 - (m) University Putra Malaysia, Professor 1997-2002, five years.
 - (n) University Malaysia Perlis, December 26, 2006 to December 25, 2013
12. Fields of Current Research Interest:
- (a) Quantum Monte-Carlo calculations for light nuclei and hypernuclei and other areas related to hypernuclei
 - (b) Quantum Liquids.

Major Publications:

1. Nuclear Matter and Surface Clustering, Q N Usmani, N Abdullah, K Anwar Journal of physics: conference series 436, 012066 (2013).
2. Further improvement in the variational many-body wave functions for light nuclei, Q N Usmani, K. Anwar and Nooraihan Abdullah, Phys. Rev. C **86** 034323 (2012).
3. Symmetry Energy of Nuclear Matter at Low Densities and Clustering at the Nuclear Surface, Z Sauli, N Abdullah, K Anwar and QN Usmani, Journal of Physics: Conference Series 381 (1), 012102 (2012).
4. Nuclear matter properties, phenomenological theory of clustering at the nuclear surface, and symmetry energy, Q N Usmani, Nooraihan Abdullah, K. Anwar and Zaliman Sauli, Phys. Rev. C **84** 064313 (2011).
5. Clustering at the nuclear surface and symmetry energy, Q N Usmani, Z Sauli, N Abdullah, Journal of Physics: Conference Series 312 (9), 092060 (2011).
6. Improved Variational Many-Body Wave Function in Light Nuclei, Q. N. Usmani, A. Singh, K. Anwar and G. Rawitscher, Phys. Rev. C **80** 034309(2009).
7. Core Nucleus Dynamics in Λ Hypernuclei, Q. N. Usmani, A. R. Bodmer and Zaliman Sauli, *International Journal of Modern Physics E*, Vol 18, No. 5 and 6, 1302(2009).
8. Core Nucleus Polarization in Λ Hypernuclei, Q. N. Usmani, A. R. Bodmer and Z. Sauli, *Phys. Rev. C* **77**, 034312 (2008).
9. Six-Body Variational Monte-Carlo Study of ${}_{\Lambda\Lambda}^6\text{He}$, Q. N. Usmani, A. R. Bodmer, and Bhupali Sharama, Phys. Rev. C **70** Rapid Communication, 016001(2004).
10. Neutron and Proton Densities and the Symmetry Energy, A. R. Bodmer and Q. N. Usmani, Phys. Rev. C **67**, 034305 (2003),
11. Phenomenological Lambda-Nuclear Interactions, Rita Sinha, Q. N. Usmani, and B. M. Taib, Phys. Rev. C **66**, 024006 (2002).
12. Structure of light hypernuclei and Λ -nuclear interaction, Rita Sinha and Q. N. Usmani; Nucl. Phys. A, 586 (2001).
13. Λ -Single Particle Energies, Q. N. Usmani and A. R. Bodmer; Phys. Rev. C **60** 055215 (1999).
14. Internal energies and specific heats of condensed neon and argon systems, Mohammed Asger and Q. N. Usmani; Physica B **271** p104 (1999).

15. New dispersive Λ NN force and s-shell hypernuclei; Mohd. Shoeb, Nasra Nilofer, M. Z. R. Khan and Q. N. Usmani, Phys. Rev. C**59** 2807 (1999).
16. Binding Energies of the s-Shell Hypernuclei and the Λ -Nuclear Interactions; Rita Sinha and Q. N. Usmani, Conf. Proceedings 21st International Workshop on Condensed Matter Theories, Nova Science publishers, **13**, 461 (1998). Invited Talk.
17. Microscopic Calculations of Λ -Single Particle Energies; Q. N. Usmani and A. R. Bodmer; Nucl. Phys. A**639**, 147c (1998).
18. Λ N Space-exchange effects in the s-shell hypernuclei and ${}^9_{\Lambda}\text{Be}$, Mohammed Shoeb, Q. N. Usmani and A. R. Bodmer; Parmana Vol. 51 (nos. 3 & 4) p421 (1998).
19. Nuclear Core Dynamics and Rearrangement Energy for Hypernuclei, A. R. Bodmer, S. Murali and Q. N. Usmani, Nucl. Phys. A**609**, 326 (1996).
20. Study of Disintegrations caused by 4.5 GeV Carbon Nuclei in Nuclear Emulsions, M. Saleem Khan, H. Khusnood, A. R. Ansari, Q. N. Usmani, Nuovo Cimento A**108**, 147 (1995).
21. Variational Calculations for ${}^{17}_{\Lambda}\text{O}$, A. A. Usmani, S. C. Pieper and Q. N. Usmani, Phys. Rev. C**51**, 2347 (1995).
22. A Thomas-Fermi Theory for Λ -Hypernuclei, Invited talk given at Indian Physics Association Seminar "Nuclear Physics: Challenges and Opportunities", BARC Bombay, India; Physics News, June 1994.
23. Kinetic Energies of Liquid and Solid Neon, Mohd. Asger and Q. N. Usmani, Phys. Rev. B, May 1994.
24. Λ -Single Particle Energies, A. R. Bodmer and Q. N. Usmani, Conf. Proceedings 17th International Workshop on Condensed Matter Theories, Plenum Press, 1993. Invited Talk.
25. On Core Distortion in Λ -Hypernuclei, Q. N. Usmani and A. R. Bodmer, Conf. Proceedings 17th International Workshop on Condensed Matter Theories, Plenum Press, 1993. Invited Talk.
26. Momentum Distribution and one Body Density Matrix in Liquid ${}^3\text{He}$; A. Fabrocini, V. R. Pandharipande and Q. N. Usmani; Nuovo Cimento **D14**, 469 (1992).
27. Condensate Fraction and Momentum Distribution in the Ground State of Liquid ${}^4\text{He}$; E. Manousakis, V. R. Pandharipande and Q. N. Usmani, Phys. Rev. B**43**, 13587 (1991).
28. ${}^4\text{He}-{}^4\text{He}$ Elastic Scattering with Variational Wavefunctions; A. A. Usmani, I. Ahmed and Q. N. Usmani, Phys. Rev. C**44**, No. 6(1991).
29. α - α Elastic Scattering at High Energies; A. A. Usmani, I. Ahmed and Q. N. Usmani, Phys. Rev. C**39**, 1182 (1989).
30. Binding Energy of s-Shell Hypernuclei and the lambda well depth; A. R. Bodmer and Q. N. Usmani, Nucl. Phys. A**477**, 621(1988).
31. Hypernuclear Interaction; A. R. Bodmer and Q. N. Usmani, in *Intersection between Particle and Nuclear Physics*, Rockport, Maine, 1988, edited by G. Bunce (AIP Conference Proceedings No. **176**, New York, N. W. p170(1988).
32. Lambda Decay Widths in Nuclei; E. Oset, L. L. Salcedo and Q. N. Usmani, Phys. Lett. B**189**, 1(1987).
33. Hot Nuclear Matter at low Density; S. Pratt, P. Siemens and Q. N. Usmani, Phys. Lett. B**189**, 1(1987).
34. Λ - Λ Hypernuclei and Λ - Λ Interaction; A. R. Bodmer and Q. N. Usmani, Nucl. Phys. A**463**, 221C(1987).
35. The Alpha Cluster Hypernuclei ${}^5_{\Lambda}\text{He}$, ${}^6_{\Lambda\Lambda}\text{He}$, ${}^9_{\Lambda}\text{Be}$ and ${}^{10}_{\Lambda\Lambda}\text{Be}$ and Hypernuclear Interactions; A. R. Bodmer and Q. N. Usmani, Nucl. Phys. A**468**, 853(1987).
36. Condensate Fraction and Momentum Distribution in the Ground State of Liquid 4- He; E. Manousakis, V. R. Pandharipande and Q. N. Usmani; Phys. Rev. B**31**, 7022(1986).

37. Binding Energies of Hypernuclei and Lambda-Nuclear Interactions (Invited Talk); A. R. Bodmer and Q. N. Usmani; Nucl. Phys. A**450**, 257(1986).
38. Coulomb Effect and charge Symmetry breaking for the A=4 Hypernuclei; A. R. Bodmer and Q. N. Usmani; Phys. Rev. C**31**, 1400(1985).
39. Binding Energies of Hypernuclei and Three Body Λ NN Force; A. R. Bodmer, Q. N. Usmani and J. Carlson, Phys. Rev. rapid communication C**29**, 684(1984).
40. Binding Energies of Λ - Λ Hypernuclei and Λ -Nuclear Interaction; A. R. Bodmer and Q.N. Usmani; Proc. of the Conf. on - The Intersection between Particle and Nuclear Physics, Steamboat Springs, Colorado, USA, 1984, Ed. R. E. Mischke (AIP Conference Proceedings No. **123**, p8061 (984).
41. Binding Energies of Λ - Λ Hypernuclei and Λ -Nuclear Interaction; A. R. Bodmer and Q. N. Usmani; Nucl. Phys. A**422**, 510(1984).
42. Microscopic Calculations of Normal and Polarized Liquid 3 -He; E. Manousakis, S. Fantoni, V. R. Pandharipande and Q. N. Usmani, Phys. Rev. B**27** (1983).
43. Ground State of Liquid Helium; (invited paper), Q. N. Usmani and E. Manousakis, Proceedings of the Sixth Pan-American Workshop on Condensed Matter Theories, Sep.20-Oct 1, 1982, Washington University, Ed. J. W. Clark.
44. Three Body Correlations in Liquid Helium, Q. N. Usmani, S. Fantoni and V. R. Pandharipande, Phys. Rev. B**26**, 6123(1982).
45. Scaling Approximation for the Elementary Diagrams in Hyper-netted Chain Calculations; Q. N. Usmani, B. Friedman and V. R. Pandharipande, Phys. Rev. B**25**, 4502(1981)
46. Very Hot Nuclear Matter and Pion Production in Relativistic Heavy Ion Collisions; B. Friedman, V. R. Pandharipande and Q.N.Usmani, Nucl. Phys. A**372**, 483(1981).
47. Λ -Binding to Nuclear Matter in Fermi Hyper-netted Chain Approximation; Q. N. Usmani; Nucl. Phys. A**340**, 397(1980).
48. F. Mujib, M. Shoeb, Q. N. Usmani & M. Z. R. Khan; J. of Phys. G. Nucl. Phys. **5**,541(1979).

Papers presented in Symposia and conferences:

49. Q. N. Usmani and K. Anwar, Proceedings of the 1st Reagional Conference on Applied and Engineering Mathematics, 2nd – 3rd June, 2010, Eastern and Oriental Hotel Penang, Malaysia, Keynote Address.
50. Core Polarization and Space Exchange Λ -N Force in Λ -He5 and Λ -Be9, Conference BARC Proceedings 1989.
51. About the Existence of H. Particle and Hypernucleus Λ - Λ -Be10; M. Shoeb and Q. N. Usmani, Proceeding of the Symposium in Honor of Akito Arima; Nuclear Physics in the 1990s, May 1-5, 1990 New Mexico (USA).
52. Nucleus - Nucleus Collisions at Medium Energies; A. A. Usmani, Q. N. Usmani and I. Ahmed; Proceeding of the Symposium in Nuclear Physics, BARC, Bombay, Vol.131B 1(1988).
53. On Phase Variation of the Nucleon-Nucleon Amplitude; A. A. Usmani, Q. N. Usmani and I. Ahmed; Proceeding of the Symposium in Nuclear Physics, BARC, Bombay, Vol31B 1 (1988).
54. Weakly Spin-Dependent Effective Lambda Nucleon Potentials; F. Mujib, M. Shoeb, Q. N. Usmani and M. Z. R. Khan; *ibid*, p 730.
55. Effective Lambda-Nucleon Potentials, F. Mujib, M. Shoeb, Q. N. Usmani and M. Z. R. Khan, *ibid* p729.
56. Lambda-Binding to Nuclear Matter in the Fermi Hypernetted Chain Approximation, Q. N. Usmani, AIP Conference Proceeding No. 54, Meson Nuclear Physics, 1979 Houston Texas, ed, E. V. Hungerford III, p 731.
57. High Energy Electron Scattering from Helium with Correlations, H. Hasan and Q. N. Usmani, Proceeding of the Nuclear Physics and Solid State Physics Symposium (PNPSSP), Chandigarh, Dec. 28, 1972 - Jan. 1, 1973.

58. A calculation of the Real Part of the Optical - Model Potential, Q. N. Usmani, and I. Ahmed, PNPSSP, BARC, Bombay, Feb. 1-4, 1972.
59. Reaction Matrix Calculation with a Non-Local Separable Potential, PNPSSP, Madurai, 1970.
60. An Effective Lambda Nucleon Interaction, F. Hasan, M. Z. R. Khan and Q. N. Usmani, PNPSSP, Madurai, 1970.
61. On the Role of High Angular momentum Resonances in Neutron Induced Reactions at Low Energies, PNPSSP, Q. N. Usmani, PNPSSP, IIT Kanpur Dec. 1967.