CURICULUM VITAE

01. Name: **DR. MOHD. RAFIQ WANI**

02. Father's Name: **MR. MOHD. MAQBOOL WANI**

03. Date of Birth: **12-02-1980**

04. Designation: **ASSOCIATE PROFESSOR**

05. Permanent Residence: **DAMHAL HANJI PORA**
Tehsil: Damhal Hanji Pora
District: Kulgam, Kashmir
(Jammu & Kashmir)
PIN code: 192233

06. Present Residence: House No. 78, Iqbal Colony, Naik Bagh,
Natipora, Srinagar-190015, Kashmir

07. Department: Botany

08. Date of First Appointment: **30-10-2009** (Govt. Order No. **240-HE of 2009**; Dated: **30-10-2009)**

09. Date of Placement to Senior Scale
Assistant Professor: **30-10-2013** (Vide Govt. Order No. **195-HE of 2015**; Dated: **23-06-2015**)

10. Date of Placement to Selection Grade
Assistant Professor: **30-10-2018** (Vide Govt. Order No. **342-JK (HE) of 2021**; Dated: **10-12-2021**)

11. Date of Placement to
Associate Professor: **30-10-2021** (Vide Govt. Order No. **334-JK (HE) of 2024**; Dated **11-06-2024**)

12. Present Place of Posting: Department of Botany, Government Degree College Tral, Pulwama, UT of Jammu & Kashmir

13. Research Specialization: Plant Mutation Breeding

14. Mobile Number and E-mail: **+919906517207; botanyrafiq@gmail.com**

Educational Qualification:

S. No.	Examination Qualification	Board / University	Year	Subjects	%age of Marks Secured	Division
01.	10 + 2 (12^{th})	JKBOSE	**1998**	Science	**60.50 %**	**1st**
02.	B.Sc.	Kashmir University	**2001**	English, Chemistry Botany, Zoology	**63.88%**	**1st**

03.	M.Sc.	Aligarh Muslim University	**2003**	Botany	**69.50%**	**1st**
04.	Ph.D.	Aligarh Muslim University	**2008**	Botany	**Degree Awarded in 2008**	
05.	B.Ed.	Kashmir University **(Distance Mode)**	**2010**	-	**79.70%**	**Distinction**

Research Profile:
1. Books Published = **08**
2. Research Papers Published=**66**
3. Book Chapters Published = **32**

BOOKS PUBLISHED

1. Ahmad, P. and **M. R. Wani** (2014). ***Physiological Mechanisms and Adaptation Strategies in Plants under Changing Environment Volume 1.*** http://www.springer.com/life+sciences/plant+sciences/book/978-1-4614-8590-2; © Springer Science+Business Media New York.
2. Ahmad, P. and **M. R. Wani** (2014). ***Physiological Mechanisms and Adaptation Strategies in Plants Under Changing Environment Volume 2.***http://www.springer.com/life+sciences/plant+sciences/book/978-1-4614-8599-5; © Springer Science+Business Media New York.
3. Ahmad, P., **M. R. Wani**, M. M. Azooz and Lom San P Tran (2014). ***Improvement of Crops in the Era of Climatic Changes Volume 1".***http://www.springer.com/life+sciences/plant+sciences/book/978-1-4614-8829-3;© Springer Science+Business Media New York.
4. Ahmad, P., **M. R. Wani**, M. M. Azooz and Lom San P Tran (2014). ***Improvement of Crops in the Era of Climatic Changes Volume 2*** **.**http://www.springer.com/life+sciences/plant+sciences/book/978-1-4614-8823-1; © Springer Science+Business Media New York.
5. Tomlekova, N., M. I. Kozgar and **M. R. Wani** (2014). ***Mutagenesis: Exploring Novel Genes and Pathways.*** Wageningen Academic Publishers, Netherlands.http://www.wageningenacademic.com/doi/book/10.3920/978-90-8686-787-5; © Wageningen Academic Publishers, Netherland.
6. Tomlekova, N., M. I. Kozgar and **M. R. Wani** (2014). ***Mutagenesis: Exploring Genetic Diversity of Crops.*** Wageningen Academic Publishers, Netherlands.http://www.wageningenacademic.com/doi/book/10.3920/978-90-8686-796-7; © Wageningen Academic Publishers, Netherland.

7. Raina, A., **M. R. Wani,** N. Tomlekova, R. A. Laskar and S. Khan (2023). *Advanced Crop Improvement: Theory and Practice* Volume 1© Springer-Nature Switzerland AG; https://doi.org/10.1007/978-3-031-28146-4
8. Raina, A., **M. R. Wani,** N. Tomlekova, R. A. Laskar and S. Khan (2023). ***Advanced Crop Improvement: Case Studies of Economically Important Crops*** Volume 2 © Springer-Nature Switzerland AG.

RESEARCH PAPERS PUBLISHED

1. Khan, S. and **M. R. Wani** (2003). Isolation of high yielding mutants in mungbean (*Vigna radiata* (L.) Wilczek). *Tropical Agriculturist* 154: 51-55.
2. **Wani,M. R.** and S. Khan (2003). Chlorophyll mutations in lentil. *Tropical Agriculturist* 154: 21-26.
3. Khan, S., **M. R. Wani** and K. Parveen (2004). Induced genetic variability for quantitative traits in *Vigna radiata* (L.) Wilczek. *Pakistan Journal of Botany* 36(4): 845-850. ***(Impact Factor = 0.90)***.
4. Khan, S., **M. R. Wani**, M.D. Bhat and K. Parveen (2004). Induction of morphological mutants in chickpea. *International Chickpea and Pigeon pea Newsletter* 11: 6-7.
5. **M. R. Wani** and S. Khan (2004). Effect of chemical mutagens on seedling growth in (*Vigna radiata* (L.) Wilczek.). *Journal of Phytological Research* 17(1): 113-114.
6. Khan, S., **M. R. Wani** and K. Parveen (2005). An induced bushy mutant in mungbean. *Mutation Breeding Newsletter and Review* (Austria) 1:10.
7. Khan, S., **M. R. Wani**, M. D. Bhat and K. Parveen (2005). Induced chlorophyll mutations in chickpea (*Cicer arietinum* L.). *International Journal of Agriculture and Biology* 7 (5): 764-767. (***Impact factor 0.94***).
8. Khan, S. and **M. R. Wani** (2005). Genetic variability and correlations studies in chickpea mutants. *Journal of Cytology and Genetics* 6: 155-160.
9. Khan, S. and **M.R. Wani** (2005). Comparison on the effect of chemical mutagens on mungbean. *Advances in Plant Sciences* 18(II): 533-535.
10. Khan, S. and **M.R. Wani** (2006). MMS and SA induced genetic variability for quantitative traits in mungbean. *Indian Journal of Pulses Research* 19(1): 50-52.
11. Khan, S. and **M. R. Wani** (2006). Induced mutations for yield contributing traits in green gram. *International Journal of Agriculture and Biology* 8(4): 528-530. (***Impact factor 0.94*****).**
12. Khan, S., **M. R. Wani** and K. Parveen (2006). Quantitative variability in mungbean induced by chemical mutagens. *Legume Research* 29(2): 143-145.

13. Khan, S., **M. R. Wani** and K. Parveen (2006). Sodium azide induced high yielding early mutant in lentil. *Agricultural Science Digest* 26(1): 65-66.
14. Khan, S. and **M. R. Wani** (2006). Induced mutations affecting quantitative characters in mungbean. *Agricultural Science Digest* 26(4): 241-244.
15. Khan, S. and **M. R. Wani** (2006). Genetic variability studies for seed yield and its components in mungbean (*Vigna radiata* (L.) Wilczek). *Thai Journal of Agricultural Science* 39 (1-2): 83-88.
16. **Wani, M. R.** and S. Khan (2006). Estimates of genetic variability in mutated population and the scope of selection for yield attributes in *Vigna radiata* (L.) Wilczek. *Egyptian Journal of Biology, 8: 1-6.*
17. **Wani, M. R**. and S. Khan (2007). Genetic variation and scope of selection for high yielding mutants in mungean. *Journal of Phytological Research* 20(2): 309-311.
18. **Wani, M. R**., S. Khan, M. I. Kozgar and S. Goyal (2011). Induction of morphological mutants in mungbean (*Vigna radiata* (L.) Wilczek.) through chemical mutagens. *The Nucleus* 48(3): 243-247.
19. **Wani, M. R**., S. Khan and M. I. Kozgar (2011). An assessment of high yielding M_3 mutants of green gram (*Vigna radiata* (L.) Wilczek). *Romanian Journal of Biology-Plant Biology* 56(1): 29-36.
20. **Wani, M. R**., S. Khan and M. I. Kozgar (2011). Induced chlorophyll mutations. I. Mutagenic effectiveness and efficiency of EMS, HZ and SA in mungbean. *Frontiers of Agriculture in China* 5(4): 514-518. ***(Impact Factor = 0.57).***
21. Kozgar, M. I., S. Khan and **M. R. Wani** (2012). Impact of research activities of induced mutation breeding: is it on food insecurity and malnutrition. A www search. *Advanced Biotech* 11(9): 43-46.
22. Kozgar, M. I., S. Khan and **M. R.Wani** (2012). Variability and correlations studies for total iron and manganese contents of chickpea (*Cicer arietinum* L.) high yielding mutants. *American Journal of Food Technology* 7(7):437-444. ***(Impact Factor = 0.89).***
23. Lone, M. A. and **M. R. Wani** (2012). Degradation of dimethoate and pyrethroid by using fungal strains isolated from the rhizosphere of *Juglans regia* L. in the northern region of Jammu and Kashmir, India. *International Journal of Pharma and Bioscience 3(4):716-723.* ***(Impact Factor = 0.47).***
24. Lone, M. A., **M. R.Wani,** N. A. Bhat, S. A. Sheikh and M. A. Reshi (2012). Evaluation of cellulose enzyme secreted by some common and stirring rhizosphere fungi of *Juglans regia* by DNS method. *Journal of Enzyme Research* 3(1):18-22.

25. **Wani, M. R.,** M. A. Lone, S. A. Sheikh, M. S. Dar, M. A. Tak, P. Ahmad and S. Khan, (2012). Induction and assessment of genetic variability for yield and yield contributing traits of chickpea (*Cicer arietinum* L.). *Journal of Plant Genomics 2(1):28-33.*
26. Sheikh, S. A., **M. R.Wani,** M. A. Lone, M. A. Tak and N. A. Malla (2012). Sodium azide induced biological damage and variability for quantitative traits and protein content in wheat (*Triticum aestivum* L.). *Journal of Plant Genomics 2(1):34-38.*
27. Lone, M. A., **M. R. Wani,** S. A. Sheikh, S. Sahay and M. S. Dar (2012). Antagonistic potentiality of *Trichoderma harzianum* against *Cladosporium spherospermum*, *Aspergillus niger* and *Fusarium oxysporum. Journal of Biology, Agriculture and Healthcare 2(8):72-76.*
28. Kozgar, M. I., **M. R. Wani** and S. Khan (2013). Role of *ATICS* and *OMICS* for business oriented developmental programmes of micro-propagated plants. *Advanced Biotech* 12(9):11-16.
29. Sheikh, S.A., M. A. Tak, **M. R. Wani** and P. Ahmad (2013). Response of urdbean (*Vigna mungo* (L.) Hepper) in terms of growth, yield and biochemical parameters to spent engine oil pollution. *Journal of Applied Phytotechnology in Environmental Sanitation* 2(4): 99-108.
30. **Wani, M. R.,** M. I. Kozgar, S. Khan and N. A. Dar (2013). Induction of genetic variability through artificial mutagenesis in chickpea (*Cicer arietinum* L.). *Thai Journal of Agricultural Science* 46(3): 141-147.**(*UGC Approved Journal*)**
31. Kumar, B.V., T. K. Raja, **M. R. Wani**, S. A. Sheikh, M. A. Lone, G. Nabi, M. M. Azooz, M. Younis, M. Sarwat and P. Ahmad (2013). Transgenic plants as green factories for vaccine production. *African Journal of Biotechnology* 12(43): 6147-6158.DOI: 10.5897/AJB2012.2925 ***(Impact Factor = 0.45).***
32. Sheikh, S. A. and **M. R. Wani** (2014). Evaluation of the salinity tolerance of some rice (*Oryza sativa*) genotypes of Kashmir valley. *International Journal for Scientific Research and Development* 2(5): 284-288.
33. Ahmad, P., Sarwat, M., Bhat, N.A., **Wani, M.R.,** Kazi, A.G., Tran, L.S.P. (2015). Alleviation of cadmium toxicity in *Brassica juncea* L. (CZern & Coss.) by calcium application involves various physiological and biochemical strategies. ***Plos One,*** 10(1): e0114571.doi: 10.1371/journal.pone.0114571, (***Impact Factor:3.54*)**
34. **Wani, M. R.** and Kozgar, M. I. (2016). Induction of early flowering and maturing mutants in mungbean. *International Journal on Agricultural Sciences* 7(1):79-88. **(*NAAS Rating 3.9*)**
35. **Wani, M. R.** (2017). Induced chlorophyll mutations, comparative mutagenic effectiveness and efficiency of chemical mutagens in lentils (*Lens culinaris* Medik). *Asian Journal of Plant Sciences*16:221-226. **(*UGC Approved Journal*)**

36. **Wani, M. R.** (2017). High yielding mutants in chickpea (*Cicer arietinum* L.). *Research on Crops* 18(4): 726-729. (***UGC Approved Journal*)**
37. **Wani, M. R.,** A. R. Dar, A. Tak, I. Amin, N. H. Shah, R. Rehman, M. Y. Baba, A. Raina, R. Laskar, M. I. Kozgar and S. Khan (2017). Chemo-induced pod and seed mutants in mungbean (*Vigna radiata* (L.) Wilczek). *SAARC Journal of Agriculture* 15(2): 57-67.**(*UGC Approved Journal*)**
38. **Wani, M. R.** (2018). Early maturing mutants of chickpea (*Cicer arietinum* L.) induced by chemical mutagens. *Indian Journal of Agricultural Sciences* 88(4): 635-640. **(*UGC Approved Journal*)**
39. Lubna A., A. R. Dar, A. Akhter, I. A. Qureshi, N. H. Shah, **M. R. Wani** and R. Mudasir (2018). Cultivation, diversity and bio-potential of *Salix* in the Kashmir Himalaya, India. *International Journal of Life Sciences* 6 (1):105-110 (***ISSN: 2320-7817 UGC Approved Journal No. 48951)***
40. Shah, N. H., A. R. Dar, I. A. Qureshi, A. Akhter, **M. R.Wani,** M. Y. Baba, and L. Andleeb, L. (2018). Studies on the pathogenicity of different inoculum levels of *Meloidogyne incognita* and *Rhizoctoniasolani* on mungbean (*Vigna radiata* (L.) Wilczek). *International Journal of Advance Research in Science and Engineering* 7(special Issue No.4): 461-469; (***UGC Approved Journal)***
41. Khursheed, S., A. Raina, R. Amin, **M. R.Wani** and S. Khan (2018). Quantitative analysis of genetic parameters in the mutagenized population of faba bean (*Vicia faba* L.). *Research on Crops*19(2): 276-284 **(*UGC Approved Journal*)**
42. Shah, N. H., A. R. Dar, I. A. Qureshi, A. Akhter, **M. R. Wani,** and L. Andleeb (2018). Control of root-knot disease of brinjal (*Solanum melongena* L.) by the application of leaf extracts of certain medicinal plants. *Indian Journal of Agricultural Research* 52(4): 443-446**(*UGC Approved Journal*).**
43. Akhter, A., I. A. Qureshi, A. R. Dar, **M. R.Wani,** L. Andleeb, N. H. Shah and A. Inam (2018). Anthropogenic impact on the medicinal plant wealth of Tangmarg (Gulmarg), Jammu and Kashmir, India. *Asian Journal of Microbiology, Biotechnology and Environmental Science* 20 (3): 182-187**(*UGC Approved Journal*)**.
44. Laskar, R. A., **M. R. Wani,** A. Raina, R. Amin and S. Khan (2018). Morphological characterization of gamma rays induced multipodding mutant (mp) in lentil cultivar Pant L-406. *International Journal of Radiation Biology,* 94 (11): 1049-1053 DOI:10.1080/09553002.2018.1511927 **IF 1.97 (Taylor & Francis).**
45. Goyal, S., **Wani, M. R.** and Khan, S. **(2019).** Frequency and spectrum of chlorophyll mutations induced by single and combination treatments of gamma rays and EMS in urdbean. *Asian Journal of Biological Sciences* 12(2): 156-163.

46. Amin, R., **M. R.Wani,** A. Raina, S. Khursheed and S. Khan (2019). Induced morphological and chromosomal diversity in the mutagenized population of black cumin *(Nigella sativa* L.) using single and combination treatments of gamma rays and ethyl methane sulfonate. *Jordan Journal of Biological Sciences* 12 (1): 23-30. ***(UGC Care Listed).***
47. Goyal, S., **M. R. Wani** and S. Khan (2019). Gamma rays and ethyl methanesulfonate induced early flowering and maturing mutants in urdbean (*Vigna mungo* (L.) Hepper). *International Journal of Botany*15: 14-21(**UGC Care Listed).**
48. Goyal, S., **M. R.Wani** and S. Khan (2019).Comparative mutagenic analysis of gamma rays, EMS and their combination treatments in black gram (*Vigna mungo* (L.) Hepper). *Thai Journal of Agricultural Science* 52 (1): 20-33. (**UGC Care Listed).**
49. Goyal, S., **M. R. Wani,** R. A. Laskar, A. Raina and S. Khan (2019). Assessment on cytotoxic and mutagenic potency of gamma rays and EMS in *Vigna mungo* (L.) Hepper. *Biotecnología Vegetal* 19(3): 193 – 204(**UGC Care Listed).**
50. Goyal, S., **M. R.Wani,** R. A. Laskar, A. Raina, R. Amin and S. Khan (2019). Induction of morphological mutations and mutant phenotyping in black gram (*Vigna mungo* (L.) Hepper) using gamma rays and EMS. *Vegetos* https://doi.org/10.1007/s42535-019-00057-w
51. Akhter, A., A. R. Dar, **M. R. Wani**, R. Parveen, R. Rehman, N. H. Shah and A. Inam (2019). Pollution abatement through reuse of two byproducts of thermal power plant-wastewater and flyash as an irrigant and fertilizer. *Pollution Research* 38 (August Suppl. Issue): S205-S215.
52. Raina, A., R. A. Laskar, Y. R. Tantary, S. Khursheed, **M. R. Wani** and S. Khan (2020). Characterization of induced high yielding cowpea mutant lines using physiological, biochemical and molecular markers. *Scientific Reports*10:3687 https://doi.org/10.1038/s41598-020-60601-6 (**IF=4.2** Thomson Reuters).
53. Goyal, S., **M. R. Wani,** R. A. Laskar, A. Raina and S. Khan (2020). Mutagenic effectiveness and efficiency of individual and combination treatments of gamma rays and ethylmethan esulfonate in black gram (*Vigna mungo* (L.) Hepper). *Advances in Zoology and Botany* 8(3): 163-168 ***(UGC Approved).***
54. Goyal, S., **M. R. Wani,** R. A. Laskar, A. Raina and S. Khan (2020). Performance evaluation of induced mutant lines of black gram (*Vigna mungo* (L.) Hepper). *Acta fytotechn zootechny* 23(2): 70–77; https://doi.org/10.15414/afz.2020.23.02.70-77 ***(UGC Approved).***
55. **Wani, M. R.** (2020). Characterization of chlorophyll deficient mutants in mungbean (*Vigna radiata* (L.) Wilczek). *Bangladesh Journal of Botany* 49(4): 1013-1019 ***(UGC Approved).***
56. Dar, A. R., L. Andleeb, G. H. Dar, **M. R. Wani**, A. Akhter, N. H. Shah and I. Amin (2020). A review of taxonomic perspective of diversity in gymnosperms of Kashmir Himalaya. Pak. J. Sci. Ind. Res. Ser. B: Biol. Sci. 63B (3): 94-108. ***(UGC Approved)***

57. **Wani, M. R.** (2021). Comparative biological sensitivity and mutability of chemo-mutagens in lentil (*Lens culinaris* Medik). *Legume Research* 44(1): 26-30. DOI: 10.18805/LR-4058***(UGC Care Listed).***
58. Humaira, S. Pant, A. R. Dar, A. Akhter, **M. R. Wani** and N. H. Shah (2021). Diversity and utilization of medicinal flora of Baba Ghulam Shah Badshah university campus Rajouri Jammu and Kashmir, India. *Indian Journal of Agricultural Research* 55 (1): 1-12; doi:10.18805/IJARe.A-5305 ***(UGC Approved)***
59. **Wani, M. R.,** R. A. Laskar, A. Raina, S. Khan and T.U. Khan (2021). Application of chemical mutagenesis for improvement of productivity traits in lentil (*Lens culinaris* Medik). *Annals of Biology* 37 (1): 69-75 ***(UGC Approved).***
60. Goyal, S., **M. R. Wani**, A. Raina, R. A. Laskar and S. Khan (2021). Phenotypic diversity in mutagenized population of urdbean (*Vigna mungo* (L.) Hepper). *Heliyon* 7: e06356. ***(UGC Approved* IF: 2.85*).***
61. Goyal, S., **M. R. Wani,** A. Raina, R. A. Laskar and S. Khan (2021). Quantitative assessments on induced high yielding mutant lines in urdbean (*Vigna mungo* (L.) Hepper). *Legume Science*, e125. https://doi.org/10.1002/leg3. 125
62. Raina, A., R. A. Laskar, **M. R. Wani,** B. L. Jan, S. Ali and S. Khan (2022). Comparative mutagenic effectiveness and efficiency of gamma rays and sodium azide in inducing chlorophyll and morphological mutants of cowpea. *Plants* 11(10), 1322; https://doi.org/10.3390/plants11101322 **(IF: 3.935)**
63. Raina, A., R. A. Laskar, **M. R. Wani,** B. L. Jan., S. Ali and S. Khan (2022). Gamma rays and sodium azide induced genetic variability in high-yielding and biofortified mutant lines in cowpea (*Vigna unguiculata* (L.) Walp.). *Frontiers in Plant Science-Plant Breeding* 13:911049. doi: 10.3389/fpls.2022.911049 (**IF:5.753)**
64. Rasik, S., A. Raina, R. A. Laskar, **M. R. Wani,** Z. A. Reshi, S. Khan and A. R. Ndhlala (2022). Lowe doses of sodium azide and methyl methane sulphonate improved yield and pigment contents in vegetable cowpea (*Vigna unguiculata* (L.) Walp.). *South African Journal of Botany, Elsevier* **148:**1-10. **(IF=2.315)**
65. Raina, A., **M. R. Wani,** R. A. Laskar and S. Khan (2022). Chemical mutagenesis: role in breeding and biofortification of lentil (*Lens culinaris* Medik) mutant lines. Molecular Biology Reports, Springer Nature https://doi.org/10.1007/s11033-022-07678-6 **(IF=2.31)**
66. Goyal, S., Wani, M. R. and Khan, S. (2024). Short stature mutants in urdbean (*Vigna mungo* (L.) Hepper). *Indian J. Applied & Pure Biol*. 39(3): 1557-1563 **(Web of Science Indexed)**

BOOK CHAPTERS PUBLISHED

1. Ahanger, M. A., S. R. Tyagi, **M. R. Wani**, P. Ahmad (2014). Drought Tolerance: Role of organic osmolytes, growth regulators and mineral nutrients. *In:* Ahmad, P. and **M. R. Wani** (Eds.), ***Physiological Mechanisms and Adaptation Strategies in Plants Under Changing Environment"*** Volume 1, **pp. 25-55;** DOI 10.1007/978-1-4614-8591-9_2, © Springer Science+Business Media New York.
2. Ahmad, P., A. Hameed, E. Fathi Abd-Allah, S. A. Sheikh, **M. R. Wani,** S. Rasool, S. Jamsheed and A. Kumar (2014). Biochemical and molecular approaches for drought tolerance in plants. *In:* Ahmad, P. and **M. R. Wani** (Eds.), ***Physiological Mechanisms and Adaptation Strategies in Plants Under Changing Environment"*** Volume 2, **pp: 1-29;** DOI 10.1007/978-1-4614-8600-8_1, © Springer Science+Business Media New York 2014.
3. Kozgar, M. I., **M. R. Wani**, S. Khan and P. Ahmad (2014). Mineral bioavailability through mutation breeding in pulse crops: a review. *In:* Ahmad, P., **M. R. Wani,** M. M. Azooz and Lom San P Tran (Eds.), ***Improvement of Crops in the Era of Climatic Changes*** *Volume 1,* **pp: 191-204;** DOI 10.1007/978-1-4614-8830-9_8, © Springer Science+Business Media New York 2014.
4. **Wani,** M. R., M. I. Kozgar, S. Khan, M. A. Ahangar and P. Ahmad (2014). Induced mutagenesis for the improvement of pulse crops with special reference to mungbean-areview update. *In:* Ahmad, P., **M. R. Wani,** M. M. Azooz and Lom San P Tran (Eds.), ***Improvement of Crops in the Era of Climatic Changes*** *Volume 1,* ***pp: 247-288.*** DOI 10.1007/978-1-4614-8830-9_11, © Springer Science+Business Media New York 2014.
5. Qadir, S., A. Hameed, N. T. Nisa, M. M. Azooz, **M. R. Wani**, M. Hasannuzaman, A. G. Kazi and P. Ahmad (2014). Brassicas: responses and tolerance to heavy metal stress. *In:* Ahmad, P., **M. R. Wani,** M. M. Azooz and Lom San P Tran (Eds.), ***Improvement of Crops in the Era of Climatic Changes*** *Volume 2,* **pp: 1-36,** DOI 10.1007/978-1-4614-8824-8_1, © Springer Science+Business Media, New York 2014.
6. **Wani**, M. R., M. I. Kozgar, N. Tomlekova, S. Khan, A. G. Kazi, S. A. Sheikh and P. Ahmad (2014). Mutation breeding: A novel technique for genetic improvement of pulse crops particularly chickpea (*Cicer arietinum* L.). *In:*Ahmad, P., **M. R. Wani,** M. M. Azooz and Lom San P. Tran (Eds.), ***Improvement of Crops in the Era of Climatic Changes, Volume 2,*****pp. 217-248;** DOI 10.1007/978-1-4614-8824-8_9, © Springer Science+Business Media New York 2014.
7. Kozgar, M. I., S. Hussain, **M. R. Wani** and S. Khan (2014). The role of cytological aberrations in crop improvement through induced mutagenesis. *In:* Ahmad, P., **M. R.**

Wani, M. M. Azooz and Lom San P. Tran (Eds.), ***Improvement of Crops in the Era of Climatic Changes"***, *Volume 2***, pp. 283-296;** DOI 10.1007/978-1-4614-8824-8_11, © Springer Science+Business Media New York 2014.

8. Sheikh, S. A., **M. R. Wani**, M. I. Kozgar and P. Ahmad (2014). Wheat improvement: Historical perspective and mutational approach—A review. *In:* Ahmad, P., **M. R. Wani,** M. M. Azooz and Lom San P. Tran (Eds.), ***Improvement of Crops in the Era of Climatic Changes*** Volume 2, **pp. 297-322;** DOI 10.1007/978-1-4614-8824-8_12, © Springer Science+Business Media New York 2014.
9. Kozgar, M. I., **M. R. Wani,** N. B. Tomlekova and S. Khan (2014). Induced mutagenesis in edible crop plants and its impact on human beings. *In:* N. B. Tomlekova, M. I. Kozgar and **M. R. Wani** (Eds.), ***Mutagenesis: Exploring Novel Genes and Pathways,*** Wageningen Academic Publishers, Netherland, **pp. 167-180**.DOI: 10.3920/978-90-8686-787-5_7, © Wageningen Academic Publishers2014
10. Kozgar, M. I., **M. R. Wani,** N. B. Tomlekova and S. Khan (2014). Surface graph and densitometric SDS-PAGE studies in chickpea mutants. *In:* N. B. Tomlekova, M. I. Kozgar and **M. R. Wani** (Eds.), ***Mutagenesis: Exploring Novel Genes and Pathways***, Wageningen Academic Publishers, Netherland, **pp. 279-288**.DOI: 10.3920/978-90-8686-787-5_14, © Wageningen Academic Publishers 2014.
11. Tomlekova, N. B., O. Timin, Y. Arnaoudova, O. Timina, **M. R. Wani** and M. I. Kozgar (2014). Trends and achievements in F_1 hybrids of sweet pepper utilizing induced male sterility. *In:* N. B. Tomlekova, M. I. Kozgar and **M. R. Wani** (Eds.), ***Mutagenesis: Exploring Genetic Diversity of Crops,*** WageningenAcademic Publishers, Netherland, **pp. 15-40;** DOI: 10.3920/978-90-8686-796-7_1, © Wageningen Academic Publishers 2014.
12. **Wani, M.R.,** M. I. Kozgar, N. B. Tomlekova and S. Khan (2014). Selection for polygenic variability in early mutant generations of mungbean (*Vigna radiata* (L.) Wilczek). *In:* N. B. Tomlekova, M. I. Kozgar and **M. R. Wani** (Eds.), ***Mutagenesis: Exploring Genetic Diversity of Crops,***Wageningen Academic Publishers, Netherland, **pp. 213-232**. DOI: 10.3920/978-90-8686-796-7_10, © Wageningen Academic Publishers 2014.
13. Tomlekova, N. B., N. Panayoto, M. I. Kozgar, **M. R. Wani,** P. Serdaris, and E. Balacheva (2014). Inducing and exploring new mutant donors of tomato. *In:* N. B. Tomlekova, M. I. Kozgar and **M. R. Wani** (Eds.), ***Mutagenesis: Exploring Genetic Diversity of Crops,*** Wageningen Publishers, Netherland, **pp. 283-306.** DOI: 10.3920/978-90-8686-796-7_14, © Wageningen Academic Publishers 2014.
14. Raina, A., R. A. Laskar, R. Jahan, R. Amin, S. Khursheed, **M. R. Wani**, N. Tun Nisa and S. Khan (2018). Mutation breeding for crop improvement. *In:* Ansari, M. W., S. Kumar, B.

C. Kaula and R. K. Wattal (Eds.), ***Introduction to Challenges and Strategies to Improve Crop Productivity in Changing Environment,*** Enriched Publications Pvt. Ltd., New Delhi, India, pp.293-307. ISBN: 978-81-934634-9-9.

15. Raina, A., S. Khan, **M. R. Wani,** R. A. Laskar and W. Mushtaq (2019). Chickpea (*Cicer arietinum* L.) Cytogenetics, Genetic Diversity and Breeding. *In:* Al-Khayri, J. M., S. M. Jain and D. V. Johnson (Eds.), ***Advances in Plant Breeding Strategies: Legumes,*** © Springer Nature Switzerland AG https://doi.org/10.1007/978-3-030-23400-3_3
16. Laskar, R. A., S. Khan, C. R. Deb, N. Tomlekova, **M. R. Wani,** A. Raina and R. Amin (2019). Lentil (*Lens culinaris* Medik.) Diversity, Cytogenetics and Breeding. *In:* Al-Khayri, J. M., S. M. Jain and D. V. Johnson (Eds.), ***Advances in Plant Breeding Strategies: Legumes,*** © Springer Nature Switzerland AG https://doi.org/10.1007/978-3-030-23400-3_9
17. Raina, A., S. B. Ansari, S. Khursheed, **M. R. Wani,** S. Khan and T. A. Bhat (2021). Mutagens, their types and mechanism of action with an emphasis on sodium azide and gamma radiations. *In:* Bhat, T. A. (Ed.), ***Mutagenesis, Cytotoxicity and Crop Improvement: Revolutionizing Food Science*** © Cambridge Scholars Publishing, England https://www.cambridgescholars.com/product/978-1-5275-6296-7
18. Raina, A., R. A. Laskar, S. Malik, **M. R. Wani,** T. A. Bhat and S. Khan (2021). Plant mutagenesis: principle and application in crop improvement. *In:* Bhat, T. A. (Ed.), ***Mutagenesis, Cytotoxicity and Crop Improvement: Revolutionizing Food Science*** © Cambridge Scholars Publishing, England https://www.cambridgescholars.com/product/978-1-5275-6296-7
19. Bhat, T.A., A. R. Shakoori, M. T. Zahid, M. Gulfishan, **M. R. Wani,** A. Raina, I. H. Qadri (2021). Induced cytological aberrations through mutagenesis: a review. *In:* Bhat, T. A. (Ed.), ***Mutagenesis, Cytotoxicity and Crop Improvement: Revolutionizing Food Science*** © Cambridge Scholars Publishing, England https://www.cambridgescholars.com/product/978-1-5275-6296-7
20. Goyal, S., **M. R. Wani,** A. Raina, R. A. Laskar, S. Khan and T. A. Bhat (2021). Individual and simultaneous treatments of gamma rays and ethylmethane sulfonate induced genetic variability for plant height in urdbean (*Vigna mungo* (L.) Hepper). *In:* Bhat, T. A. (Ed.), ***Mutagenesis, Cytotoxicity and Crop Improvement: Revolutionizing Food Science*** © Cambridge Scholars Publishing, England https://www.cambridgescholars.com/product/978-1-5275-6296-7
21. **M. R. Wani,** N. Tomlekova, A. Raina, R. A. Laskar, S. Khursheed, S. Khan, M. A. Tak, T. A. Bhat. (2021). Mutation breeding technique for the improvement of pulse crops with

special reference to faba bean (*Vicia faba* L.). *In:* Bhat, T. A. (Ed.), ***Mutagenesis, Cytotoxicity and Crop Improvement: Revolutionizing Food Science*** © Cambridge Scholars Publishing, England https://www.cambridgescholars.com/product/978-1-5275-6296-7

22. Laskar, R. A., A. Raina, **M. R. Wani,** S. Khan, C. R. Deb, T. U. Khan and T. A. Bhat (2021). Induced chromosomal aberrations in grain legumes: *Lens culinaris* Medik. *In:* Bhat, T. A. (Ed.), *Mutagenesis, Cytotoxicity and Crop Improvement: Revolutionizing Food Science* © Cambridge Scholars Publishing, England https://www.cambridgescholars.com/product/978-1-5275-6296-7
23. T. A. Bhat, M. T. Zahid, M. Gulfishan, **M. R. Wani,** A. Raina (2021). Exploration, applicability and conclusion of induced mutagenesis on broad bean. *In:* Bhat, T. A. (Ed.), *Mutagenesis, Cytotoxicity and Crop Improvement: Revolutionizing Food Science* © Cambridge Scholars Publishing, England https://www.cambridgescholars.com/product/978-1-5275-6296-7
24. Khursheed, S., A. Raina, **M. R Wani,** S. Khan (2021). Correlation analysis for biochemical aspects of isolated mutants of faba bean. *In:* Bhat, T. A. (Ed.), *Mutagenesis, Cytotoxicity and Crop Improvement: Revolutionizing Food Science* © Cambridge Scholars Publishing, England https://www.cambridgescholars.com/product/978-1-5275-6296-7
25. Bhat, T.A., A. Shahzad**, M. R. Wani,** A. Raina (2021). Isolation of promising mutants of M_3 generation in broad bean and their protein electrophoretic patterns through SDS-PAGE. *In:* Bhat, T. A. (Ed.), *Mutagenesis, Cytotoxicity and Crop Improvement: Revolutionizing Food Science* © Cambridge Scholars Publishing, England https://www.cambridgescholars.com/product/978-1-5275-6296-7
26. **Wani, M.R.,** A. Raina, S. Yaqoob, R. A. Laskar, S. Khan and T. A. Bhat (2023). Induced mutagenesis: A successful breeding strategy for crop improvement. *In:* Bhat, T. A. and Hakeem, K. R. (Eds.), Biotechnologies and Genetics in Plant Mutation Breeding, Volume 1: © 2023 Apple Academic Press, Inc. Co-published with CRC Press (Taylor & Francis). pp. 69-87.
27. Raina, A., R. A. Laskar, **M. R. Wani** and S. Khan (2023). Role of mutation and molecular breeding in the improvement of cowpea, a primary pulse crop. *In:* Bhat, T. A. and Hakeem, K. R. (Eds.), Biotechnologies and Genetics in Plant Mutation Breeding, Volume 3: © 2023 Apple Academic Press, Inc. Co-published with CRC Press (Taylor & Francis). pp-53-83.
28. Laskar, R. A., A. Raina, N. Sheikh, **M. R. Wani** and S. Khan (2023). Mutagenesis in Genetic Improvement of lentil: Development of multipodding mutant via gamma rays. *In:* Bhat, T. A. and Hakeem, K. R. (Eds.), Biotechnologies and Genetics in Plant Mutation

Breeding, Volume 3: © 2023 Apple Academic Press, Inc. Co-published with CRC Press (Taylor & Francis). pp-253-279.

29. Raina, A., Laskar, R.A., **Wani, M.R.,** Tomlekova, N. and Khan, S. (2023). Plant breeding from classical genetics to molecular approaches for food and nutrition security. *In:* Raina, A., **Wani, M.R.,** Laskar, R.A, Tomlekona, N. and Khan, S. (Eds.), Advanced Crop Improvement: Theory and Practice Volume 1, Springer Nature Switzerland AG; doi: https://doi.org/10.1007/978-3-031-28146-4_1, pp. 1-32.
30. Tomlekova, N., Apostolova, V. S., P. Nikolay, P. Ivelin, S. Fatma, Wani, M. R. and Seibt, K. M. (2023). Applicability of ISAP and RAPD Techniques for *Capsicum* Collection Genotyping. *In:* Raina, A., Wani, M.R., Laskar, R.A., Tomlekova, N., Khan, S. (Eds.), Advanced Crop Improvement, Volume 2. Springer, Cham. https://doi.org/10.1007/978-3-031-26669-0_3
31. Raina, A., Laskar, R.A., Wani, M.R., Khan, S. (2023). Improvement of Yield in Cowpea Varieties Using Different Breeding Approaches. *In:* Raina, A., Wani, M.R., Laskar, R.A., Tomlekova, N., Khan, S. (Eds.), Advanced Crop Improvement, Volume 2. Springer, Cham. https://doi.org/10.1007/978-3-031-26669-0_6
32. Wani, M.R., Raina, A., Tomlekova, N., Laskar, R.A., Feroz, M., Khan, S. (2023). Induced Mutagenesis-A Reliable Technology to Overcome the Limitations of Low Genetic Variability in Lentils. *In:* Raina, A., Wani, M.R., Laskar, R.A., Tomlekova, N., Khan, S. (Eds.), Advanced Crop Improvement, Volume 2. Springer, Cham. https://doi.org/10.1007/978-3-031-26669-0_9

ORIENTATION/ REFRESHER /FDP/ SHORT-TERM COURSES ATTENDED

1. Attended orientation course at UGC-Academic Staff College, University of Kashmir, Srinagar w.e.f. **22.02.2010 to 26.03.2010**.
2. Attended Refresher course in "**Botany"** (Multidisciplinary) at UGC-Academic Staff College, Aligarh Muslim University, Aligarh w.e.f. **31.01.2012 to 21.02.2012.**
3. Attended Refresher course in "**Environmental Studies"** (Multidisciplinary) at UGC-Academic Staff College, University of Calicut, Kerela w.e.f. **08.01.2015 to 29.01.2015.**
4. Attended Refresher course in "**Disaster Management"** (Interdisciplinary) at UGC-Human Resource and Development Centre, University of Kashmir, Srinagar w.e.f. **10.10.2017 to 01.11.2017.**

5. Attended one-week short term course on "**Research Methodology"** at UGC-Human Resource and Development Centre, Jamia Millia Islamia, New Delhi w.e.f. **04.02.2019 to 09.02.2019.**
6. Attended Refresher course in "**Human Rights"** (Interdisciplinary) at UGC-Human Resource and Development Centre, University of Jammu, Jammu w.e.f. **10.12.2019 to 23.12.2019.**
7. Attended two week's online subject Refresher course in "**Environmental Studies"** (open to all) at UGC-Human Resource and Development Centre, Aligarh Muslim University, Aligarh, India w.e.f. **03.09.2020 to 18-09-2020.**
8. Attended one-week online Faculty Development Programme on **"Recent Trends and Challenges in Research"** organized by Rayat Shikshan Sanstha's Karmaveer Bhaurao Patil Mahavidyalaya, Pandharpur in collaboration with Teaching Learning Centre, Ramanujan College, University of Delhi under the aegis of MHRD-PMMMNMTT **w.e.f. 10.05.2021-18.05.2021.**
9. Attended one-week online Faculty Development Programme on "**Meaningful Research and Intellectual Property Rights"** organized by Rijkiya Engineering College, Kannauj, Uttar Pradesh and Satyawati College (M), University of Delhi in collaboration with Teaching Learning Centre, Ramanujan College, University of Delhi under the aegis of PMMMNMTT, Ministry of Education, Government of India w.e.f. **18-10-2021 to 24-10-2021.**
10. Attended one-week online Faculty Development Programme on Teaching Learning Methods: From Micro-Teaching to Peer Learning organized by Teaching Learning Centre, Ramanujan College, University of Delhi under the aegis of PMMMNMTT, Ministry of Education, Government of India w.e.f. **31-01-2022 to 06-02-2022.**
11. Attended two-week online Interdisciplinary Refresher Course on "**Advanced Research Methodology"** organized by Teaching Learning Centre, Ramanujan College, University of Delhi under the aegis of Pandit Madan Mohan Malaviya National Mission on Teachers and Training (PMMMNMTT), Ministry of Education, Government of India w.e.f. **22-11-2022 to 06-12-2022.**
12. Participated in two-day International Conference **on Communication and Dissemination of Traditional Knowledge (CDTK-2023**) and National Workshop on **Role of Taxonomical Identification & Authentication of Plants & Crude Drugs in Traditional Medicine & Research** organized by CSIR-National Institute of Science Communication and Policy Research (NIScPR) New Delhi **w.e.f. 14-15 February, 2023.**

13. Attended seven days National Level Faculty Development Programme on "**NAAC Institutional Accreditation"** organized by IOT Academy, Coimbatore Tamil Nadu, India w.e.f. **02-01-2024 to 10-01-2024.**
14. Attended seven days National Level Faculty Development Programme on "**Innovative Teaching and Learning in HEI's"** organized by IOT Academy, Coimbatore Tamil Nadu, India w.e.f. **19-02-2024 to 27-02-2024.**
15. As organizing secretary organized one day symposium on Plant Wealth of Jammu and Kashmir on **25th April, 2024** at Department of Botany, Govt. Degree College Tral, Pulwama.
16. Participated in one day national level FDP on "*ICT Tools for Advanced Teaching Learning"* organized by IOT Academy, Coimbatore Tamilnadu, India on **25th June**, 2024.
17. Attended One Day National Level FDP on *"How to Write an Effective Ph.D. Thesis"* organized by IOT Academy, Coimbatore, Tamil Nadu on **30th August, 2024.**

WORKSHOPS/SYMPOSIA/SEMINARS/CONFERENCES ATTENDED

1. Attended two-day workshop for *"**College Principals and Senior Academicians"*** in Educational Administration organized by UGC Academic Staff College, University of Kashmir, Srinagar from **22nd -23rd March, 2010.**
2. Participated and presented a paper (poster) in National Seminar on *"**Recent Advances in Plant Biotechnology: Prospectus and Potentials"*** organized by the Department of Botany, Aligarh Muslim University, Aligarh on **February 19-20, 2011.**
3. Participated in ***"Two-day Awareness Programme for the Functionaries of Higher Education including Physically Challenged Students"*** organized by Govt. Degree College (Boys) Anantnag from **18th to 19th March, 2011.**
4. Participated in one day *"**National Seminar on Advances in Biosciences"*** organized by Govt. Amar Singh College, Srinagar on **12th June, 2012.**
5. Participated and presented a paper (poster) in *"**8th Science Congress"*** Organized by University of Kashmir, Srinagar from **17th -19th September, 2012.**
6. Participated in Two day *"**National conference on Tourism and Socio-Economic Complexion of North- Western India with Special Emphasis on Jammu and Kashmir"*** organized by Govt. Degree College (Boys) Anantnag **from 5-6 March, 2013.**
7. Participated in one day *"**NME-ICT Awareness Workshop"*** organized by NIT Srinagar and sponsored by MHRD, Govt. of India on **June 18th 2013.**
8. Participated and presented a paper (poster) in the *"**9th JK Science Congress"*** held at University of Kashmir, Srinagar from **October 1-3, 2013.**

9. Attended a training workshop on *"**Disaster Preparedness for Risk Reduction"*** organized by Jammu and Kashmir student's welfare society, Anantnag in collaboration with NSS, Govt. Degree College (Boys) Anantnag from **22-24 November, 2014.**
10. Participated and presented a paper in *"**Two days National Inter-disciplinary Conference Science for Sustainable Development"*** held at S. P. College, Srinagar with effect from **February 25-26, 2017.**
11. Participated in three-day regional workshop on ***"Research Based Pedagogical Tools"*** held at Department of Biotechnology, University of Kashmir, Srinagar from **July 3-5, 2017** and organized by Centre of Excellence in Science and Mathematics Education, Indian Institute of Science Education and Research (IISER), Pune.
12. Participated in two-day workshop on ***"Advances in Cell and Molecular Biology"*** held at Department of Biochemistry and Biotechnology, Women's College, M. A. Road, Srinagar (Cluster University) w.e.f. **September 27-28, 2017.**
13. Participated and presented a paper entitled ***"Gravitropism vs. microgravity in relation to plant growth and development"*** in three day *"**National Seminar/Workshop on Physics in 21st Century"*** **w.e.f. October 4-6, 2017** conducted by IQAC, AAAM Degree College, Bemina, Srinagar and sponsored by Cluster University, Srinagar through RUSA.
14. Participated and presented a paper entitled "**Global Warming and Changing Earth's Climate- a review"** in 3 day ***"National Workshop on Disaster Resilience of Kashmir in the Face of Climate Change"*** **w.e.f. November 13-15, 2017** organized by Department of Environmental Sciences, AAAM Degree College, Bemina, Srinagar (Cluster University, Srinagar).
15. Participated in one day workshop on ***"Scholarly Writing and Plagiarism"*** jointly held by Allama Iqbal Library, University of Kashmir and Springer Nature at University of Kashmir, Srinagar on **14th December, 2017.**
16. Participated in two-day national workshop on ***"Teaching, Learning and Evaluation in Higher Education: Emerging Trends"*** held at Govt. Amar Singh College, Srinagar w.e.f. **December 20-21, 2017.**
17. Participated in one-week interdisciplinary state level workshop on **"Relevance of Information Technology in Teaching Learning Process"** jointly organized by Department of Zoology and Information Technology, Islamia College for Science and Commerce, Srinagar w.e.f. **20th-26th March, 2018.**
18. Participated in "**13th Session of J& K Science Congress"** Organized by University of Kashmir, Srinagar in collaboration with J&K State Science Technology and Innovation Council w.e.f. **2-4 April, 2018.**

19. Participated and presented a paper entitled "**Studies on pathogenicity of different inoculums levels of *Meloidogyne incognita* and *Rhizoctonia so*lani on mungbean (*Vigna radiata* (L.) Wilczek)"** in I[st] International Conference on Recent Developments in Science, Humanities and Managementheld at Govt. Amar Singh College, Srinagar w.e.f. **17-18 April, 2018.**
20. Participated in one day "**NPTEL Awareness Workshop"** conducted by IIT Kanpur organized at AAAM Degree College, Bemina, Srinagar on **01-12-2018**.
21. Participated in two-day international webinar on "**Redrawing the Domestic Paradigm: Family Bonding, Gender Concerns, and Health Issues Amidst Covid-19"** organized by Post Graduate Govt. College, Sec. 11, Chandigarh w.e.f. **17-18 July, 2020.**
22. Participated in the national seminar on **"Transition from School to Higher Education in the context of National Education Policy- 2020"** organized by Centre for Academic Leadership and Education Management (CALEM), Punjab University, Chandigarh under the Aegis of PMMMNMTT, MHRD, Govt. of India in collaboration with Institute of Educational Technology and Vocational Education & SWAYAM Cell, Punjab University, Chandigarh **w.e.f. 21-09-2020 to 22-09-2020.**
23. Participated in the national web conference on "**Sustaining Pulse Production for Self Sufficiency and Nutritional Securit**y" organized by Indian Society of Pulses Research and Development in collaboration with Indian Council of Agricultural Research (ICAR), New Delhi on **February 9-11, 2021.**
24. Participated in two-day national seminar on **"Inclusive, Innovative and Sustainable Future of Education- NEP 2020"** organized jointly by IQAC's of Ramnarain Ruia Autonomous College, Mumbai and the University of Mumbai w.e.f. **24-05-2021 to 25-05-2021.**

LIFE MEMBERSHIP OF SCIENTIFIC SOCIETIES

1. Life Member of ***Indian Society of Pulses Research and Development,*** Indian Institute of Pulses Research, Kanpur, India.
2. Life Member of ***Indian Society of Genetics and Plant Breeding***, Indian Agricultural Research Institute (IARI), New Delhi.
3. Life Member of ***Indian Botanical Society,*** India.
4. Member of ***Asian Council of Science Editors***, **Membership No: 91.25615** valid up to 31[st] December, 2021.

(**Dr. Mohd. Rafiq Wani**)
Date: 16.11.2024