

## Resume

**Dr. Gyanendra Kumar Rai, D.Phil**

**Associate Professor**

Sher-E-Kashmir University of Agricultural Sciences and Technology-Jammu,

Chattha, Jammu 180 009, Jammu and Kashmir, INDIA

E-MAIL: gkrai75@gmail.com

**Research Interests:** Abiotic stress tolerance mechanism via proteomics, transcriptomics and metabolomics approaches

### SUMMARY

**Gyanendra Kumar Rai** obtained M. Sc. and Ph.D. from University of Allahabad, Allahabad, UP, India. He is serving as Associate Professor Biochemistry at School of Biotechnology, Sher-e- Kashmir University of Agricultural Sciences and Technology of Jammu. His research areas include stress physiology, proteomics and molecular biology and nutritional physiology. He has published more than 80 research papers, 8 books 4 practical manuals and more than 60 popular article. He has also and contributed more than 15 book chapters in several books, bulletins and manuals in the areas of nutrition, stress physiology and biotechnology. He has also guided 8 M.Sc. and 2 Ph.D. students as major advisor and more than 15 M.Sc. and 10 Ph.D. students as Co-Advisor. Dr. Rai has edited many compendium and practical manual of various training programme. Dr. Rai has organized more than 5 Faculty Training for the Teaching faculty and Scientist from ICAR institutes and SAUs. He has experience of handling externally funded projects funded by various agencies viz., DST, DBT and ICAR etc. Dr. Rai has been honored with various prestigious awards. He is Fellow of Society of Applied Biotechnology (SAB) and member of Editorial board of several research journals.

### EDUCATION

- M.Sc.
- D.Phil

### PROJECTS/GRANTS

S.No.	Title	Funding agency	Budget (Lakhs)
1.	Erucic acid profiling and introgression of low erucic acid trait in desirable cultivars of <i>Brassica juncea</i> / Biotechnology Research and Development	DBT- New Delhi	35.93
2.	Assessment of impact of thermal stress on dairy animals of Jammu region and designing low-cost input managerial interventions for its amelioration	DST-New Delhi	61.18
3.	Fund for Improvement of S&T infrastructure	DST-New Delhi	50.00
4.	Establishment of Research and Development Centre of Basmati Rice at SKUAST-Jammu	NABARD	-

### **Best Ten Publications**

1. **Rai, Gyanendra K.**; Khanday, D.M.; Kumar, P.; Magotra, I.; Choudhary, S.M.; Kosser, R.; Kalunke, R.; Giordano, M.; Corrado, G.; Roupheal, Y.; et al., 2023. Enhancing Crop Resilience to Drought Stress through CRISPR-Cas9 Genome Editing. *Plants*, 12: 2306. <https://doi.org/10.3390/plants12122306>
2. **Rai, Gyanendra K.**; Kumar, P.; Choudhary, S.M.; Singh, H.; Adab, K.; Kosser, R.; Magotra, I.; Kumar, R.R.; Singh, M.; Sharma, R.; et al., 2023. Antioxidant Potential of Glutathione and Crosstalk with Phytohormones in Enhancing Abiotic Stress Tolerance in Crop Plants. *Plants*, 12, 1133. <https://doi.org/10.3390/plants12051133>
3. **Rai, Gyanendra K.**; Kumar, P.; Choudhary, S.M.; Kosser, R.; Khanday, D.M.; Choudhary, S.; Kumar, B.; Magotra, I.; Kumar, R.R.; Ram, C.; et al., 2023. Biomimetic Strategies for Developing Abiotic StressTolerant Tomato Cultivars: An Overview. *Plants*, 12, 86. <https://doi.org/10.3390/plants12010086>
4. Bagal Diksha, Chowdhary A. A., Mishra Sonal, Mehrotra Shakti, **Rai Gyanendra Kumar**, Gandhi Sumit G., Bhau Brijmohan Singh, El-Demerdash Amr, Srivastava Vikas (2023) Signal crosstalk of phytomelatonin during salinity stress tolerance in plants. *Plant Growth Regulation*, 1-18. <https://doi.org/10.1007/s10725-023-01011-2>
5. Kumar Ranjeet R., **Rai Gyanendra K.**, Kota Suneetha, Watts Archana, Sakhare Akshay, Kumar Sudhir, Goswami Suneha, Kapoor Neelesh, Babu Prashant, Mishra Gyan P., Kumar Soora Naresh, Chinnusamy Viswanathan and Praveen Shelly, 2022. Fascinating Dynamics of Silicon in alleviation of heat stress Induced oxidative damage in plants. *Plant Growth Regulation*, <https://doi.org/10.1007/s10725-022-00879-w>
6. **Gyanendra K. Rai**, Basharat A. Bhat, Muntazir Mushtaq, Lubna Tariq, Pradeep K. Rai, Umer Basu, Aejaz A. Dar, Sheikh T. Islam, Tanvir U. H. Dar, Javaid A. Bhat, 2021. Insights into decontamination of soils by phytoremediation: A detailed account on heavy metal toxicity and mitigation strategies. *Physiologia Plantarum*. 1-18. DOI: 10.1111/ppl.13433
7. **Rai Gyanendra Kumar**, Parveen Abida, Jamwal Gayatri, Basu U., Kumar, RR., Rai Pradeep K., Sharma Jag Paul, Alalawy Adel I., Al-Duais Mohammed A., Hossain Mohammad Anwar, Rahman Muhammad Habib ur, Raza Ali, Danish Subhan and Sakran Mohamed I., 2021. Leaf Proteome Response to Drought Stress and Antioxidant Potential in Tomato (*Solanum lycopersicum* L.). *Atmosphere*, 12: 1021. <https://doi.org/10.3390/atmos12081021>
8. Kumar, RR., Bhargava DV., Pandit Kangkan, Goswami S., Shankar M., Singh SP., **Rai Gyanendra K.**, Tarasatywati C., Praveen Shelly, 2021. Lipase - The Fascinating Dynamics of Enzyme in Seed Storage and Germination – A Real Challenge to Pearl Millet. *Food Chemistry*, <https://doi.org/10.1016/j.foodchem.2021.130031>
9. Kumar, R R., Dubey K., Goswami S., Hasija S., Pandey R., Singh P., Singh B., Sareen Sindhu., **Rai Gyanendra K.**, Singh G.P., Singh A.K. Chinnusamy C., Praveen S., 2020. Hetrologous expression and characterization of novael manganese superoxide dismutase (Mn-SOD) A-potential biochemical marker for heat stress- tolerance in wheat (*Triticum aestivum*). *International Journal of Biological Macromolecules* 161: 1029-1039.
10. Kumar Ranjeet R., Hasija Sumedha, Goswami Suneha, Mohd. Tasleem, Sakhare Akshay, Kumar Sudhir, Bakshi Suman, Jambhulkar Sanjay, **Rai Gyanendra K.**, Singh Bhupinder, Gyanendra P. Singh, Pathak Himanshu, Viswanathan Chinnusamy, Praveen Shelly, 2019. Gamma irradiation protect the developing wheat endosperm from oxidative damage by balancing the trade-off between the defence network and grains quality. *Ecotoxicology and Environmental Safety*, 174: 637-648.