JAWAHARLAL NEHRU UNIVERSITY

Faculty Profile Form

- Name : Dr. Charanpreet Kaur
- Designation : DST-INSPIRE Faculty
- Name of School /Centre : Stress Physiology and Molecular Biology Laboratory Room no. 413 School of Life Sciences
- E-mail : charanpreet06@gmail.com; charanpreet@mail.jnu.ac.in
- Qualifications : PhD, International Centre of Genetic Engineering and Biotechnology, New Delhi
  M.Sc (Biotechnology), IIT Roorkee
  B.Sc (Biochemistry), University of Delhi
- Areas of Interest/Specialisation : Plant-microbe interactions, Abiotic stress biology of plants

Academic Qualifications:

PhD, International Centre for Genetic Engineering and Biotechnology, New Delhi

M.Sc (Biotechnology), IIT Roorkee
B.Sc (Biochemistry), University of Delhi

Research Experience:

- DST INSPIRE Faculty, May 2015 – Present, Jawaharlal Nehru University, New Delhi
- Research Associate, July 2013 – April 2015, ICGEB, New Delhi

Received fellowships:

- Awarded Indo-Australian Career Boosting Gold Fellowship by DBT, Government of India (2017)
- Awarded Senior Research Fellowship (SRF) by DBT, Government of India (2010-2013)
- Awarded Junior Research Fellowship (JRF) by DBT, Government of India (2008-2010)
- Awarded Merit-cum-Means Scholarship for academic excellence during MSc. (2006-2008)
- Received Summer Research Fellowship from Indian Academy of Sciences (IAS) Bangalore, for summer internship during M.Sc.

Awards & Honours:

- Awarded INSA medal for Young Scientist by Indian National Science Academy (2018)
- Young Scientist Award by Indian Society of Plant Physiology (2015)
- DST-INSPIRE Faculty Award by DST, Government of India (2014)
- International Travel Grant by DBT, Government of India (Glyoxalase Centennial: University of Warwick, United Kingdom, 2013)
- Qualified CSIR Junior Research Fellowship (JRF) and National Eligibility Test (NET) examination (2008)

Details of participation in conferences/symposiums/seminar:

- Oral presentation titled "Digging deep: Manipulating plant rhizosphere for climate-smart agriculture" in 4th International Plant Physiology Congress Satellite Meeting-2018, Worldwide Universities Network, held from 7-8 December 2018 at ICGEB, New Delhi, India.
- Oral presentation titled "OsGLYI-8 is a nucleus-localized glyoxalase I required for methylglyoxal metabolism in rice" at 3rd International Plant Physiology Congress: Challenges and Strategies in Plant Biology Research held from 11-14 December 2015 at JNU, New Delhi, India.
- Poster presentation titled "Multiple stress inducible ETHE1-like protein from rice is highly expressed in roots and is regulated by calcium" at International Symposium on Rice Functional Genomics (11th ISRFG 2013) held from 20-23 November 2013 at New Delhi, India.
- Poster presentation titled "Tracing the evolution of glyoxalase I to horizontal gene-transfer and gene-fusion events" at the conference on Glyoxalase Centennial: 100 Years of Glyoxalase Research and Emergence of Dicarbonyl Stress held from 27-29 November 2013 at University of Warwick, United Kingdom

Peer-reviewed journals

1. Lakra N, **Kaur C**, Singla-Pareek SL, Pareek A (2019). Mapping the 'early salinity response' triggered proteome adaptation in contrasting rice genotypes using iTRAQ approach. **Rice**. 12:3.
2. Kumar R, Subba A, **Kaur C**, Ariyadasa T, Sharan A, Pareek A, Sopory SK, Singla-Pareek SL (2018). OsCBSCBSPB4 is a two Cystathionine-β-Synthase Domain-containing protein from rice that functions in abiotic stress tolerance. **Curr. Genomics** 19: 50-59.
3. **Kaur C**, Tripathi AK, Nutan KK, Sharma S, Ghosh A, Tripathi JK, Pareek A, Singla-Pareek SL, Sopory SK (2017). A nuclear-localized rice glyoxalase I enzyme, OsGLYI-8 functions in the detoxification of methylglyoxal in the nucleus. **Plant J.** 89: 565-576.
4. Lakra N, **Kaur C**, Anwar K, Singla-Pareek SL, Pareek A (2017). Proteomics of contrasting rice genotypes: Identification of potential targets for raising crops for saline environment. **Plant Cell Environ.** DOI: 10.1111/pce.12946.

5. **Kaur C***, Sharma S, Hasan MR, Pareek A, Singla-Pareek SL, Sopory SK (2017). Characteristic variations and similarities in biochemical, molecular and functional properties of glyoxalases across prokaryotes and eukaryotes. **Int. J. Mol. Sci.** 18: 250 ***Corresponding author**.
6. Kumar R, Subba A, **Kaur C**, Ariyadasa T, Sharan A, Pareek A, Sopory SK, Singla-Pareek SL (2017). OsCBSCBSPB4 is a two Cystathionine-β-Synthase Domain-containing protein from rice that functions in abiotic stress tolerance. **Curr. Genomics** DOI: 10.2174/1389202918666170228141706
7. **Kaur C***, Sharma S, Singla-Pareek SL, Sopory SK (2016) Methylglyoxal detoxification in plants: Role of glyoxalase pathway. **Ind. J. Plant Physiol.** 21: 377-390. ***Corresponding author**.
8. Sharma S, **Kaur C**, Singla-Pareek SL, Sopory SK (2016) OsSRO1a Interacts with RNA Binding Domain-containing Protein (OsRBD1) and functions in abiotic stress tolerance in yeast. **Front Plant Sci.** 7:62.
9. **Kaur C**, Kushwaha HR, Pareek A, Sopory SK, Singla-Pareek SL (2015) Analysis of global gene expression profiles of rice in response to methylglyoxal indicates its possible role as a stress signal molecule. **Front. Plant Sci.** 6:682.
10. **Kaur C**, Kumar G, Kaur S, Ansari MW, Pareek A, Sopory SK, Singla-Pareek SL (2015) Molecular cloning and characterization of *Salt Overly Sensitive* gene promoter from *Brassica juncea* (*BjSOS2*). **Mol. Biol. Rep.** 42: 1139-1148.
11. **Kaur C**, Mustafiz A, Sarkar A, Ariyadasa TU, Singla-Pareek SL, Sopory SK (2014) Expression of abiotic stress inducible ETHE1-like protein from rice is higher in roots and is regulated by calcium. **Physiol. Plant**. 152:1-16.
12. **Kaur C**, Ghosh A, Pareek A, Sopory SK, Singla-Pareek SL (2014) Glyoxalases and stress tolerance in plants. **Biochem. Soc. Trans**. 42:485-490.
13. **Kaur C**, Singla-Pareek SL, Sopory SK (2014) Glyoxalase and methylglyoxal as biomarkers for plant stress tolerance. **Crit. Rev. Plant Sci.** 33:429-456.
14. Mustafiz A, Ghosh A, Tripathi A, **Kaur C**, Ganguly A, Bhavesh N, Pareek A, Sopory SK, Singla-Pareek SL (2014). A unique Ni^{2+}-dependent and methylglyoxal-inducible rice glyoxalase I possesses a single active site and functions in abiotic stress response. **Plant J**. 78:951-963.
15. **Kaur C***, Singla-Pareek SL, Sopory SK (2014) Stress response of OsETHE1 is altered in response to light and dark conditions. **Plant Signal. Behav**. 9:11, e973820. ***Corresponding author.**
16. **Kaur C***, Vishnoi A, Ariyadasa TU, Bhattacharya A, Singla-Pareek SL, Sopory SK (2013) Episodes of horizontal gene transfer and gene fusion lead to co-existence of different metal-ion specific Glyoxalase I. **Sci. Rep**. 3:3076. ***Corresponding author**.

BOOK CHAPTERS

1. **Kaur C**, Sharma S, Singla-Pareek SL, Sopory SK 2015. *Methylglyoxal, Triose phosphate isomerase and Glyoxalase pathway: Implications in abiotic stress and signaling in plants.* In **Elucidation of Abiotic Stress Signaling in Plants: A Functional Genomic Perspective.** Pandey GK (Ed.) Springer New York. Pp 347-366. (ISBN: 978-1-4939-2539-1). ***Corresponding author**.
2. Hasan MR, Ghosh A, **Kaur C**, Pareek A, Singla-Pareek SL 2016. *Glyoxalase Pathway and Drought Stress Tolerance in Plants*. In: **Drought Stress Tolerance in Plants**. Hossain MA, Wani SH, Bhattacharjee S, Burritt DJ, Tran LSP (Eds.) Springer Switzerland Pp 379-399. (ISBN: 978-3-319-28897-0).
3. Kaur C, Singla-Pareek SL, Sopory SK 2017. *Glyoxalase Pathway: Characterization and Manipulation towards Developing Plant Stress Tolerance*. In: **Agriculture under Climate Change: Threats, Strategies and Policies**. Belavadi VV, Nataraja Karaba N, Gangadharappa NR (Eds.) *1*, p.118. (ISBN: 9385926373, 9789385926372).

Best Peer Reviewed Publications (upto 5):

- **Kaur C**, Tripathi AK, Nutan KK, Sharma S, Ghosh A, Tripathi JK, Pareek A, Singla-Pareek SL, Sopory SK (2017). A nuclear-localized rice glyoxalase I enzyme, OsGLYI-8 functions in the detoxification of methylglyoxal in the nucleus. **Plant J.** 89: 565-576.
- Lakra N, **Kaur C**, Anwar K, Singla-Pareek SL, Pareek A (2017). Proteomics of contrasting rice genotypes: Identification of potential targets for raising crops for saline environment. **Plant Cell Environ.** DOI: 10.1111/pce.12946.
- Mustafiz A, Ghosh A, Tripathi A, **Kaur C**, Ganguly A, Bhavesh N, Pareek A, Sopory SK, Singla-Pareek SL (2014). A unique Ni^{2+}-dependent and methylglyoxal-inducible rice glyoxalase I possesses a single active site and functions in abiotic stress response. **Plant J**. 78:951-963.
- **Kaur C**, Singla-Pareek SL, Sopory SK (2014) Glyoxalase and methylglyoxal as biomarkers for plant stress tolerance. **Crit. Rev. Plant Sci**. 33:429-456.
- **Kaur C***, Vishnoi A, Ariyadasa TU, Bhattacharya A, Singla-Pareek SL, Sopory SK (2013) Episodes of horizontal gene transfer and gene fusion lead to co-existence of different metal-ion specific Glyoxalase I. **Sci. Rep**. 3:3076. ***Corresponding author**.