Mohan Sharma, PhD

Post-doctoral Fellow,
Prof. Thomas Laux Lab
Institute of Biology III,
Albert-Ludwigs-Universität Freiburg,
Schänzlestraße 1. 79104 Freiburg, Germany
+49 1517 5400253.
sharma.mohan642@gmail.com.
mohan.sharma@biologie.uni-freiburg.de

Ph.D. thesis To study the interaction of glucose and temperature stress signaling using *Arabidopsis thaliana* as a model system.

- Evaluation of the physiological effects of temperature stress on Arabidopsis seedlings under different energy status.
- Investigation of glucose-temperature stress interaction by whole genome transcript profiling.
- Functional characterization of glucose and temperature responsive gene encoding *HIKESHI-LIKE PROTEIN1 (HLP1)* in Arabidopsis seedlings in order to define the nodal point of interaction between glucose and temperature signaling pathway.

Higher Education

Academic qualifications (beginning with the Bachelor's Degree in a tabular form)

Degree	University/Institution	Year	Subjects	Result/Division	Percentage
BSc	Dr. B.R. Ambedkar University, Agra (UP)	2008-2011	Botany, Chemistry, Industrial Microbiology	Pass/First	67%
MSc	HNB Garhwal University, Srinagar, Garhwal, Uttarakhnad	2011-2013	Biotechnology	Pass/First	79.8%
PhD	Jawahar Lal Nehru University/ National Institute of Plant Genome Research, New Delhi	2013-2020	Plant Physiology and Plant Molecular Biology	Pass/ Awarded	NA

Details of employment and nature of duties

Details of Employment	University/Institution	Year	nature of duties
Senior Research Fellow	National Institute of Plant Genome Research, New Delhi, India	August 2020-September 2021	Laboratory research
Post-doctoral Fellow	Institute of Biology III, Albert-Ludwigs-Universität Freiburg, Freiburg, Germany	October 2021-Present	Laboratory research

Awards/Fellowships/Scholarships/Distinctions

- 2020 International travel award from Government agencies such as DST, DBT, CCSTDS and CSIR (covering to and fro economy class airfare, airport tax, visa Fee, registration fee and accommodation) to participate in Plant Hormones & Other Growth Regulators and Plant Abiotic Stress Tolerance VI (February 17-22, 2020, Vienna, Austria).
- Qualified Agriculture Scientist Recruitment Board-National Eligibility Test-2014 for the award of Lecturership/Assistant Professorship in the discipline of Agriculture Biotechnology.
- Qualified Department of Biotechnology-Junior Research Fellowship (JRF), 2013 for the award of JRF in Biotechnology.
- Qualified prestigious JNU-Department of Biotechnology (DBT) Combined Biotechnology Entrance Examination 2011.
- Qualified Indian Council of Agricultural Research (ICAR) Postgraduate Entrance Exam 2011 in Plant Biotechnology.

Research articles

1. Agrawal R*, **Sharma Mohan***, Dwivedi N, Maji S, Thakur P, Junaid A, Fajkus J, Laxmi A, Thakur JK (2022). Mediator subunit MED17 facilitates crosstalk between MYC2 and PIF4 to regulate thermomorphogenesis. ***Plant Physiology*** (Accepted; In Press). Impact Factor: **8.340**. (*equal first authors).
2. Jamsheer K M*, Jindal S*, **Sharma Mohan**@, Prakhar Awasthi@ Sivaj S@, Sharma M, Sivaj S, Mannully C, Laxmi A (2022). 'A negative feedback loop of the TOR signaling balances growth and stress-response trade-offs in plants. ***Cell Reports***. Impact Factor: **9.423**. (*equal first authors; @equal second authors).
3. Sharma M*, **Sharma Mohan*,** Jamsheer K M, Ashverya Laxmi (2022). Jasmonic Acid coordinates with Light, Glucose and Auxin signalling in Regulating Branching Angle of Arabidopsis Lateral Roots. ***Plant, Cell & Environment.*** Impact Factor: **7.228**. (*equal first authors).
4. **Sharma Mohan,** Jamsheer K M, Shukla BN, Sharma M, Awasthi P, Mahtha SK, Yadav G, Laxmi (2021)**.** Arabidopsis Target of Rapamycin Coordinates With Transcriptional and Epigenetic Machinery to Regulate Thermotolerance. ***Frontiers in Plant Sciences*****.** ***12:741965*****.** Impact Factor: **5.753**.
5. **Sharma Mohan**, Banday ZZ, Shukla BN, Laxmi A (2019). Glucose-Regulated HLP1 Acts as a Key Molecule in Governing Thermomemory. ***Plant Physiology*****. 180(2):1081-1100.** Impact Factor: **8.340**.
6. Jamsheer K M, Singh D, **Sharma Mohan**, Sharma M, Jindal S, Mannully CT, Shukla BN, Laxmi A (2019). The FCS-LIKE ZINC FINGER 6 and 10 are involved in regulating osmotic stress responses in Arabidopsis. ***Plant Signaling & Behaviour***. 14(6):1592535. Impact Factor: **2.247**.

Review articles

1. Mishra BS*, **Sharma Mohan*,** Laxmi A (2021). Role of Sugar and Auxin Crosstalk in Plant Growth and Development. ***Physiologia Plantarum*****.** 174(1): e13546. Impact Factor: **4.500**. (*equal first authors).

2. Sharma M*, Singh D*, Saksena HB*, **Sharma Mohan*,** Tiwari A, Awasthi P, Botta HK, Shukla BN, Laxmi A (2021). Understanding the Intricate Web of Phytohormone Signalling in Modulating Root System Architecture. ***International Journal of Molecular Sciences*****.** 22(11):5508. Impact Factor: **5.924**. (*equal first authors).

Book Chapters

1. **Sharma Mohan***, Jamsheer KM*, Saksena HB@, Jindal S@, Sharma M@, Singh D@, Tiwari A@, Awasthi P@ and Laxmi A (2020) Balancing growth and defence: role of Target Of Rapamycin and SNF1-Related protein kinase 1 in stress signalling in plants. In: Protein Kinases and Stress Signaling in Plants: Functional Genomic Perspective, eds: Pandey GK, ***Wiley***, (*equal first authors; @equal second authors); https://doi.org/10.1002/9781119541578.ch5
2. Jamsheer KM*, Jindal S*, **Sharma Mohan@**, Sharma M@, Singh D@, Tiwari A@, Saksena HB@, Mishra B@, Kushwah S@, Banday ZZ@ and Laxmi A (2019) Plant sensory perception and responses: A tale of sugars and hormones. In: Sensory Biology of Plants, eds: SK Sopory, Publisher ***Springer***, (*equal first authors; @equal second authors); https://doi.org/10.1007/978-981-13-8922-1
3. Saksena HB*, Singh D*, Sharma M*, Jamsheer KM@, Jindal S@, **Sharma Mohan@**, Tiwari A@, Awasthi P@ and Laxmi A (2020) Protein phosphatases at the interface of sugar and hormone signaling pathways to balance growth and stress responses in plants, In: Protein Phosphatases and Stress Management in Plants: Functional Genomic Perspective eds: Pandey GK, ***Springer***, (*equal first authors; @equal second authors); https://doi.org/10.1007/978-3-030-48733-1_7

Abstracts in Conferences/Symposia/Seminars

1. **Sharma M*,** Banday ZZ, Shukla BN, Laxmi A (2018) Glucose regulated Arabidopsis HLP1 acts as a key molecule in governing thermotolerance. In 4th International Plant Physiology Congress (IPPC-2018), December 2-5, 2018, Indira Gandhi Pratishthan, Lucknow, India (*Presenting author)
2. **Sharma M,** Shukla BN, Banday ZZ, Laxmi A* (2018) Glucose regulated Arabidopsis HLP1 acts as a key molecule in governing thermotolerance (Plant heat stress response: an adaptive mechanism for survival). In: India International science festival, October 5-8, 2018, Indira Gandhi Pratishthan, Lucknow, India (*Presenting author)
3. **Sharma M*,** Shukla BN, Banday ZZ, Laxmi A (2017) Glucose-Auxin responsive gene GAX2: a nodal point of glucose-heat stress crosstalk. In: International symposium on Insight to Plant Biology in the modern era, February 8-10, 2017, Division of Plant Biology, Bose Institute, Kolkata, India (*Presenting author)
4. **Sharma M*,** Shukla BN, Laxmi A (2016) Glucose Auxin responsive gene GAX2 mediates thermotolerance in model plant system *Arabidopsis thaliana*. In: Arabidopsis 2016, emerging challenges in Plant Biology, March 20-22, 2016, Indian Institute of science, education and research (IISER), Mohali, India (*Presenting author)
5. **Sharma M*,** Shukla BN, Laxmi A (2015) Role of Glucose Auxin responsive gene GAX2 towards thermotolerance in model plant system *Arabidopsis thaliana*. In: International Plant Physiology Congress on challenges and strategies in Plant Biology,

December 11-14, 2015, Jawaharlal Nehru University, New Delhi, India (*Presenting author)

Oral Presentation

1. **Sharma M*,** Shukla BN, Sharma M, Jamsheer KM, Awasthi P, Yadav G and Laxmi A (2020) Glucose-TOR Signaling Controls Thermotolerance/Thermomemory. In VISCEA-Plant Abiotic Stress Tolerance VI: February 21-22, 2020, Vienna, Austria (*Presenting author)
2. **Sharma M,** Banday ZZ, Shukla BN, Laxmi A* (2018) Glucose-regulated Arabidopsis HLP1 acts as a key molecule in governing thermomemory. In: EMBO Workshop, Target of rapamycin (TOR) signaling in photosynthetic organisms, May 15-19, 2018, Bischoffsheim, France (*Presenting author).
3. **Sharma M,** Banday ZZ, Shukla BN, Laxmi A* (2017) Glucose-regulated Arabidopsis HLP1 acts as a key molecule in governing thermotolerance. In: International Conference on Plant Developmental Biology & 3rd National Arabidopsis Meeting, December 12–16, 2017, NISER, Odisha, India (*Presenting author).

Participation in Conferences

1. International Conference on Plant Developmental Biology & 3rd National Arabidopsis Meeting, December 12–16, 2017, NISER, Odisha, India
2. 8th Annual Meeting of Proteomics Society, India — 3rd Meeting of Asia Oceania Agricultural Proteomics Organization and International Conference on Functional & Interaction Proteomics: Application in Food & Health, December, 14-17, 2016, New Delhi, India
3. International symposium on Plant Signaling & Behaviour, March, 7-10, 2014, Department of Botany, University of Delhi, New Delhi, India

Mentored M. Sc. and M. Tech students (dissertation/summer training) for partial fulfillment for the award of the degree.

- **Shalini Gupta, M.Sc. Biotechnology**, **Banasthali University**, Jaipur for six months dissertation in the project entitled ""Functional characterization of a Glucose and Auxin Regulated gene encoding for a protein of unknown function in model plant system *Arabidopsis thaliana*".
- **Sai Prashanti Mohan, M.Sc. Biotechnology**, **Amity University**, Gurugram for six months dissertation in the project entitled ""Functional characterization of a sugar and heat inducible DUF domain containing gene in model plant system *Arabidopsis thaliana*".
- **Jyoti Prasad Kakati**, **M. Tech Biotechnology**, **IIT** Guwahati for two months summer research fellowship, selected through Indian Academy of Science (IAS) in the project entitled "To study the role of Glucose induced GRG1 in response to heat stress in *Arabidopsis thaliana".*
- **Roshan Samuel, M. Sc. Cellular and Molecular oncology, Amity University,** Noida for three months summer training in the project entitled "Molecular Cloning of TOR Interacting Protein Genes into Protein expression vectors for interaction Studies".

Professional referees

Dr. Ashverya Laxmi, (Ph.D. supervisor)
Staff Scientist-V, National Institute of Plant Genome and Research (NIPGR), New Delhi-110067, India. +91-9891782198 ashverya_laxmi@nipgr.ac.in
Dr. Naveen Chandra Bisht
Staff Scientist-V, National Institute of Plant Genome and Research (NIPGR), New Delhi-110067, India. 91-11-26735183 ncbisht@nipgr.ac.in
Dr. Manoj Majee
Staff Scientist-V, National Institute of Plant Genome and Research (NIPGR), New Delhi-110067, India. 91-11-26735193 manojmajee@nipgr.ac.in