Transcriptional regulation of effector-triggered immunity (ETI) in plants: from tissue to cells

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Curriculum Vitae

Himanshu Chhillar (born 5 March 1997, Haryana, India) obtained his BSc in Life Sciences from the University of Delhi (2014–2017) and his MSc in Botany from Jamia Hamdard University, New Delhi (2017–2019). In 2022, he began his doctoral research under the supervision of Dr. Pingtao Ding at the Institute of Biology Leiden (IBL), Faculty of Science, Leiden University, the Netherlands, where he focused on understanding how plants coordinate immune responses at the transcriptional and cellular level. During his PhD, he investigated effector-triggered immunity (ETI) using an inducible immune activation system, enabling him to dissect ETI-specific transcriptional programs independent of pathogen variability. His work provided mechanistic insights into how ETI reshapes the plant immune transcriptome in a cell- types specific manner, identifying key components involved in pathogen restriction. He further demonstrated that plants with a compromised immune system can still be primed to mount effective resistance against pathogens. Collectively, these findings contribute to a deeper understanding of how plants mount an optimum immune response without any trade-offs and have potential implications for improving crop resistance and food security. Himanshu's work has resulted in several peer-reviewed publications and preprints, which have collectively received over 1,000 citations to date, as well as invited presentations at international meetings, including the Utrecht Plant Immunity Minisymposium (Netherlands) and the ZMBP Plant Innate Immunity Symposium (Germany). His work was recognized with the EPSO Young Plant Scientist Award (2025). In addition to his research, he has supervised four MSc and two HBO students, supporting them through structured project development, regular feedback, and presentation training, while fostering an inclusive and collaborative learning environment. He has also contributed to advanced MSc courses at the IBL, including Innate Immune Systems and Advanced Molecular Genetics and Biotechnology. He is currently continuing this line of research as a postdoctoral researcher under the supervision of Dr. Pingtao Ding at the IBL, with the aim of translating fundamental insights into strategies for enhancing crop disease resistance.