

Faculty CV

Name

Rahul Kumar

Designation

Professor

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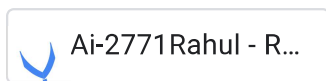
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Profile photo (1 photo upto 10 MB)



Links of Personal webpage/Google scholar/LinkedIn etc.

https://scholar.google.com/citations?user=zXV_U1wAAAAJ&hl=en/<https://www.linkedin.com/in/rahul-kumar-21383464/>

Broad areas of research (only keywords)

Plant Molecular Biology, Plant Nutrition,

Professional Experience

Research Associate III (DBT Project) 2011-2013, DPMB, University of Delhi, Delhi, India Research
DST-INSPIRE Faculty 2013-2016, Department of Plant Sciences, University of Hyderabad, Hyderabad,
Telangana, India Teaching and Research
BELSPO Postdoctoral Researcher 2014-2016, Plant System Biology-VIB, UGent, Belgium Research
Assistant Professor 2016 – Feb 2024
Department of Plant Sciences, University of Hyderabad, Hyderabad, Telangana, India Teaching and
Research
Professor Feb 2024-to date
Department of Plant Sciences, University of Hyderabad, Hyderabad, Telangana, India Teaching and
Research

Education/Training

B.Sc. (Hons.) 2003, ZHDC, University of Delhi, Delhi, India Botany
M.Sc. Botany 2005, Botany Department, University of Delhi, Delhi, India Botany
Ph.D. 2011, Dept. of Plant Molecular Biology, South Campus, University of Delhi, Delhi, India Plant
Molecular Biology and Biotechnology

Detailed research interests (Upto 2 paragraphs or 10 bullet points)

Selected publications (upto 5)

1. Roychowdhury, A., Kaushik D., Bhosale JB., Srivastava, R., Kumar R* (2024) SIMIPS2, a myo-inositol phosphate synthase gene, regulates phosphate homeostasis by influencing SIPHL1 and SISPX2 levels in tomato seedlings. *Journal of Experimental Botany*. 10.1093/jxb/erae451
 2. Singh, N. R. R., Roychowdhury, A., Srivastava, R., Akash., Gayathri, A. G., Parida, A. P., Kumar, R.* (2023): Silencing of SISPX1 and SISPX2 promote growth and root mycorrhization in tomato (*Solanum lycopersicum* L.) seedlings. *Plant Science* 333: 111723.
<https://doi.org/10.1016/j.plantsci.2023.111723> (IF: 5.5)
 3. Gambhir, P., Raghuvanshi, U., Parida, A. P., Kujur, S., Sharma, S., Sopory, S. K., Kumar, R.,* Sharma A. K.* (2023): Elevated methylglyoxal levels inhibit tomato fruit ripening by preventing ethylene biosynthesis. *Plant Physiology* 192: 2161–2184.
<https://doi.org/10.1093/plphys/kiad142> (IF: 8)
 4. Gambhir, P., Singh, V., Raghuvanshi, U., Parida, A. P., Pareek., A. Roychowdhury A., Sopory, S. K., Kumar, R.,* Sharma, A. K.* (2023): A glutathione-independent DJ-1/Pfpl domain-containing tomato glyoxalaseIII2, SIGLYIII2, confers enhanced tolerance under salt and osmotic stresses. *Plant Cell Environment* 46:518–548.
<https://doi.org/10.1111/pce.14493> (IF: 7.9)
 5. Gambhir, P., Singh, V., Parida, A., Raghuvanshi, U., Kumar, R.,* Sharma, A. K.* (2022): Ethylene response factor ERF.D7 activates auxin response factor 2 paralogs to regulate tomato fruit ripening. *Plant Physiology* 190(4):2775–2796.
<https://doi.org/10.1093/plphys/kiac441> (IF: 8)
 6. Sravankumar, T., Akash., Naik, N., Kumar, R.* (2018): A ripening-induced SIGH3-2 gene regulates fruit ripening via adjusting auxin-ethylene levels in tomato (*Solanum lycopersicum* L.). *Plant Molecular Biology* 98: 455–469.
<https://doi.org/10.1007/s11103-018-0790-1> (IF: 5.3)
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Selected projects (upto 5)

1. Deciphering genetic mechanisms controlling internal Phosphorus-use-efficiency and plant fitness under phosphorus deprivation in tomato-loE-MHRD
2. Understanding genetic diversity of root system architecture and underlying regulatory mechanisms in response to low phosphate in tomato (CRG)
3. Engineering of auxin metabolism pathway genes for improving ripening traits in tomato (DBT)
4. Creation of a genetic resource of auxin mutants in tomato using CRISPR/Cas9 toolkit and characterization of the knockout lines for fruit ripening and phosphate starvation response (CSIR)
5. Development and pilot-scale production of a novel nano-fertilizer (n-DAP) and a nano-biopesticide (harpin-loaded chitosan) (DST)

Selected patents (a paragraph or upto 5 bullet points)

None

Current PhD scholars and broad research topics

1. Stuti Kujur, Role of auxin in tomato fruit ripening
2. Henjunaha Naorem Ronald Singh, Development of nano-DAP for improved plant growth and yield
3. Abhishek Roychowdhury, Deciphering the genetic regulation of P-use-efficiency mechanism in tomato
4. Aishwarya Mangalakkadan, ROS and Lipid remodelling mechanism during phosphate starvation
5. Mukesh Kumar, CRISPR/Cas9 mutant generation and characterization in tomato

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