




## Faculty Details proforma for DU Web-site

Title	Professor	First Name	Jitendra Paul	Last Name	Khurana	Photograph
Designation	Professor (Rtd); J.C. Bose National Fellow (SERB)					
Address	Department of Plant Molecular Biology University of Delhi South Campus New Delhi 1100021					
Phone No	Office					
	Residence					
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Email						
Web-Page	www.genomeindia.org					
Educational Qualifications						
Degree	Institution			Year		
Ph.D.	University of Delhi			1982		
M.Phil. / M.Tech.	-			-		
PG (M.Sc.)	Kurukshetra University			1975		
UG (B.Sc.)	University of Delhi			1973		
Any other qualification	-			-		
Career Profile						
<p>Scientist, University of Delhi (DST Unit); 1983-1985            Post-doctoral Fellow, SERC, Smithsonian Institution, Washington, D.C., USA; 1985-1986            Post-doctoral Fellow, MSU-DOE Plant Research Laboratory, Michigan State University, USA; 1986-1988            Associate Professor, University of Delhi; 1988-1996            Professor, University of Delhi, 1996 to 2019            Visiting Scientist to USDA, Beltsville, USA (one-month visits in 1996, 1998)            Visiting Professor, Waksman Institute, Rutgers University, USA; 2001 (June-August)            J.C. Bose National Fellow (DST/SERB), 2013-2018, 2018-2022</p>						
Administrative Assignments						
<p>Served as <b>Director</b>, University of Delhi South Campus, 2016-2019; <b>Pro-Vice-Chancellor</b> (Interim), University of Delhi, 2016-2019; <b>Dean of Colleges</b> (Interim), University of Delhi, 2018-2019.</p> <p>Served as Member of the Academic Council of the University of Delhi (1995-1998; 2001-2004; 2013-2016); Dean, Faculty of Interdisciplinary &amp; Applied Sciences (2014-2015); Chairman, Board of Research Studies, FIAS, UDSC (2003-2006; 2014-2015); Head of the Department (1995-1998; 2001-2004; 2014-2016); Coordinator (UGC-SAP, DRS; 2002-2007; 2007-2012; 2013-2018); Director, Interdisciplinary Centre for Plant Genomics (ICPG), University of Delhi (2009-2019); Served as President, Vice-President and member of the Executive Council of the Indian Photobiology Society; Vice-President (Science &amp; Society), Indian National Science Academy, New Delhi (Jan 2014-Dec 2014); General Secretary (Outstation), National Academy of Sciences, India (Jan 2010-Dec 2013); Council Member of Indian</p>						

Science Congress Association (ISCA), for the year 2014; Secretary, Plant Tissue Culture Association (India), from 2010-2016; Convener of the Local Chapter (Delhi) of INSA (2009-2015); Member, Science Academies Joint Science Education Panel (2010-2012). Served on several committees constituted by the University of Delhi, as member of selection committees, Governing body of different colleges, and assisting the University administration in various activities essential for day-to-day functioning; Member of various Academic Committees and Selection Committees of various universities in India; Chairman/member of various Advisory Committees or Task Forces of DST, SERB, DBT, BIRAC, ICAR, UGC, CSIR, IUSSTF; Member of the Editorial Board of a few Indian Journals; Reviewed articles for various International and National peer-reviewed journals of repute and also research proposals for various National and International funding agencies.

#### Areas of Interest / Specialization

Molecular Genetic Analysis of Photoperception and Signal Transduction Mechanisms in *Arabidopsis*, *Brassica*, Wheat and Rice; Structural and Functional Genomics in Plants.

#### Subjects Taught

Courses taught include light and hormonal control of plant development; Signal transduction mechanisms; Biological clocks; Genome structure, organization and regulation of gene expression; Plant Form and Function.

#### Research Guidance

*List against each head (If applicable)*

1. Supervision of awarded Doctoral Thesis: **30**
2. Supervision of Doctoral Thesis, under progress: **02**
3. Supervision of awarded M.Phil dissertations: **10**
4. Supervision of M.Phil dissertations, under progress: **nil**

#### Publications Profile

*List against each head (If applicable) (as Illustrated with examples)*

1. **Books/Monographs (Authored/Edited): None**
2. **Research papers published in Refereed/Peer Reviewed Journals**
  1. **KHURANA, J.P.** and MAHESHWARI, S.C. 1978. Induction of flowering in *Lemna paucicostata* by salicylic acid. *Plant Sci. Lett.* **12**: 127-131.
  2. **KHURANA, J.P.** and MAHESHWARI, S.C. 1980. Some effects of salicylic acid on growth and flowering in *Spirodela polyrrhiza* SP20. *Plant Cell Physiol.* **21**: 923-927.
  3. **KHURANA, J.P.** and MAHESHWARI, S.C. 1983. Floral induction in *Wolffia microscopica* by salicylic acid and related compounds under non-inductive long days. *Plant Cell Physiol.* **24**: 907-912.
  4. **KHURANA, J.P.** and MAHESHWARI, S.C. 1983. Promotion of flowering in *Lemna paucicostata* 6746 (a short-day duckweed) by cytokinins. *Plant Cell Physiol.* **24**: 913-918.
  5. **KHURANA, J.P.** and MAHESHWARI, S.C. 1983. Effects of 8-hydroxyquinoline on flowering and endogenous levels of iron and copper in *Lemna paucicostata*, strain LP6. *Plant Cell Physiol.* **24**: 1251-1254.
  6. **KHURANA, J.P.** and MAHESHWARI, S.C. 1984. Floral induction in short-day *Lemna paucicostata* 6746 by 8-hydroxyquinoline, under long days. *Plant Cell Physiol.* **25**: 77-83.
  7. **KHURANA, J.P.** and MAHESHWARI, S.C. 1986. Induction of flowering in the duckweed *Lemna paucicostata* 6746 under non-inductive photoperiods by tannic acid. *Physiol. Plantarum* **66**: 447-450.

8. **KHURANA, J.P.**, TAMOT, B.K. and MAHESHWARI, S.C. 1986. Induction of flowering in a duckweed, *Wolffia microscopica*, under non-inductive long days by 8-hydroxyquinoline. *Plant Cell Physiol.* **27**: 373-376.
9. **KHURANA, J.P.** and MAHESHWARI, S.C. 1986. A comparison of the effects of chelates, salicylic acid and benzoic acid on growth and flowering of *Spirodela polyrrhiza*. *Plant Cell Physiol.* **27**: 919-924.
10. **KHURANA, J.P.** and MAHESHWARI, S.C. 1986. Floral induction in a photoperiodically neutral duckweed, *Lemna paucicostata* strain LP6: Role of chelating agents and iron. *Plant Cell Physiol.* **27**: 1217-1224.
11. **KHURANA, J.P.** and MAHESHWARI, S.C. 1986. Floral induction in a photoperiodically neutral duckweed, *Lemna paucicostata* strain LP6. Interaction of iron, EDTA and cytokinins. *Biochem. Physiol. Pflanzen* **181**: 559-564.
12. TAMOT, B.K., **KHURANA, J.P.** and MAHESHWARI, S.C. 1987. Obligate requirement of salicylic acid for short-day induction of flowering in a new duckweed, *Wolffiella hyalina* 7378. *Plant Cell Physiol.* **28**: 349-353.
13. **KHURANA, J.P.**, TAMOT, B.K. and MAHESHWARI, S.C. 1987. Role of catecholamines in promotion of flowering in short-day duckweed, *Lemna paucicostata* 6746. *Plant Physiol.* **85**: 10-12.
14. **KHURANA, J.P.**, TAMOT, B.K. and MAHESHWARI, S.C. 1988. Effect of calcium chloride levels on salicylic acid induced flowering in *Lemna paucicostata* 6746. *Biochem. Physiol. Pflanzen* **183**: 515-520.
15. **KHURANA, J.P.**, TAMOT, B.K. and MAHESHWARI, S.C. 1988. Floral induction in photoperiodically-insensitive duckweed, *Lemna paucicostata* LP6: Role of glutamate, aspartate and other amino acids and amides. *Plant Physiol.* **86**: 904-907.
16. **KHURANA, J.P.**, TAMOT, B.K. and MAHESHWARI, S.C. 1988. Role of adenosine 3',5'-cyclic monophosphate in flowering of a short-day duckweed *Lemna paucicostata* 6746. *Plant Cell Physiol.* **29**: 1023-1028.
17. **KHURANA, J.P.** and POFF, K.L. 1989. Mutants of *Arabidopsis thaliana* with altered phototropism. *Planta* **178**: 400-406.
18. **KHURANA, J.P.**, BEST, T. and POFF, K.L. 1989. Influence of hook position on phototropic and gravitropic curvature by hypocotyls of *Arabidopsis thaliana*. *Plant Physiol.* **90**: 376-379.
19. **KHURANA, J.P.**, REN, Z., STEINITZ, B., PARKS, B., BEST, T. and POFF, K.L. 1989. Mutants of *Arabidopsis thaliana* with decreased amplitude phototropic response. *Plant Physiol.* **91**: 685-689.
20. GANGWANI, L., TAMOT, B.K., **KHURANA, J.P.** and MAHESHWARI, S.C. 1991. Identification of 3',5'-cyclic AMP in axenic cultures of *Lemna paucicostata* by high-performance liquid chromatography. *Biochem. Biophys. Res. Commun.* **178**: 1113-1119.
21. MALIK, M.K., SHARMA, V.K., **KHURANA, J.P.** and MAHESHWARI, S.C. 1992. Purification and immunological detection of phytochrome from wheat coleoptiles. *J. Plant Biochem. Biotech.* **1**: 27-31.
22. KONJEVIC, R., **KHURANA, J.P.** and POFF, K.L. 1992. Analysis of multiple photoreceptor pigments for phototropism in a mutant of *Arabidopsis thaliana*. *Photochem. Photobiol.* **55**: 789-792.
23. **KHURANA, J.P.** and CLELAND, C.F. 1992. Role of salicylic acid and benzoic acid in flowering of a photoperiod-insensitive strain, *Lemna paucicostata* LP6. *Plant Physiol.* **100**: 1541-1546.
24. MEHTA, M., MALIK, M.K., **KHURANA, J.P.** and MAHESHWARI, S.C. 1993. Phytochrome modulation of calcium fluxes in wheat protoplasts. *Plant Growth Regulation* **12**: 293-302.
25. **KHURANA J.P.** 1993. Genes directing light-regulated plant development in *Arabidopsis*. *Res. J. Pl. Environ.* **9**: 35-46.
26. GANGWANI, L., **KHURANA, J.P.** and MAHESHWARI, S.C. 1994. Cyclic nucleotide phosphodiesterase from *Lemna paucicostata*: Effect of calmodulin and theophylline. *Phytochemistry* **85**: 857-861.
27. BAWEJA, K., **KHURANA, J.P.** and GHARYAL-KHURANA, P. 1995. Light regulation of somatic embryogenesis in hypocotyls of *Albizia lebeck*. *Curr. Sci.* **68**: 544-546.
28. SHARMA, V.K., JAIN, P.K., MAHESHWARI, S.C. and **KHURANA, J.P.** 1995. Regulation of phosphorylation of wheat mitochondrial proteins by divalent cations. *J. Plant Biochem. Biotech.* **4**: 91-96.
29. BHATLA, S.C., KAPOOR, S. and **KHURANA, J.P.** 1996. Involvement of calcium in auxin-induced cell differentiation in the protonema of the wild strain and auxin mutants of the moss *Funaria hygrometrica*. *J. Plant Physiol.* **147**: 547-552.
30. GANGWANI, L., **KHURANA, J.P.** and MAHESHWARI, S.C. 1996. Inhibition of chloroplast protein phosphorylation by cAMP in *Lemna paucicostata* 6746. *Phytochemistry* **41**: 49-54.
31. **KHURANA, J.P.**, KOCHHAR, A. and JAIN, P.K. 1996. Genetic and molecular analysis of light-regulated plant development. *Genetica* **97**: 349-361.
32. KOCHHAR, A., **KHURANA, J.P.** and TYAGI, A.K. 1996. Isolation and sequencing of *Arabidopsis psbP* gene

- encoding 23 kDa polypeptide of oxygen-evolving complex and its expression in wild-type and a photomorphogenic mutant of *A. thaliana*. DNA Research 3: 277-285.
33. SHARMA, V.K., JAIN, P.K., MAHESHWARI, S.C. and **KHURANA, J.P.** 1997. Rapid blue- light-induced phosphorylation of plasma-membrane-associated proteins in wheat. Phytochemistry 44: 775-780.
  34. SHARMA, V.K., JAIN, P.K., MALIK, M.K., MAHESHWARI, S.C. and **KHURANA, J.P.** 1997. Light- and calcium-modulated phosphorylation of proteins from wheat seedlings. Phytochemistry 44: 781-786.
  35. SHARMA, V.K., MALIK, M.K., MAHESHWARI, S.C. and **KHURANA, J.P.** 1997. Light-induced changes in phosphorylation status of low molecular weight wheat nuclear proteins. J. Plant Biochem. Biotech. 6: 9-12.
  36. BHARTI, A.K. and **KHURANA, J.P.** 1997. Mutants of *Arabidopsis* as tools to understand the regulation of phenylpropanoid pathway and UV protection mechanisms. Photochem. Photobiol. 65: 765-776.
  37. KAPOOR, S., GANGWANI, L., **KHURANA, J.P.** and BHATLA, S.C. 1998. Biochemical analysis of caulonema-deficient mutants of the moss *Funaria hygrometrica*. J. Plant Physiol. 153: 113-117.
  38. **KHURANA, J.P.**, KOCHHAR, A. and TYAGI, A.K. 1998. Photosensory perception and signal transduction in higher plants: molecular genetic analysis. Crit. Rev. Plant Sci. 17: 465-539.
  39. JAIN, P., KOCHHAR, A., **KHURANA, J.P.** and TYAGI, A.K. 1998. Nucleotide sequence of *psbO* gene for 33kDa protein of oxygen-evolving complex and control of its expression. DNA Research 5: 221-228.
  40. MAHESHWARI, S.C., MAHESHWARI, N., **KHURANA, J.P.** and SOPORY, S.K. 1998. Engineering apomixis in crops: a challenge for plant molecular biologists in the next century. Curr. Sci. 75: 1141-1147.
  41. SHARMA, V.K., JAIN, P.K., MAHESHWARI, S.C. and **KHURANA, J.P.** 1999. Changes in phosphorylation status of wheat plastid polypeptides as influenced by light, calcium and cyclic AMP. J. Plant Biochem. Biotech. 8: 87-92.
  42. MAHESHWARI, S.C., **KHURANA, J.P.** and SOPORY, S.K. 1999. Novel light-activated protein kinases as key regulators of plant growth and development. J. Bioscience 24: 499-514.
  43. **KHURANA, J.P.** 2001. Cryptic blues: mechanism in sight! Curr. Sci. 80: 189-198.
  44. RAGHUVANSHI, S., KELKAR, A., **KHURANA, J.P.** and TYAGI, A.K. 2001. Isolation and molecular characterization of *COP1* gene homolog from rice, *Oryza sativa* L. subsp. *indica* var. Pusa Basmati 1. DNA Research 8: 73-79.
  45. GANDHI, R., MAHESHWARI, S.C., **KHURANA, J.P.** and KHURANA, P. 2001. Genetic and molecular analysis of *Arabidopsis thaliana* (ecotype Estland) transformed with *Agrobacterium*. In Vitro Cell. Develop. Biol.-Plant 37: 629-637.
  46. THAKUR, J.K., TYAGI, A.K. and **KHURANA, J.P.** 2001. *OsiAA1*, an *AUX/IAA* cDNA from rice, and changes in its expression as influenced by auxin and light. DNA Research 8: 193-203.
  47. MAHESHWARI, S.C., SOPORY, S.K., BHALLA-SARIN, N. and **KHURANA, J.P.** 2001. The molecular basis of morphogenesis in plants - the making of the *Arabidopsis* flower. Phytomorphology Golden Jubilee Issue, pp. 117-137.
  48. THAKUR, J.K., MALIK, M.R., BHATT, V., REDDY, M.K., SOPORY, S.K., TYAGI, A.K. and **KHURANA, J.P.** 2003. A *POLYCOMB* group gene of rice (*Oryza sativa* L. subsp. *indica*), *OsiEZ1*, codes for a nuclear localized protein expressed preferentially in young seedlings and during reproductive development. Gene 314: 1-13.
  49. **KHURANA, J.P.** 2003. Photobiology in the genomics and post-genomics era. Curr. Sci. 85: 709-711.
  50. BHARTI, A.K. and **KHURANA, J.P.** 2003. Molecular characterization of *transparent testa (tt)* mutants of *Arabidopsis thaliana* impaired in flavonoid biosynthetic pathway. Plant Science 165: 1321-1332.
  51. MAHALAKSHMI, S., **KHURANA, J.P.** and KHURANA, P. 2003. Rapid induction of somatic embryogenesis by 2, 4-D in leaf base cultures of wheat (*Triticum aestivum* L.). Plant Biotechnology (Japan), 20: 267-273.
  52. JAIN, M., TYAGI, S.B., THAKUR, J.K., TYAGI, A.K. and **KHURANA, J.P.** 2004. Molecular characterization of a light responsive gene from rice (*Oryza sativa* subsp. *indica*) encoding nuclear localized *breast basic conserved (OsiBBC1)* ribosomal protein1/L13. Biochim. Biophys. Acta 1676: 182-192.
  53. DHINGRA, A., **KHURANA, J.P.** and TYAGI, A.K. 2004. Involvement of G-proteins, calmodulin and tagetitoxin-sensitive RNA polymerase in light regulated expression of plastid genes (*psbA*, *psaA*, and *rbcl*) in rice (*Oryza sativa*). Plant Sci. 166: 163-168.
  54. SINGH, N.K., RAGHUVANSHI, R., SRIVASTAVA, S.K., GAUR, A., PAL, A.K., DALAL, V., SINGH, A., GHAZI, I.A., BHARGAV, A., YADAV, M., DIXIT, A., BATRA, K., GAIKWAD, K., SHARMA, T.R., MOHANTY, A., BHARTI, A., KAPUR, A., GUPTA, V., KUMAR, D., VIJ, S., MCCOMBIE, W.R., MESSING, J., WING, R., SASAKI, T., KHURANA, P., MOHAPATRA, T., **KHURANA, J.P.** and TYAGI, A.K. 2004. Sequence analysis of the long arm of rice chromosome 11 for rice-wheat synteny. Functional & Integrative Genomics 4: 102-117.

55. TYAGI, A.K., **KHURANA, J.P.**, KHURANA, P., RAGHUVANSHI, S., GAUR, A., KAPUR, A., GUPTA, V., KUMAR, D., RAVI, V., VIJ, S., KHURANA, P. and SHARMA, S. 2004. Structural and functional analysis of rice genome. *J. Genetics* **83**: 79-99.
56. LAXMI, A., PAUL, L.K., PETERS, J. and **KHURANA, J.P.** 2004. *Arabidopsis* constitutive photomorphogenic mutant, *bls1*, displays altered brassinosteroid response and sugar sensitivity. *Plant Mol. Biol.* **56**: 185-201.
57. **KHURANA, J.P.**, DASGUPTA, U., LAXMI, A., KUMAR, D. and PAUL, L.K. 2004. Light control of plant development by phytochromes – A perspective. *Proc. Ind. Nat. Sci. Acad.* **B70**: 379-411.
58. DASGUPTA, U., JAIN, M., TYAGI, A.K. and **KHURANA, J.P.** 2005. Regulatory elements for light-dependent and organ-specific expression of *Arabidopsis thaliana* *PSBO* gene encoding 33 kDa polypeptide of the oxygen-evolving complex. *Plant Science* **168**: 1633-1642.
59. MUELLER, L.A., TANKSLEY, S.D., GIOVANNONI, J.J., VAN ECK, J., STACK, S., CHOI, D., KIM, B.D., CHEN, M., CHENG, Z., LI, C., LING, H., XUE, Y., SEYMOUR, G., BISHOP, G., BRYAN, G., SHARMA, R., **KHURANA, J.**, TYAGI, A., CHATTOPADHYAY, D., SINGH, N.K., STIEKEMA, W., LINDHOUT, P., JESSE, T., LANKHORST, R.K., BOUZAYEN, M., SHIBATA, D., TABATA, S., GRANELL, A., BOTELLA, M., GIULIANO, G., FRUCIANTE, L., CAUSSE, M. and ZAMIR, D., 2005. The Tomato Sequencing Project, the first cornerstone of the International Solanaceae Project (SOL). *Comparative & Functional Genomics* **6**: 153-158.
60. KULSHRESHTHA, R., KUMAR, N., BALYAN, H.S., GUPTA, P.K., KHURANA, P., TYAGI, A.K. and **KHURANA, J.P.** 2005. Structural characterization, expression analysis and evolution of the red/far-red sensing photoreceptor gene, *PHYTOCHROME C (PHYC)*, localized on the 'B' genome of hexaploid wheat (*Triticum aestivum* L.). *Planta* **221**: 675-689.
61. **International Rice Genome Sequencing Program 2005.** The map-based sequence of the rice genome. *Nature* **436**: 793-800. (see list of authors on p. 800 of the article).
62. THAKUR, J.K., JAIN, M., TYAGI, A.K. and **KHURANA, J.P.** 2005. Exogenous auxin enhances the degradation of a light down-regulated and nuclear localized OsilAA1, an Aux/IAA protein from rice, via proteasome. *Biochim. Biophys. Acta* **1730**: 196-205.
63. **The Rice Chromosomes 11 and 12 Sequencing Consortia** 2005. Rice chromosomes 11 and 12, rich in disease resistance genes and recent gene duplications. *BMC Biology* **3**: 20 (pp.1-18).
64. KULWAL, P., KUMAR, N., GAUR, A., KHURANA, P., **KHURANA, J.P.**, TYAGI, A.K., BALYAN, H.S. and GUPTA, P.K. 2005. Mapping of a major QTL for pre-harvest sprouting tolerance on chromosome 3A in bread wheat. *Theor. Appl. Genet.* **111**: 1052-1059.
65. BHAT, V., DWIVEDI, K.K., **KHURANA, J.P.** AND SOPORY, S.K. 2005. Apomixis: an enigma with potential applications. *Curr. Sci.* **89**: 1879-1893.
66. JAIN, M., KAUR, N., TYAGI, A.K. and **KHURANA, J.P.** 2006. The auxin-responsive *GH3* gene family in rice (*Oryza sativa*). *Functional & Integrative Genomics* **6**: 36-46.
67. JAIN, M., KAUR, N., GARG, R., THAKUR, J.K., TYAGI, A.K. and **KHURANA, J.P.** 2006. Structure and expression analysis of auxin-responsive *AUX/IAA* gene family in rice (*Oryza sativa*). *Functional & Integrative Genomics* **6**: 47-59.
68. JAIN, M., TYAGI, A.K. and **KHURANA, J.P.** 2006. Molecular characterization and differential expression of cytokinin-responsive type-A response regulator genes in rice (*Oryza sativa*). *BMC Plant Biology* **6**:1 (pp. 1-11).
69. VIJ, S., GUPTA, V., KUMAR, D., RAVI, V., RAGHUVANSHI, S., KHURANA, P., **KHURANA, J.P.** AND TYAGI, A.K. 2006. Decoding the rice genome. *Bioassays* **28**: 421-432.
70. CHATTERJEE, M., SHARMA, P. and **KHURANA, J.P.** 2006. CRYPTOCHROME 1 from *Brassica napus* is upregulated by blue light and controls hypocotyl/stem growth and anthocyanin accumulation. *Plant Physiology* **141**: 61-74.
71. JAIN, M., NIJHAWAN, A., TYAGI, A.K. and **KHURANA, J.P.** 2006. Validation of housekeeping genes as internal control for studying gene expression in rice by quantitative real-time PCR. *Biochem. Biophys. Res. Commun.* **345**: 646-651.
72. JAIN, M., TYAGI, A.K. and **KHURANA, J.P.** 2006. Genome-wide analysis, evolutionary expansion, and expression of early auxin-responsive *SAUR* gene family in rice (*Oryza sativa*). *Genomics* **88**: 360-371.
73. LAXMI, A., PAUL, L.K., RAYCHAUDHURI, A., PETERS, J. and **KHURANA, J.P.** 2006. *Arabidopsis* cytokinin-resistant mutant, *cnr1*, displays altered auxin responses and sugar sensitivity. *Plant Molecular Biology* **62**: 409-425
74. JAIN, M., TYAGI, A.K. and **KHURANA, J.P.** 2006. The over-expression of putative topoisomerase 6 genes from

- rice confers stress tolerance in transgenic *Arabidopsis* plants. FEBS Journal **273**: 5245-5260.
75. SINGLA, B., CHUGH, A., **KHURANA, J.P.** and KHURANA, P. 2006. An early auxin-responsive *Aux/IAA* gene from wheat (*Triticum aestivum*) is induced by epibrassinolide and differentially regulated by light and calcium. J. Exp. Bot. **57**: 4059-4070.
  76. RAVI, V., **KHURANA, J.P.**, TYAGI, A.K. and KHURANA, P. 2006. The chloroplast genome of mulberry: complete nucleotide sequence, gene organization and comparative analysis. Tree Genetics & Genomes **3**: 49-59.
  77. **The Rice Annotation Project.** 2007. Curated genome annotation of *Oryza sativa* ssp. *japonica* and comparative genome analysis with *Arabidopsis thaliana*. Genome Research **17**: 175-183.
  78. JAIN, M., SHARMA, P., TYAGI, S.B., TYAGI, A.K. and **KHURANA, J.P.** 2007. Light regulation and differential tissue-specific expression of phototropin homologues from rice (*Oryza sativa* ssp. *indica*). Plant Science **172**: 164-171.
  79. KUMAR, N., KULWAL, P.L., GAUR, A., TYAGI, A.K., **KHURANA, J.P.**, KHURANA, P., BALYAN, H.S. and GUPTA, P.K. 2007. QTL analysis for grain weight in bread wheat. Euphytica **151**: 135-144.
  80. SCHALLER, G.E., DOI, K., HWANG, I., KIEBER, J.J., **KHURANA, J.P.**, KURATA, N., MIZUNO, T., PAREEK, A., SHIU, S.-H., WU, P. and YIP, W.K. 2007. Nomenclature for two-component signaling elements of *Oryza sativa* (Letter to Editor). Plant Physiol. **143**: 555-557.
  81. JAIN, M., NIJHAWAN, A., ARORA, R., AGARWAL, P., RAY, S., SHARMA, P., KAPOOR, S., TYAGI, A.K. and **KHURANA, J.P.** 2007. F-box proteins in rice. Genome-wide analysis, classification, temporal and spatial gene expression during panicle and seed development, and regulation by light and abiotic stress. Plant Physiol. **143**: 1467-1483.
  82. RAVI, V., **KHURANA, J.P.**, TYAGI, A.K. and KHURANA, P. 2007. Rosales sister to Fabales: towards resolving the rosid puzzle. Molecular Phylogenetics and Evolution **44**: 488-493.
  83. MAHALAKSHMI, A., SINGLA, B., **KHURANA, J.P.** and KHURANA, P. 2007. Role of calcium-calmodulin in auxin-induced somatic embryogenesis in leaf base cultures of wheat (*Triticum aestivum*). Plant Cell, Tissue & Organ Culture **88**: 167-174.
  84. RODRIGUES, V., BHANDARI, R., **KHURANA, J.P.** and SHARMA, P. 2007. Movement of chloroplasts in mesophyll cells of *Garcinia indica* in response to UV-B radiation. Curr. Sci. **92**: 1610-1613.
  85. SEHGAL, A., **KHURANA, J.P.**, SETHI, M., ARA, H. AND JAIN, M. 2007. Organ identity of the thalloid plant body of *Griffithella hookeriana* and *Polypleurum stylosum* – Podostemoideae (Podostemaceae). Plant Syst. Evol. **267**: 93-104.
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### 3.

- a) **Research papers published in Academic Journals other than Refereed/Peer Reviewed Journals**
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- c) **Research papers Published in Conferences/Seminar other than Refereed/Peer Reviewed Conferences**

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3. POFF, K.L., KONJEVIC, R., **KHURANA, J.P.** and JANOUDI, A.K. 1993. Development of a genetic system for the study of phototropism in *Arabidopsis thaliana*. In: Recent Advances in Life Sciences, pp. 171-180. Kyungpook National University, Taegu, Korea.
4. **KHURANA, J.P.**, KOCHHAR, A., NAYYAR, M., SHARMA, V.K., TYAGI, A.K., MAHESHWARI, S.C. and POFF, K.L. 1993. *Arabidopsis mutants* in the study of photomorphogenesis. In: Proc. DAE Symp. Photosynthesis and Plant Molecular Biology, pp. 153-160.
5. TYAGI, A.K., KELKAR, N.Y., KAPOOR, S., OELMULLER, R., HERRMANN, R.G., GROVER, M., KOCHHAR, A., CHAUDHURY, A., **KHURANA, J.P.** and MAHESHWARI, S.C. 1993. Expression of genes encoding thylakoid membrane proteins as influenced by light and development. In: Lodha, M.L., Mehta, S.L., Ramagopal, S. and Srivastava, G.P. (Eds), Advances in Plant Biotechnology and Biochemistry, pp. 1-7. Ind. Soc. Agril. Biochem., Kanpur.
6. **KHURANA, J.P.**, KOCHHAR, A., JAIN, P.K., POFF, K.L., SHARMA, R.P. and TYAGI, A.K. 1997. Characterization of a new class of *Arabidopsis mutants* defining a novel set of photomorphogenic repressors. In: Tewari, K.K. and Singhal, G.S. (eds), Plant Molecular Biology and Biotechnology, pp. 115-123, Narosa Publishing House, New Delhi.
7. **KHURANA, J.P.** and CHAWLA, R. 1998. Molecular genetic analysis of integration of light and hormonal signals in plant development. In: Srivastava, P.S. (ed.), Plant Tissue Culture and Molecular Biology - Applications and Prospects, pp. 642-669, Narosa Publishing House, New Delhi.
8. **KHURANA, J.P.** and POFF, K.L. 1999. Blue light perception and signal transduction in higher plants. In: Singhal, G.S., Sopory, S.K., Renger, G., Irgang, K.-D. and Govindjee (eds), Concepts in Photobiology: Photosynthesis and Photomorphogenesis, pp. 796-820. Narosa Publishing House, New Delhi.
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15. TYAGI, A.K. and **KHURANA, J.P.** 2003. Plant molecular biology and biotechnology research in post-recombinant DNA era. Advances in Biochemical Engineering/Biotechnology (Springer-Verlag, Heidelberg) 84: 91-121.
16. **KHURANA, J.P.** and KULSHRESHTHA, R. 2003. Diversity in higher plant phytochromes and their molecular characterization. 2<sup>nd</sup> International Plant Physiology Congress, New Delhi. Souvenir Volume, pp 128-145.
17. **KHURANA, J.P.** 2002/2003. Blue Light Syndrome IV: UV/blue light perception and responses in plants and microorganisms (International meeting report). Ind. Photobiol. Soc. Newsletter 41: 15-22.
18. **KHURANA, J.P.** 2002/2003. XVI National Symposium of the Indian Photobiology Society: Photobiology in the genomics and post-genomics era (Meeting report). Ind. Photobiol. Soc. Newsletter 41: 23-27.
19. TYAGI, A.K., **KHURANA, J.P.**, SHARMA, A.K., MOHANTY, A., DHINGRA, A., RAGHUVANSHI, S., MUKHOPADHYAY,

- A., GUPTA, A., ANAND, S., KATHURIA, H., BHUSHAN, S., THAKUR, J. AND KUMAR, D. 2003. Organ-specific gene expression and genetic transformation for improving rice. In: Khush, G.S., Brar, D.S. and Hardy, B. (eds), *Advances in Rice Genetics*, pp. 552-555, International Rice Research Institute, Manila.
20. **KHURANA, J.P.**, TRIPATHI, L.P., KUMAR, D., THAKUR, J.K. and MALIK, M.R. 2004. Cell differentiation in shoot meristems – A molecular perspective. In: Srivastava, P.S., Narula, A. and Srivastava, S. (eds.), *Plant Biotechnology and Molecular Markers*, pp. 366-385, Anamaya Publishers, New Delhi.
  21. TYAGI, A.K., **KHURANA, J.P.**, KHURANA, P., MOHANTY, A. and BHARTI, A.K. 2004. Genome-wide molecular approaches in plants: from structure to function. In: Jain, H.K. and Kharakwal, M.C. (eds), *Plant Breeding: Mendelian to Molecular Approaches*, pp. 301-316. Narosa Publishing House, New Delhi.
  22. **KHURANA, J.P.** 2004. 14<sup>th</sup> International Congress on Photobiology, held at Jeju, Korea, from June 10-15, 2004 (Conference Report). *Ind. Photobiol. Soc. Newsletter* **43**: 8-12.
  23. **KHURANA, J.P.** and JAIN, M. 2007. Molecular genetics of floral induction and flower development. In: Chopra, V.L., Sharma, R.P., Bhat, S.R. and Prasanna, B.M. (eds), *Search for New Genes*, pp. 173-195. Academic Foundation, New Delhi, India.
  24. TYAGI, A.K., **KHURANA, J.P.**, KHURANA, P., KAPOOR, S., SINGH, V.P., SINGH, A.K., THAKUR, J.K., GUPTA, V., ANAND, S., VIJ, S., JAIN, M., RAY, S., AGRAWAL, P., ARORA, R., SHARMA, P., MUKHERJEE, S., NIJHAWAN, A., GIRI, J. and KHURANA, R. 2007. Expression and functional analysis of rice genes involved in reproductive development and stress response. In: *Rice Genetics V*, pp. 313-334. IRRI, Philippines.
  25. **KHURANA, J.P.**, JAIN, M., and TYAGI, A.K. 2008. Auxin and cytokinin signaling component genes and their potential for crop improvement. In: Varshney, R.K. and Tuberosa, R. (eds), *Genomic-Assisted Crop Improvement. Vol. 1. Genomics Approaches and Platforms*. Pp. 289-314. Springer, The Netherlands. (ISBN: 978-1-4020-6294-0).
  26. TYAGI, A.K., **KHURANA, J.P.**, KHURANA, P., VIJ, S., JAIN, M., and RAVI, V. 2008. Evolution and phylogenetic relationship of the rice genome. In: Sharma, A.K. and Sharma, A. (eds), *Plant Genome: Biodiversity and Evolution (Vol. 1E: Phanerogam - Angiosperm)*, pp. 15-41. Science Publishers, Inc., USA.
  27. RAY, S., DANSANA, P.K., BHASKAR, A., GIRI, J., KAPOOR, S., **KHURANA, J.P.** AND TYAGI, A.K. (2009). Emerging trends in functional genomics for stress tolerance in crop plants. In: Hirt, H. (Ed), *Plant Stress Biology*, pp. 37-63. Wiley-VCH Verlag GmbH & Co., Weinheim, Germany.
  28. BURMAN, N. and **KHURANA, J.P.** 2013. Photoregulation of chloroplast development: Retrograde signalling. In: Biswal, B., Krupinska, K. and Biswal, U.C. (eds), *Plastid Development in Leaves during Growth and Senescence. Advances in Photosynthesis and Respiration, Volume 36*, pp. 569-588. Springer, Netherlands.
  29. SHARMA, E., SHARMA, R., BORAH, P., JAIN, M. and **KHURANA, J.P.** (2015) Emerging roles of auxin in abiotic stress responses. In: Pandey, G.K. (Ed.) *Elucidation of Abiotic Stress Signaling in Plants*. Pp. 299-328. Springer+Business Media, New York, USA.
  30. BURMAN, N. \*, BHATNAGAR, A. \* and KHURANA, J.P. (2015). Light and plant life. In: Ghatak, A., Pathak, A and Sharma, V.P. (eds.), *Light and its Many Wonders*, pp. 191-209. Viva Books, New Delhi. (ISBN; 978-81-309-3455-6). \* Equal contribution.
  31. JAIN, D. and **KHURANA, J.P.** 2018. Role of Pathogenesis-Related (PR) proteins in plant defense mechanism. In: Singh, A. and Singh, I.K. (eds), *Molecular Aspects of Plant-Pathogen Interaction*, pp. 265-281. Springer Nature Singapore Pvt Ltd. (ISBN978-981-10-7370-0).

#### 4. *Other publications (Edited works, Book reviews, Festschrift volumes, etc.):*

##### **Book Reviews:**

1. **KHURANA, J.P.** and KHURANA, P. 2008. *Molecular Biotechnology: Principles and Practices* (authored by Channarayappa); University Press India Pvt Ltd., Hyderabad. *Current Science* **94 (3)**: 392.
2. **KHURANA, J.P.** and KHURANA, P. 2008. *Plant Cell Biology* (authored by Dashek, W.V. and Harrison, M.); Science Publishers, Enfield, New Hampshire, USA. *Current Science* **94 (4)**: 524.

Conference Organization/ Presentations (in the last three years)

**List against each head (If applicable)**

**1. Organization of a Conference (in last three years)**

1. Co-organized the 4<sup>th</sup> International Conference on Duckweed Research and Applications, at the Central University of Kerala, at Kasargod, Kerala, from October 23-26, 2017.
2. Co-organised and participated in the Royal Society Yusuf Hamied Workshop for India and the UK held on January 9-10, 2020, at Kavli Royal Society International Centre at Chicheley Hall, Milton Keynes, UK.

**2. Participation as Paper/Poster Presenter**

Participated in several International and National Conferences and workshops and delivered many invited lectures and also Chaired some sessions. **Details of last three are provided below:**

1. Delivered Inaugural address (as Chief Guest) during the International Conference organized by Sri Venkateswara College, University of Delhi, in January 2017.
2. Delivered an invited lecture in a Symposium on "Advances in Human and Molecular Genetics", held at School of Life Sciences, JNU, in January 2017.
3. Served a Chief Guest, Chaired a session and delivered a lecture in the International Symposium on "Insight to Plant Biology in the Modern Era" held at Bose Institute, Kolkata, on the occasion of Bose Institute Centenary Celebrations, from February 8-10, 2017.
4. Chaired a session and delivered a lecture in the International Symposium on "Biological Timing and Health Issues in the 21<sup>st</sup> century", held at University of Delhi, in February 2017.
5. Delivered a Plenary Lecture in the National Symposium on 'Plant Biotechnology: Current Perspectives on Medicinal and Crop Plants', held at CSIR-IICB, Kolkata from March 3-5, 2017.
6. Delivered inaugural lecture at the 'Biosparks', a research festival organized by the students of SLS, JNU, in March 2017.
7. Delivered Keynote Address in a National Conference on "Interdisciplinarity: Prospects and Challenges" organized by Maitreyi College, University of Delhi, on April 5, 2017.
8. Delivered a lecture on the occasion of 'Goyal Prize' Award Ceremony held on April 11, 2017 at Kurukshetra University, Kurukshetra.
9. Delivered a lecture in a Refresher Course on "Climate Change and Disaster Management (IDC)" organized by CPDHE, University of Delhi, in June 2017.
10. Delivered a lecture in the National Convention on Digital Initiatives for Higher Education, organized by MHRD, at Vigyan Bhawan, on July 8-10, 2017.
11. Chaired a session and delivered a lecture in the 4<sup>th</sup> International Conference on Duckweed Research and Applications, organised by the Central University of Kerala, at Kasargod, Kerala, from October 23-26, 2017.
12. Delivered an Invited lecture in Har Gobind Khorana Memorial Symposium on "Genes, Genomes and Membrane Biology" held at NABI, Mohali, from December 3-5, 2017.
13. Chaired a 'Plenary Session' and delivered an invited talk during the International Conference on Plant developmental Biology and 3<sup>rd</sup> National *Arabidopsis* meeting, held at NISER, Bhubaneswar, from December 12-14, 2017.
14. Delivered Dr. Yellapragada SubbaRow Memorial Lecture at the School of Biotechnology, GGS Indraprastha University, New Delhi, in January 2018.
15. Co-Chaired a session during National Conference on "Technological Empowerment of Women (Commemorating the International Women's Day), held at Vigyan Bhavan, New Delhi, from March 8-9, 2018.
16. Delivered a lecture in a refresher course organized by CPDHE and Department of Botany, University of Delhi, in August 2018.
17. Attended an International Conference/Workshop and participated in the Panel Discussion organized by ICGEB, New Delhi, in October 2018.
18. Delivered a Plenary Lecture in the International Plant Physiology Congress organised by CSIR-NBRI,

Lucknow, under the auspices of Indian Society of Plant Physiologists, in December 2018.

19. Chaired a session in a workshop organised by NASI at Indian National Science Academy, in February 2019.
20. Co-Chaired a session during the Agricultural Congress held at NAAS Complex, New Delhi, in February 2019.
21. Delivered a lecture at AASSA-INSA-NISCAIR International workshop, held at New Delhi, in February 2019.
22. Addressed the participants of an International Duckweed conference held at Department of Zoology, University of Delhi, in March 2019.
23. Represented University of Delhi in Nobel Prize Conclave held at NABI, Mohali, in September 2019.
24. Represented INSA, New Delhi, in deliberations and delivered a lecture in the conference organised by the BRICS Nations Science Academies, at Rio De Janeiro, on October 4-5, 2019 (participated through Video Conference).
25. Delivered inaugural address in an Interdisciplinary Refresher Course for Teachers held at Jamia Millia Islamia, in October 2019.
26. Chaired a session during the “International Summit on Women in STEM; Visualizing the Future: New Skylines” organized jointly by the DBT and ICGEB at India Habitat Center, New Delhi, from January 23-24, 2020.
27. Chaired a Session and made a ‘Keynote Presentation’ in the National Symposium on “Trends in Plant Biotechnology and Agriculture” held at Thapar Institute of Technology and Engineering, under the auspices of the Plant Tissue Culture Association (India), from February 6-8, 2020.
28. Guest of Honour at the Inaugural Function of the International Conference of Virology (VIROCON 2020) on “Evolution of Viruses and Viral Diseases” organized at INSA, New Delhi, by the Indian Virological Society, from February 18-20, 2020.
29. Chaired a session and delivered a lecture during the Conclave on Tribal Welfare organized by NASI at Institute of Life Sciences, Bhubaneswar, from February 24-25, 2020.
30. Delivered ‘National Science Day 2020’ Lecture at the National Institute of Immunology, New Delhi, on February 28, 2020.
31. Lead Discussant for the Panel Discussion on “Higher Education in India: Issues and Challenges” organized by the University of Delhi, under the MHRD sponsored LEAP initiative, at INSA, New Delhi, on March 18, 2020.

#### Research Projects (Major Grants/Research Collaboration)

1. Centre for Plant Molecular Biology (1996-2001), jointly with 3 other colleagues, funded by the DBT (Rs 4.76 crores).
2. Network project on identifying genes controlling cell cycle and apomixis for crop improvement (1999-2002), funded by ICAR (Rs 19.5 lacs).
3. Indian Initiative for Rice Genome Sequencing (June 2000 to August 2005), jointly with Professor A.K. Tyagi (Coordinator) and Dr Paramjit Khurana, funded by the DBT (ca Rs 24 crores).
4. Centre for Plant Molecular Biology—Phase II (October 2001 to March 2007), jointly with three other colleagues, funded by the DBT (ca Rs 2.5 crores).
5. Sugarcane EST sequencing project (May 2003 to April 2006), jointly with Professor A.K. Tyagi, funded by the DBT (ca Rs 1.2 crore for Delhi University component).
6. Regulation of gene expression in light signal transduction pathways in Arabidopsis thaliana, jointly with Dr Sudip Chattopadhyay, NCPGR, New Delhi (October 2003 to March 2007) funded by DST (22 lakhs, for UDSC component).
7. Sequencing of the genome of Mycobacterium ‘W’ (March 2004 to February 2007), jointly with Professor

Akhilesh K. Tyagi, Professor Anil K. Tyagi and Dr. S.E. Hasnain, funded by the DBT (ca Rs 2.5 crores for the UDSC component).

8. Network project on “Gene expression profiling during flower and seed development and functional validation of identified genes” (April 2004 to September 2009), jointly with eight other PIs (Coordinator: Professor Akhilesh K. Tyagi), funded by the DBT (Rs 98.97 lakhs as individual component; total layout Rs 669.74 lakhs).
9. Molecular basis of unique developmental biology of Podostemads (June 2004 to May 2008), jointly with Dr Anita Sehgal, Miranda House, funded by DST (ca Rs 24 lakhs for both components).
10. Indian Initiative on Tomato Genome Sequencing Project (March 2005 to February 2009; extended for two years, up to March 2011), jointly with Professor Akhilesh K. Tyagi and Dr. A.K. Sharma, and two other collaborating Institutes, NCPGR, JNU Campus, and NRCPB, IARI, funded by DBT (UDSC component ca Rs 6 crores).
11. Centre for Plant Molecular Biology—Phase III (October 2007 to September 2012), jointly with three other colleagues, funded by the DBT (ca Rs 2 crores for entire CPMB).
12. Centre of Excellence on Functional Analysis of Hybrid Rice (from April 2007 to March 2012), jointly with Prof. Akhilesh K. Tyagi and Dr. S. Kapoor, as a joint venture with M/s Barwale Foundation, funded by the DBT (UDSC component, ca Rs 3.5 crores).
13. NAIP Consortium Project “Bioprospecting of genes and allele mining for abiotic stress tolerance” (from April 2009 to June 2012), jointly with Dr. Sanjay Kapoor, funded by ICAR, New Delhi (UDSC Component, ca Rs 1.79 crores).
14. Network project on “Functional analysis of gene regulatory networks during flower and seed development in rice” (September 2009 to August 2014), jointly with eight other PIs (Coordinator: Professor Akhilesh K. Tyagi), funded by the DBT (Rs 108.33 lakhs as individual component; total layout Rs 706.88 lakhs).
15. Network project under the ‘Purse Grant’ from the DST (through Delhi University) sanctioned jointly with Prof. Rup Lal, Dr RajaGopal and Prof. Paramjit Khurana for 3 years (2009-2012); UDSC Component: Rs 71.75 lakhs; total sanction: Rs 173.50 lakhs.
16. Network Project entitled “Physical mapping and sample sequencing of wheat chromosome 2A – International Wheat Genome Sequencing Consortium (India)” (December 2010 to November 2014), jointly with Professor Paramjit Khurana, and two other collaborating Institutes, NRCPB, IARI, and PAU, Ludhiana; funded by DBT (UDSC component, ca Rs 7.5 crores).
17. Network project entitled “Phenomics of moisture deficit and low temperature stress tolerance in rice” (February 2011-February 2016), jointly with NRCPB, IARI, funded by ICAR under the National Fund for Basic, Strategic and Frontier Application Research in Agriculture (NFBSFARA); UDSC component, ca Rs 1.52 crores.
18. Network project entitled “Understanding genome organization and gene expression in response to different hexachlorohexane (HCH) isomers in HCH degrading bacteria and the HCH dumpsite. (March 2012 to March 2015), jointly with University of Delhi (Dept Zoology), IIT-Bombay, and University of Hyderabad (School of Life Sciences); UDSC Component, ca 49 lakhs.
19. J.C. Bose National Fellowship award, with a reesearch grant for ca Rs 60 lakhs for 5 years (2013 to 2018), by the SERB, Govt. of India.

20. "Centre for Advanced Research and Innovation on Plant Stress and Developmental Biology", from July 2013 to June 2016, jointly with three other colleagues, funded by the DBT (Rs 3.67 crores for entire Centre).
21. "Functional validation of genes involved in regulating transition to flowering in rice", jointly with Prof. A.K. Tyagi, as part of a Multi-institutional Network project "Functional Characterization of Genetic and Epigenetic Regulatory Networks Involved in the Reproductive Development in Rice", from November 2015 to November 2020, funded by DBT (Rs 1.40 crores for the sub-project at UDSC).
22. J.C. Bose National Fellowship award, with a research grant for ca. Rs 65 lakhs (2018 to 2022), by the Science and Engineering Research Board, Government of India.

#### Awards and Distinctions

1. Smithsonian Institution, Washington, DC, Post-doctoral Fellowship (1985-86).
2. United States Department of Energy Research Associateship to work at MSU (1986-88).
3. Awarded FERRO Fellowship to visit USDA, Beltsville (September, 1996, 1998).
4. Visiting Professor, Waksman Institute, Rutgers University, USA (June-August, 2001).
5. President of the Indian Photobiology Society (2003-2005).
6. Vice-President of the Indian Photobiology Society (2005-2007; 2007-2009; 2009-2011; 2011-2013).
7. Fellow of the National Academy of Sciences, India (Allahabad).
8. Fellow of the Indian National Science Academy (INSA), New Delhi.
9. Fellow of the National Academy of Agricultural Sciences (NAAS), New Delhi.
10. Fellow of the Indian Academy of Sciences, Bangalore, India.
11. Fellow of The World Academy of Sciences (TWAS), Trieste, Italy.
12. Professor Shri Ranjan Memorial Lecture Award (2006-2007), given by the National Academy of Sciences, India.
13. Professor H.E. Street Memorial Lecture Award (2007-2008), under the auspices of Plant Tissue Culture Association (PTCA), India.
14. Professor Panchanan Maheshwari Memorial Lecture Award, given by the Indian National Science Academy (INSA), New Delhi (for the year 2008).
15. General Secretary (Outstation), National Academy of Sciences, India (NASI); 2010 to 2013.
16. Platinum Jubilee Lecture Award (Plant Science) for the year 2010, Indian Science Congress Association.
17. Tata Innovation Fellow (Department of Biotechnology, Government of India); 2010-2013.
18. Secretary, Plant Tissue Culture Association (India); 2010-2016.
19. Felicitated by Deshbandhu College, University of Delhi, for being a Distinguished Alumnus of the College (in April 2011)
20. Awarded Prof. Birbal Sahni Gold Medal by the Indian Botanical Society (2011).
21. Prof. S.S. Katiyar Endowment lecture Award by the Indian Science Congress Association (for 2012-2013), during its 100<sup>th</sup> Session, held at Kolkata, in January 2013.
22. Awarded J.C. Bose National Fellowship by the Department of Science and Technology, Government of India (2013-2018).
23. Vice-President (Science & Society) of the Indian National Science Academy (INSA), New Delhi (January-December 2014).
24. Member, Council of the Indian Science Congress Association (ISCA), Kolkata, as INSA Nominee, for the year 2014.



25. Professor Jatis Chandra Sengupta Endowment Lecture Award by the West Bengal Academy of Sciences & Technology (WAST), in October 2014.
26. Awarded Prof. H.C. Arya Memorial Gold Medal by the Plant Tissue Culture Association of India (PTCA-I) (in January 2015).
27. Dr. B.P. Pal Memorial Lecture Award by the National Academy of Sciences India (NASI), in July 2015.
28. Lifetime Achievement Award (2015) by SciGenom Research Foundation, during the NGBT conference held in October 2015 at Hyderabad.
29. Prof. S.K. Sinha Memorial Lecture Award by the Indian Society of Plant Physiologists, in its Annual session held at GKVK, Bangalore, in December 2016.
30. Goyal Prize (in Life Sciences) by the Goyal Foundation, Kurukshetra University, Haryana, in April 2017.
31. Shri Om Prakash Bhasin Award (in Biotechnology) by the Om Prakash Bhasin Foundation, New Delhi, in April 2017.
32. Awarded J.C. Bose National Fellowship by the Scientific and Engineering Research Board (SERB), Government of India (2018-2022).
33. Jawaharlal Nehru Birth Centenary Visiting Fellowship Award (2019-2020) by the Indian National Science Academy (INSA), New Delhi.

#### Association With Professional Bodies

1. Life Member, Indian Society of Photobiology.
2. Life Member, Indian Society of Developmental Biologists.
3. Life Member, Indian Science Congress Association, Kolkata.
4. Life Member, Society of Biological Chemists, India.
5. Life Member, Society for Plant Biochemistry and Biotechnology, New Delhi.
6. Life Member, Delhi University Botanical Society.
7. Life Member, Indian Botanical Society.
8. Member, Plant Tissue Culture Association (India).
9. Member, the American Society of Plant Biologists, USA.

#### Other Activities

##### Research Achievements:

1. Functionally characterized OsFBK1, a component of E3 ligase, for its role in lignin biosynthesis by regulating turnover of cinnamoyl-CoA reductase during anther and root development in rice.
2. Identified novel roles of a rice bZIP transcription factor, OsbZIP48, an ortholog of HY5 of *Arabidopsis*, in light regulated plant development.
3. Participated in chromosome-based sequencing of the wheat genome (as part of International Wheat Genome Sequencing Consortium).
4. Participated actively in sequencing, assembly and annotation of tomato genomes (as part of the International Tomato Genome Sequencing project).
5. Identified auxin-inducible genes in rice at the whole-genome level and studied the expression profile of a sub-set at different stages of panicle and seed development, and under abiotic stress.
6. Carried out genome-wide identification, evolutionary expansion of 107 homeobox genes in rice, grouped them into 10 distinct subfamilies, and analyzed their expression during transition to flowering, panicle development and seed set.
7. Comprehensively analyzed the bZIP protein gene family (89 members) encoding transcription factors from rice and their expression profile during reproduction in rice.

8. Characterized a large family (687 members) of F-box protein genes in rice and examined their spatial and temporal expression during panicle and seed development and as influenced by light and abiotic stress.
9. Elucidated a novel role for rice topoisomerase 6 subunit genes (*OsTOP6A1*, *OsTOP6A3*, and *OsTOP6B*) in imparting abiotic stress tolerance to transgenic *Arabidopsis*.
10. Functionally characterized blue light receptor gene, *CRY1*, from *Brassica* for regulating plant height and anthocyanin content in transgenics.
11. Sequenced and characterized *phytochrome C (PHYC)* gene and *PHYA* gene family from hexaploid wheat, *Triticum aestivum*.
12. Participated actively in sequencing and assembly of ca.12 Mb sequence of rice Chromosome 11 (as part of the International rice genome sequencing project).
13. Characterized the auxin inducible *AUX/IAA*, *GH3* and *SAUR* gene families and cytokinin-inducible type-A Response Regulator (RR) genes from rice.
14. A *POLYCOMB* group gene, *OsiEZ1*, from rice characterized functionally for its role in chromatin modification.
15. Pioneered defining several genetic determinants in *Arabidopsis* involved in light, hormone and sugar signalling.
16. Established the presence of cyclic AMP-adenyl cyclase system in *Lemna* and its role in phosphorylation.
17. Established the role of salicylic acid in induction of flowering in Lemnaceae and provided evidence that it acts as a signal during biotic stress.

**Patents filed: NA**

**Awards received by students:**

Recognizing the work done in our laboratory, several students have won national awards (as Young Scientists, from INSA, NASI, ISCA and DBT) and best poster/platform presentation awards at National/International conferences.



Signature of Faculty Member

- You are also requested to also give your complete resume as a DOC or PDF file to be attached as a link on your faculty page.