DESHBANDHU COLLEGE
(UNIVERSITY OF DELHI)
KALKAJI, NEW DELHI - 110019
Faculty Details Proforma for College Website

Title	Dr.	First Name	Abhay	Last Name	Vishwakarma	Photograph

Designation	**Assistant Professor**
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Residence	
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Web-Page	

Educational Qualifications

Degree	Institution	Year
Ph.D.	University of Hyderabad, Hyderabad	2016
M.Phil.		
PG	Chhatrapati Sahu Ji Maharaj University, Kanpur	2007
UG	Chhatrapati Sahu Ji Maharaj University, Kanpur	2005
Any other qualification		

Career Profile

Institute	Position held	From/to	Total period
Deshbandhu College, India	Assistant Professor (Ad-hoc)	22.11.2021-till date	-
University of Delhi, South Campus, India	Research Associate	16.08.2021-20.11.2021	3 months 5 days
Assam University, Silchar, India	Assistant Professor (Contractual)	19.03.2021-14.08.2021	4 months 26 days
Central University of Karnataka, India	Assistant Professor (Contractual)	21.10.2020-31.03.2021	5 months 10 days
ARO Volcani Center, Israel	Postdoctoral Fellow	29.04.2018-24.05.2020	2 years 0 months 25 days
National Institute of Plant Genome research, India	Postdoctoral Fellow	18.07.2016-23.04.2018	1 year 9 months 5 days

Administrative Assignments

Areas of Interest/Specialization

Plant physiology, Biotechnology, Plant tissue culture, Abiotic stresses, Plant pathology, Industrial microbiology

Subjects Taught

Plant Physiology	Plant Physiology and Biochemistry		
Plant Cell Culture and Tissue Engineering	Ecology & utilization of plants		
Plant Pathology			
Microbiology			

Research Guidance

List against each head (If applicable):

1. *Supervision of awarded Doctoral Thesis*
2. *Supervision of Doctoral Thesis, under progress*

3. *Supervision of awarded M.Phil. dissertations*
4. *Supervision of M.Phil. dissertations, under progress*

Publications Profile

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

a) *Books/Monographs (Authored/Edited)*

b) *Research papers published in Refereed/Peer Reviewed Journals*

1. Gupta SK, **Vishwakarma A**, Kenea HD, Galsuker O, Cohen H, Aharoni A, Arazi T (2021) CRISPR/Cas9 mutants of tomato MIR164 genes uncover their functional specialization in development. Plant Physiology 187: 1636-1652 **(IF: 8.3).**
2. **Vishwakarma A**, Wany A, Pandey S, Bulle M, Kumari A, Kishorekumar R, Igamberdiev AU, Mur LAJ, Gupta KJ (2019) Current approaches to measure nitric oxide in plants. Journal of Experimental Botany 70: 4333-4343 **(IF:6.9)**.
3. **Vishwakarma A**, Kumari A, Mur LA, Gupta KJ (2018). A discrete role for alternative oxidase under hypoxia to increase nitric oxide and drive energy production. Free Radical Biology and Medicine 122: 40-51 **(IF:7.3)**.
4. Dinakar C, **Vishwakarma A**, Raghavendra A, Padmasree K (2016) Alternative oxidase pathway optimizes photosynthesis during osmotic and temperature stress by regulating cellular ROS, malate valve and antioxidative systems. Frontiers in Plant Science 7: 68 **(IF:5.7)**.
5. **Vishwakarma A**, Dalal A, Tetali SD, Kirti PB, Padmasree K (2016) Genetic engineering of AtAOX1a in Saccharomyces cerevisiae prevents oxidative damage and maintains redox homeostasis. FEBS Open Bio 6:135-146 **(IF:2.6)**.
6. **Vishwakarma A**, Tetali SD, Selinski J, Scheibe R, Padmasree K (2015) Importance of alternative oxidase (AOX) pathway in regulating cellular redox and ROS homeostasisto optimize photosynthesis during restriction of cytochrome oxidase pathway in Arabidopsis thaliana. Annals of Botany 116: 555-569 **(IF:4.3)**.
7. **Vishwakarma A**, Bashyam L, Senthilkumaran B, Scheibe R, Padmasree K (2014) Physiological role of AOX1a in photosynthesis and maintenance of cellular redox homeostasis under high light in Arabidopsis thaliana. Plant Physiology and Biochemistry 81: 44-53 **(IF:4.2)**.
8. Dalal A, **Vishwakarma A**, Singh NK, Gudla T, Bhattacharyya MK, Padmasree K, Viehhauser A, Dietz KJ, Kirti PB (2014) Attenuation of hydrogen peroxide-mediated oxidative stress by Brassica juncea annexin-3 counteracts thiol-specific antioxidant (TSA1) deficiency in Saccharomyces cerevisiae. FEBS Letters 588: 584-593 **(IF:4.1)**.
9. Dinakar C, **Abhaypratap V**, Yearla SR, Raghavendra AS, Padmasree K (2010) Importance of ROS and antioxidant system during the beneficial interactions of mitochondrial metabolism with photosynthetic carbon assimilation. Planta 231: 461-474 **(IF:4.1)**.

c) *Research papers published in Academic Journals other than Refereed/Peer Reviewed Journals*

d) *Research papers published in Refereed/Peer Reviewed Conferences*

e) *Research papers Published in Conferences/Seminar other than Refereed/Peer Reviewed Conferences*

f) *Other publications (Edited works, Book reviews, Festschrift volumes, etc.)*

1. Narasanna R, Mansoori A, Mishra N, Sharma V, Thomas S, **Vishwakarma A**, Agsar D, Kumar A, Pandey MK, Kumar R (2021) Plant Metabolomics for Crop Improvement. Agricultural Biotechnology: Latest Research and trends. Springer Nature Singapore Pte Ltd.
2. **Vishwakarma A**, Gupta KJ (2017) Isolation and Structural Studies of Mitochondria from Pea Roots. Methods in Molecular Biology 1670: 87-95

Conference Organization/ Presentations

List against each head(If applicable)

1. *Organization of a Conference:*
   I. Plant Science Colloquium-2013 at University of Hyderabad, India
   II. Plant Science Colloquium-2014 at University of Hyderabad, India
2. *Participation as Paper/Poster Presenter*
   I. Novel role of mitochondrial alternative oxidase under hypoxia to drive energy production via phytoglobin-nitric oxide cycle. International conference on "Plant responses to environmental stimuli: differences, similarities and cross talk". Plant, Cell and environment 40th Anniversary-2019, Glasgow, UK.
   II. The Role of non-symbiotic hemoglobin and alternative oxidase in hypoxia tolerance in Arabidopsis. International conference on Plant Developmental Biology and National Arabidopsis Meeting-2017, NISER, Bhubaneshwar, India.
   III. Importance of alternative oxidase (AOX) pathway in regulating cellular redox and ROS homeostasis to optimize photosynthesis during restriction of cytochrome oxidase pathway in Arabidopsis thaliana. Annual Research Awards 2015-16", Dr. K. V. Rao Scientific Society, Hyderabad, India (2016).
   IV. Physiological role of AOX1a in photosynthesis and maintenance of cellular redox homeostasis under high light

in Arabidopsis thaliana. Annual Research Awards 2013-14", Dr. K. V. Rao Scientific Society, Hyderabad, India (2014).

V. Physiological impact of alternative oxidase 1a against photoinhibition in Arabidopsis thaliana: Role of redox and ROS. Indo-Japan workshop on "Signal sensing and transduction in photosynthetic organisms – from cyanobacteria to land plants-2013, University of Hyderabad, India.

VI. Importance of AOX1a in sustaining photosynthesis and alleviating reactive oxygen species under high light in Arabidopsis thaliana. International conference on Photosynthesis research for sustainability-2013 at Baku, Azerbaijan.

VII. Importance of AOX1A in optimizing photosynthesis in A. thaliana under high light stress. Plant Science Colloquium-2012, Department of Plant Sciences, University of Hyderabad, India.

VIII. Effects of AOX1a deficiency on Photosynthesis, Reactive Oxygen Species, Antioxidants and Redox metabolism in presence of Antimycin A in Arabidopsis thaliana. National conference of Plant Physiology-2010 at Banaras Hindu University, Varanasi, India.

IX. Significance of ROS in mediating beneficial interactions between chloroplasts and mitochondria in light. National symposium on "Frontiers in Photobiology-2009" at BARC, Mumbai, India.

Research Projects (Major Grants/Research Collaboration)

Project Title: The role of uncoupling protein and alternative oxidase in protection of plants under hypoxia mediated by nitric oxide
Funding body: DST-SERB, New Delhi, India
Sanction year: 2016
Duration: 2 years
Budget: 19.2 lacs INR

Awards and Distinctions

1. International Postdoctoral Fellowship - India and China, from Agricultural Research Organization, Volcani Center, Israel (2018)
2. National Postdoctoral Fellowship from DST-SERB, India (2016)
3. Travel grant from DBT-CTEP and UoH-DST-PURSE grant towards attend an International conference held at Baku, Azerbaijan (2013)
4. Senior Research Fellowship from CSIR, India (2012)
5. Junior Research Fellowship from UoH-DBT CREBB, India (2010)
6. Best poster presentation award in National symposium organized at BARC, Mumbai, India (2009)
7. Doctoral Research Fellowship from University of Hyderabad, India (2008)

Association With Professional Bodies

- *Editing*
- *Reviewing*

  Reviewer for International peer-reviewed journals:
  1. Journal of Experimental Botany (Oxford University Press; IF: 6.9)
  2. Physiology and Molecular Biology of Plants (Springer; IF: 2.3)
  3. Food and Energy Security (Wiley Online Library; IF: 4.1)
  4. Saudi Journal of Biological Sciences (Elsevier; IF: 4.2)
- *Advisory*
- *Committees and Boards*
- *Memberships*
- *Office Bearer*

Other Activities

Signature of Faculty Member

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