



Faculty Details proforma for DU Web-site

(PLEASE FILL THIS IN AND Email it to websiteDU@du.ac.in and
cc: director@ducc.du.ac.in)

Title	First Name	Last Name	Photograph	
Designation	Assistant Professor & Ramalingaswami Fellow (DBT)			
Address	Department of Botany, University of Delhi, Delhi-110007			
Phone No Office				
Residence				
Mobile	9711693065			
Email	girishmishra@yahoo.com			
Web-Page				
Educational Qualifications				
Degree	Institution	Year		
Ph.D.	University of Hongkong	2004		
M.Sc.	Madurai Kamaraj University	1995		
B.Sc.	University of Delhi	1993		
Career Profile				
July 2010-Present	Assistant Professor & Ramalingaswami Fellow (DBT) Dept. of Botany, University of Delhi Delhi-110007, India Research Associate			
Nov' 2006-June 2010	Dept. of Biology, Brookhaven National Laboratory, Upton, NY-11973,USA			
2004- Oct' 2006	Postdoctoral Research Associate Dept. of Biology, University of Missouri-St. Louis St. Louis, MO-63132, USA			
Administrative Assignments				
Areas of Interest / Specialization				
My area of specialization is plant molecular biology and biochemistry with research emphasis on lipid metabolism and lipid mediated stress signaling in plants.				
Subjects Taught				
CC1- Biochemistry and Physiology Bot 301- Algae, environment and human welfare Bot 408- Topics in plant physiology and Biochemistry				
Time table of the subjects taught during the current semester				
S.No.	Subject	Days	Time	Classroom
1	Bot 408	Wednesday	8.45 am-10.35 am	Room 208
2	Bot 408 Practicals	Wednesday	10.35 pm-4.05 pm	Lab 4

Research Guidance
Ph.D. : 3 M.Phil.:3
Publications Profile
Books/Monographs (Authored/Edited)
1. Phospholipid signaling in plant response to drought and salt stress. Wang X, Zhang W, Li W and Mishra G .M. A. Jenks et al. (eds.) Advances in Molecular breeding toward drought and salt tolerant crops. Springer publications. 183-192. 2007.
Research papers published in Refereed/Peer Reviewed Journals
1. ACBP4 and ACBP5, novel Arabidopsis acyl-CoA-binding proteins with kelch motifs that bind oleoyl-CoA. Leung KC, Li HY, Mishra G , Chye ML. Plant Mol Biol . 2004 May; 55(2):297-309.
2. A bifurcating pathway directs abscisic acid effects on stomatal closure and opening in Arabidopsis. Mishra G , Zhang W, Deng F, Zhao J, and Wang X. Science . 2006 April; 312: 264-266
3. Desaturases: Emerging models for understanding functional diversification of diiron-containing enzymes. Shanklin J, Guy JE., Mishra G and Lindqvist Y. J. Biol. Chem . July 2009, 284: 18559-18563
4. The Arabidopsis acbp1acbp2 double mutant lacking Acyl-CoA-Binding Proteins ACBP1 and ACBP2 is embryo lethal. Chen QF, Xiao S, Wangqin Q, Mishra G . and Chye ML. New Phytologist 2010 186: 843-855
5. Metabolic engineering of seeds can achieve levels of ω -7 fatty acids comparable to the highest levels found in natural plant sources. Nguyen HT, Mishra G , Whittle E, Bevan SA, Merlo AO, Walsh TA and John Shanklin. Plant physiology . E-Published on October 13, 2010, as DOI:10.1104/pp.110.165340
6. Connections between sphingosine kinase and phospholipase D in the abscisic acid signaling pathway in Arabidopsis. Guo L, Mishra G , Markham JE, Li M, Tawfall A, Welti R and Wang X. J Biol Chem . 2012, 287:8286-96.
7. Parallel and Competitive Pathways for Substrate Desaturation, Hydroxylation and Radical Rearrangement by the Non-heme Diiron Hydroxylase AlkB. Cooper HLR, Mishra G , Huang X, Pender-Cudlip M, Austin RN, Shanklin J and Groves JT. J. Am. Chem. Soc . 2012, 134(50), 20365-20375.
8. Multivariate analysis of fatty acid and biochemical constituents of seaweeds to characterize their

potential as bioresource for biofuel and fine chemicals. Verma P, Kumar M, **Mishra G**, Sahoo D. **Bioresour Technol.** 2017 Feb;226:132-144.

9. Fatty acid profiling and multivariate analysis in the genus *Leucas* reveals its nutritional, pharmaceutical and chemotaxonomic significance. Choudhary AK, Sunojkumar P, **Mishra G**. **Phytochemistry.** 2017 Nov;143:72-80.
10. Identification of novel phosphatidic acid binding domain on sphingosine kinase 1 of *Arabidopsis thaliana*. Pandit S, Dalal V, **Mishra G**. **Plant Physiol Biochem.** 2018 Jul;128:178-184.
11. Biochemical modulation of *Monodopsis subterranea* (Eustigmatophyceae) by auxin and cytokinin enhances eicosapentaenoic acid productivity. Arora S, **Mishra G**. **J. Appl. Phycology.** 2019. **31**, 3441–3452.
12. De novo transcriptome sequencing of *Monodopsis subterranea* CCALA 830 and identification of genes involved in the biosynthesis of eicosapentanoic acid and triacylglycerol Shivangi Shah, Dinabandhu Sahoo, Rohit Nandan Shukla, **Girish Mishra**. 2019 *Vegetos* **32**, 600–608 (2019)

Research papers published in Refereed/Peer Reviewed Conferences

13. Induction of plantlet regeneration and embryonic callus in black gram, *Vigna mungo* (L.) Hepper cv. Co4. Mishra G, Ramalingam S, Karuppanapandian T, Agrawal S, Venkataraman J and Kumariah M. In: D'Souza, L.; Anuradha, M.; Shashikiran, N.; Smita, Hegde and K. Rajendra (eds.) *Biotechnology for a Better Future*. SAC Publications, India. 269-282, 2004.

Publications in the Last one year
<ol style="list-style-type: none"> 1. Biochemical modulation of <i>Monodopsis subterranea</i> (Eustigmatophyceae) by auxin and cytokinin enhances eicosapentaenoic acid productivity. Arora S, Mishra G. J. Appl. Phycology. 2019. 31, 3441–3452. 2. De novo transcriptome sequencing of <i>Monodopsis subterranea</i> CCALA 830 and identification of genes involved in the biosynthesis of eicosapentanoic acid and triacylglycerol Shivangi Shah, Dinabandhu Sahoo, Rohit Nandan Shukla, Girish Mishra. 2019 <i>Vegetos</i> 32, 600–608 (2019)
<p style="text-align: center;">Conference</p> <ol style="list-style-type: none"> 1. Renu Puri, Ashish K Choudhary, Parmananda Barman, R. Geeta, Girish Mishra (2017), “Parinaric acid, An unusual conjugated fatty acid, Occurs in several Indian species of <i>Impatiens</i> L., but not in <i>Hydrocera triflora</i> (L.) Wight & Arn. (Balsaminaceae)” XXVII Annual conference of Indian Association Taxonomy & International Symposium on Plant Systematics: Priorities and Challenges, organized by Delhi University Botanical Society, Department of Botany, University of Delhi, Delhi, November 10-12, 2017. 2. Shatakshi Pandit and Girish Mishra (2017) Identification of phosphatidic acid binding domain on sphingosine kinase 1 reveals its regulatory role during stress signaling. XXVII Annual conference of Indian Association Taxonomy & International Symposium on Plant Systematics: Priorities and Challenges, organized by Delhi University Botanical Society, Department of Botany, University of Delhi, Delhi, November 10-12, 2017. 3. Shivangi and Girish Mishra (2018) Isolation, identification and biochemical Characterization of <i>Scenedesmus</i> sp. from Dal Lake, Kashmir. National conference on challenges and strategies to improve crop productivity in changing environment: An integrated approach held on 12th January 2018; Department of Botany, Zakir Husain Delhi College, University of Delhi. 4. Shaweta Arora, Girish Mishra. (2018) Metabolic engineering of vlc-pufa pathway genes in oleiferous crop. National conference on challenges and strategies to improve crop productivity in changing environment: An integrated approach held on 12th January 2018; Department of Botany, Zakir Husain Delhi College, University of Delhi. 5. Shivangi, Dinabandhu Sahoo and Girish Mishra (2018) Transcriptomic analysis of <i>Monodopsis subterranea</i> to study the genes involved in PUFA biosynthetic pathway. National symposium on advances in biology of algae and cyanobacteria (ABAC) held on 8th – 9th February 2018; Centre of Advanced Study in Botany, Institute of Science; Banaras Hindu University, Varanasi. 6. Shaweta Arora, Girish Mishra. (2018) Strategies for improvement of nutraceutical yield from microalgae <i>Monodopsis subterranea</i>. National symposium on advances in biology of algae and cyanobacteria (ABAC) held on 8th – 9th February 2018; Centre of Advanced Study in Botany,

Institute of Science; Banaras Hindu University, Varanasi.

Invited talks in last one year

1. Efforts towards sustainable production of eicosapentanoic acid from eustigmatophyte *Monodopsis subterranea*. International conference on “Advances in sustainable agriculture: bioresources, biotechnology and bioeconomy” november 29-30, 2019. Mansarovar Global University, Bhopal. India

Research Projects (Major Grants/Research Collaboration)

1. DST SERB, 26th March 2019/3years, **Phosphatidic acid-protein interactions: molecular mechanism and role during abiotic stress in Arabidopsis.**
2. DBT January 2013-16. **Introduction of very long chain polyunsaturated fatty acids biosynthesis pathway in Indian mustard (Brassica juncea)**
3. DBT July 2010-15. **Understanding plant lipid metabolism and its role in signaling: Using basic science models to enhance oil crops.**
4. DBT 2013-16. **Development of seaweeds Biorefinery and Pilot demonstration of bioethanol production.** (Co-PI)
5. SERB March 2018: **At NDL proteins: molecular mechanism of action in regulation of plant growth and development.** (Co-PI)

Awards and Distinctions

- 2010-15 Ramalingaswami Fellowship, Department of Biotechnology (DBT), India
2004-06 NSF postdoctoral fellowship from Govt. of U.S.A
2000-04 Hong Kong University studentship for Ph.D.

Association With Professional Bodies

1. Life member Delhi University Botanical society

Other Activities

Member of
Departmental research committee
Library committee (Botany)
Treasurer, Delhi University botanical society

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.