



## Faculty Details Proforma Dr Padmshree Mudgal



Title	Professor	First Name	PADMSHREE	Last Name	MUDGAL	Photograph
<b>Designation</b>	<b>Professor in Biochemistry</b>					
<b>Address</b>	<b>136, Sharda Niketan, Pitampura, New Delhi-110034</b>					
<b>Phone No. Office</b>						
<b>Residence</b>	<b>9310024869</b>					
<b>Mobile No.</b>	<b>9310024869</b>					
<b>Email - ID</b>	<a href="mailto:padmshree.m@gmail.com">padmshree.m@gmail.com</a> , <a href="mailto:pmudgal@dr.du.ac.in">pmudgal@dr.du.ac.in</a>					
<b>Web Page</b>						
<b>Educational Qualification: Ph.D</b>						
<b>Degree</b>	<b>Institution</b>				<b>Year</b>	
B. Sc (Hons) Chemistry	Miranda House, University of Delhi				1982	
M.Sc. Biochemistry	Post Grad. Inst. Med. Edu. & Res. Chandigarh				1984	
Ph.D Animal Biochemistry	Nat. Dairy Res. Inst. Karnal, Haryana				1989	
<b>Career Profile</b>						
1. Graduation:	B Sc.( Hons) Chemistry	Miranda house University of Delhi (1982)				
2. Post- Graduation	MSc. Biochemistry	PGIMER Chandigarh (1984)				
3. Ph.D		Natl. Dairy Res. Inst., Kurukshetra Univ.) Karnal, (Haryana) “Nuclear protein phosphorylation in isolated Buffalo sperm Chromatin”. (March 14, 1990)				
4. Joined as Lecturer		Daulat Ram College ( Aug 1989)				
5. Reader Selection Grade		DRC (1998)				
6. Assoc. Professor		DRC (2006 )				
7. Professor		DRC (2020)				
1. Teacher In-charge Biochemistry Department, DRC					2018-19, 1921-22, 1922-23	
2. Nodal Officer North Cluster Colleges Knowledge Network DU					1922 onwards	
3. Member, Core Group for NEP BSc. (Hons) Biochemistry Framing of Syllabus DU.					1921 onwards	
<b>Areas of Interest / Specialization</b>						
Membrane Biology, Hormone Biochemistry, Cell signalling, Human Physiology, Proteins, Zebrafish model systems, regeneration, Disease modelling.						

## Subjects Taught

Proteins, Hormone Biochemistry, Membrane Biology, Human Physiology, Molecular Biology, Nutritional Biochemistry, Plant Biochemistry, Metabolism of Carbohydrates, Biochemical Correlation of Diseases.

## Research Guidance

Guided 4 MSc. and one PhD student.

## Publications Profile

1. Mudgal, P., Gupta, R., Joshi, A., Prakash, C., Gupta, K., Sachdeva, R., & Joshi, N. (2023). Assessment of Anxiolytic Activity of Brahmi (*Bacopa monnieri*) in Zebrafish Model System. *Journal of Natural Remedies*, 23(2), 661–670. <https://doi.org/10.18311/jnr/2023/31362>
2. Mudgal P., Bhasin C., Joshi A., Gupta R. (2021) Zebrafish: A Versatile Learning Tool. *Resonance*. Nov 2021; 26(11): 1483-1601. <https://www.ias.ac.in/article/fulltext/reso/026/11/1499-1521>
3. Wardhan R, Mudgal P. Understanding the predisposing risk factors of young suicide. *Int J Res Med Sci* 2020; 8: xxx-xx. DOI: <https://dx.doi.org/10.18203/2320-6012.ijrms20204985>
4. Mudgal P, Wardhan R. The increased risk of elderly population in India in COVID-19 pandemic. *Int J Health Sci Res*. 2020; 10(10):166-175.
5. Gupta R, Ranjan S, Yadav A, Verma B, Malhotra K, Madan M, Chopra O, Jain S, Gupta S, Joshi A, Bhasin C, Mudgal P. (2019) Toxic Effects of Food Colorants Erythrosine and Tartrazine on Zebrafish Embryo Development. *Curr. Res Nutr. Food Sci* 2019; 7(3). <https://bit.ly/2OFNYLM>
6. Wardhan R., and Mudgal P. (2017) Textbook of Membrane Biology. Springer Singapore. DOI: 10.1007/978-981-10-7101-0
  - a. eBook ISBN(E): 978-981-10-7101-0
  - b. Hardcover ISBN (P): 978-981-10-7100-3
7. Khetrpal M., Mudgal P., Lata V. (2017) Bio-detergent from brassica juncea (mustard) seed oil and study of its quality parameters & environmental indexes. In. *J. App. Nat. Sci. (IJANS)*, ISSN (P): 2319-4014; ISSN (E): 2319-4022, 6(3), 35 - 40
8. Bhasin C., Mudgal P., et.al. 2016. Zebrafish Early Stage Developmental Defects as Indicator of Site Specific Water Composition of River Yamuna. *DU Journal of Undergraduate Research and Innovation*. Volume 2, Issue 1pp 40 - 45, 2016 <http://journals.du.ac.in/ugresearch>
9. Khetrpal M., Mudgal P. et al. 2016. One Pot Synthesis of Green Detergents from BioWastes. *DU Journal of Undergraduate Research and Innovation* Volume 2, Issue 1pp 92 - 98, 2016
10. Comparative study of detergents in India-A step towards more sustainable laundry. M. Khetrpal, Mudgal P., Lata, Sagrika, Ayushi, Vishu, Vaishali, Ushma, Deepika and Charu. *DU Journal of Undergraduate Research and Innovation*. Feb. 2015 Vol. I, Issue 1, 163-172 <http://journals.du.ac.in/ugresearch>
11. M. Khetrpal, Mudgal P., Lata, Ayushi, Deepika and Charu. Synthesis of detergents from Rice Bran oil and study of its quality parameters. *International Journal of General Engineering and Technology (IJGET)*. Vol. 3: Issue 6, Nov 2014, 1-6
12. Casein Kinase II activity of Buffalo sperm chromatin. Mudgal P., Anand S. R. *Mol. Reprod Dev.*1998 50: 178-184. [https://doi.org/10.1002/\(SICI\)1098-2795\(199806\)50:2<178::AID-MRD8>3.0.CO;2-H](https://doi.org/10.1002/(SICI)1098-2795(199806)50:2<178::AID-MRD8>3.0.CO;2-H)
13. Histone Kinase activity of Buffalo sperm chromatin. Mudgal P., Varshney GC, Anand SR *Arch. Androl.* 1997, 38:191-199. DOI: 10.3109/01485019708994877

**Conference Organization / Presentation (in the last three years)**

1. Poster presented and abstract printed in proceedings of “ International Conference in Frontiers in Biochemistry and Biotechnology: Strategies to combat human diseases”, 12th -13<sup>th</sup> February, 2020 at Shivaji College, University of Delhi.
  - a. Kaur M., Gupta R., Bhasin C., Joshi A. and Mudgal P. Study of anxiolytic activity of Ayurvedic drugs using zebrafish larval stress response assays.
  - b. Mall P., Saja A., Kathuria S., Bhasin C., Joshi A., Gupta R., Mudgal P. To assess the impact of food additives on learning and memory in zebrafish model.
  - c. Gupta R., Kaur M., Joshi A., Bhasin C. and Mudgal P. Erythrosine induces oxidative damage in zebrafish.
2. Keynote speaker at " 2nd Global summit on Food science and nutrition 2021" 29-30th of October in Vienna, Austria, on “Assessment of Health Impact of food colorants using Zebra fish model system”.
3. Invited talk on "ZEBRAFISH MODEL SYSTEM: A TOOL FOR DRUG DISCOVERY" in International E-Conference on “Recent Trends in Drug Discovery and Development” organized by the Department of Chemistry, under the aegis of IQAC, Maitreyi College, University of Delhi on 8th and 9th October 2021.
4. Invited talk on "Zebrafish - An ideal Model Organism for Human Research” 21<sup>st</sup> January, 2022 at ‘Skill Enhancement Workshop on Model Organism and Visual Experimentation - Zebrafish and JoVE’, organized by CHRYSALIS, The Biological Science Society, Sri Venkateswara College, University of Delhi.

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

1. Innovation Project, Delhi University. (2013-15): How safe are our Detergents: A comparative Study and development of Biodetergents. (DR-204) ( 5.5 lakhs)
2. Innovation Projects; University of Delhi. (2015-16): Zebra fish as a biosensor to assess Yamuna River water quality in Delhi NCT region. (DRC 301) (7.5 lakhs).
3. Star Innovation Project, CIC, Delhi University. (2016-19): Evaluating the effects of common food additives on vertebrate development and organogenesis using zebrafish as a model system (23 lakhs).

#### Awards and Distinctions

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|----|---|------|
| 1. | Co-recipient of <b>Shri Mahendranath Gupta Memorial prize</b><br>Awarded by Daulat Ram College Society –<br>For Exemplary performance & bringing laurels to college | 2003 |
| 2. | <b>Best Innovative Idea</b> awarded to Innovation project DR-204<br>at ‘Antardvani’ 2015, Delhi University Festival.  | 2015 |
| 3. | <b>Teaching Excellence Award for Innovation</b> , 2014-15<br>by University of Delhi.  | 2015 |
| 4. | <b>Best Research Outcome award</b> for Research poster display  | 2016 |

at Delhi University Convocation 2016, for the Innovation project “Zebra Fish as a Biosensor for assessing Yamuna river water quality in Delhi NCT region”.

5. Dr. Sarvepalli Radhakrishnan **Best Teacher Award in Biochemistry** by Center for professional advancement. **2021**

#### Association with Professional Bodies

1. Member (2019 – 2021), **Board of Research Studies, south Campus, University of Delhi**

#### Other Activities

Established Zebrafish facility in Daulat Ram College in Oct 2015, in collaboration with CSIR-IGIB, Mathura Road, Delhi, and Sansriti Foundation Delhi. The facility has been funded by Star Innovation projects DU, Star College project DBT, Govt. of India, and Innovation projects DU. It was developed with the aim of providing an alternative **in vivo non – invasive model system for science education, teaching and research.**

It has become a big challenge to attract students’ interest in biological sciences. Strict guidelines and restrictions on animal experimentation at the undergraduate level have taken away all the excitement of hands-on and inquiry-based learning in biological sciences. Zebrafish is an attractive easy to work model system which offers many advantages to fill up this void.

The facility provides training in zebrafish model system to faculty and students. Till date ~ **150 faculty members and ~1000 students** from various science streams from different Delhi University Colleges have participated in various workshops conducted by the zebrafish lab facility.

The facility also hosts summer internship program for students (under-graduate and post graduate) to get hands on training and research experience.

Zebrafish lab facility also serves as a resource center to provide zebrafish and embryos to other Colleges / departments and research institutes to support teaching and lab practicals. The facility is also available for collaborative projects with faculty members of other colleges and Institutes.