

## CURRICULUM VITAE

**Sneh Lata Panwar**  
**Assistant Professor**  
**School of Life Sciences**  
**Jawaharlal Nehru University, New Delhi**  
*email:sneh@mail.jnu.ac.in*

- **Title:** Assistant Professor
- **Nationality:** Indian
- **Date of Birth:** 8<sup>th</sup> September 1972

- **Education**

	<b>Degree</b>	<b>Year</b>	<b>Subject</b>	<b>University/Institution</b>
1.	BSc	1992	Biochemistry	Sri Venkateswara College, University of Delhi
2.	MSc	1994	Biochemistry	University of Delhi South Campus
3.	PhD	2001	Life Sciences	Jawaharlal Nehru University
4.	Postdoctoral Fellow	2001-2004	Yeast Molecular Genetics	Department of Genetics, Cell Biology & Development, University of Minnesota, MN55108
5.	Postdoctoral Fellow	2004-2006	Yeast Molecular Genetics	Dept. of Physiology & Biophysics, University of Iowa, Iowa City, IA52242, U.S.A.
6.	Research Associate	2005-2006 August		School of Life Sciences, Jawaharlal Nehru University, New Delhi

- **Research interests:** Yeast Molecular Biology and Genetics

- **Work experience**

<b>S.No</b>	<b>Positions held</b>	<b>Name of the Institute</b>	<b>From</b>	<b>To</b>
1.	Assistant Professor	School of Life Sciences, Jawaharlal Nehru University, New Delhi	2006 August	Present

• **Award/Prize/Certificate**

S.No.	Name of Award	Awarding Agency	Year
1.	Indian Young Biotechnologist Award	Department of Biotechnology	2008
2.	C. R. Krishnamurthy Young Scientist Award		2000
3.	Graduate Aptitude test in Engineering (GATE), 99.14 percentile	Indian Institute of Technology	1994
4.	Junior & Senior Research Fellowship	CSIR-UGC	1994
5.	Gold Medal for standing first in M.Sc Biochemistry	Delhi University	1994

• **Visits for research exchange**

- **Visiting scientist at the** VIB-KU Leuven Center for Microbiology, Leuven, Belgium, 2011
- **Visiting scientist at the** Institut für Molekulare Infektionsbiologie, Würzburg, Germany, 2010
- **Teaching Assistant** at the Molecular Mycology course in Woods Hole, MA, U.S.A in 2002

• **PhD students supervised**

- **Supervised:** 8
- **Co-supervised:** 2
- **Thesis submitted:** 10

• **Publications**

○ **Research papers**

- Shabnam Sircaik, Elvira Roman, Priyanka Bapat, Keunsook K Lee, David Andes, Neil A. A. R. Gow, Clarrisa Nobile, Jesus Pla and **Sneh Lata Panwar**. The protein kinase Ire1 impacts pathogenicity of *Candida albicans* by regulating homeostatic adaptation to endoplasmic reticulum stress (2021). *Cell microbiol*, January 5. Impact factor- 4.3
- Sumit Rastogi, Lasse Van Wijlick, Shivani Ror, Keunsook K Lee, Elvira Roman, Pranjali Agarwal, Nikhat Manzoor, Neil A R Gow, Jesus Pla, Joachim Ernst and **Sneh Lata Panwar**. Ifu5, a WW domain-containing protein interacts with Efg1 to achieve coordination of normoxic and hypoxic functions to influence pathogenicity traits in *Candida albicans* (2020). *Cell microbiol*, Feb; 22(2):e13140. doi: 10.1111/cmi.13140. Impact factor- 4.3
- Shivani Ror and **Sneh Lata Panwar**. Sef1-regulated iron regulon responds to mitochondria-dependent iron-sulfur cluster biosynthesis in *Candida albicans* (2019). *Front Microbiol*, Jul 9;10:1528. doi: 10.3389/fmicb.2019.01528. Impact factor- 4.3

- Eijaz K Pathan, Vandana Ghormade, **Sneh Lata Panwar**, Rajendra Prasad, Mukund V Deshpande. Molecular studies of NAD- and NADP-glutamase decipher the conundrum of yeast-hypha dimorphism in zygomycete *Benjiminiella poitrasii* (2019). *FEMS yeast res* Dec 1; 19(8). pii: foz074. doi: 10.1093/femsyr/foz074. Impact factor- 2.458
  - Sonali Mishra, Sumit Kumar Rastogi, Sangeeta Singh, **Sneh Lata Panwar**, Manoj Kumar Shrivash, Krishna Misra. Controlling pathogenesis in *Candida albicans* by targeting Efg1 and Glyoxylate pathway through naturally occurring polyphenols (2019). *Mol Bio Rep, In press*. Impact factor- 2.5
  - Manoj K. Shirvash, Sonali Mishra, **Sneh Lata Panwar**, Shabnam Sircaik, Jyoti Pandey and Krishna Misra. Attenuation of pathogenicity of *Candida albicans* by application of polyphenols (2018). *J. of Microb & Biochem Technol*, April 10; doi:104172/1948-5948.1000392. Impact factor- 2.5
  - Archita Srivastava, Shabnam Sircaik, Farha Husain, Edwina Thomas, Shivani Ror, Sumit Rastogi, Darakshan Alim, Priyanka Bapat, David R Andes, Clarrisa Nobile and **Sneh Lata Panwar**. Distinct roles of the 7-transmembrane receptor protein Rta3 in regulating the asymmetric distribution of phosphatidylcholine across the plasma membrane and biofilm formation in *Candida albicans* (2017). *Cell microbiol*, 19(12). doi: 10.1111/cmi.12767. Impact factor- 4.3
  - Edwina Thomas, Shabnam Sircaik, Elvira Roman, Steven Claypool, Jean-Michel Brunel, Jesus Pla and **Sneh Lata Panwar**. The activity of *RTA2*, a downstream effector molecule of the calcineurin pathway, is required for tunicamycin-induced ER stress response in *Candida albicans* (2015). *FEMS Yeast Res*. 15 pii: fov095. doi: 10.1093/femsyr/fov095. Impact factor- 2.458
  - Nikhat Manzoor, Jesús Pla and **Sneh Lata Panwar**. Mitochondria Influence *CDR1* Efflux Pump Activity, Hog1-Mediated Oxidative Stress Pathway, Iron Homeostasis, and Ergosterol Levels in *Candida albicans* (2013). *Antimicrob Agents Chemother*. 57: 5580-5599. Impact factor- 4.2
  - Manoharlal, R., Gaur, NA., **Panwar, SL.**, Morschhaeuser, J and Prasad, R. Transcriptional activation and increased mRNA stability contributes to overexpression of *CDR1* in azole-resistant *Candida albicans* (2008). *Antimicrob. Agents Chemother*. 52: 1481-1492. Impact factor- 4.2
  - Pasrija R, **Panwar, SL.**, and Prasad R. CaCdr1p and CaMdr1p multidrug transporters of *Candida albicans* display different lipid specificities: both ergosterol and sphingolipids are essential for targeting of CaCdr1p to membrane rafts (2008). *Antimicrob. Agents Chemother*. 52: 694-704. Impact factor- 4.2
  - **Panwar, SL and** Moye-Rowley WS. Long chain base tolerance in *Saccharomyces cerevisiae* is induced by retrograde signals from the mitochondria (2006). *J. Biol. Chem*. 281: 6376-6384. Impact factor- 4
  - Zhang, X., Kolackowzsi, A., Deveaux, F., **Panwar, SL\***, Hallstrom TC., Jacq C. and Moye-Rowley WS. Transcriptional regulation by Lge1p requires a function independent of its role in histone H2B ubiquitination (2005). *J. Biol. Chem*. 280: 2759-2770. Impact factor- 4.
- \* the first three authors contributed equally to this work
- **Panwar, SL.**, Legrand, M., Dignard D., Whiteway, M. and Magee, P. T. *MFa1*, the Gene Encoding the  $\alpha$  Mating Pheromone of *Candida albicans* (2003). *Eukaryotic Cell*. 2: 1350-1360. Impact factor- 3.586
  - **Panwar, SL.**, Krishnamurthy, S., Gupta, V., Alarco, A.-M., Raymond, M., Sanglard, D. and Prasad, R. *CaALK8*, an alkane assimilating cytochrome P450 confers multidrug

- resistance when expressed in a hypersensitive strain of *Candida albicans* (2001). *Yeast* **18**:1117-1129. Impact factor- 2.3
- Krishnamurthy, S., Gupta, V., **Panwar, SL** and Prasad, R. Characterisation of human steroid hormone efflux mediated by Cdr1p, a multidrug transporter of *Candida albicans*, belonging to ABC super family (1998). *FEMS Microbiol. Letts.* **158**: 69-74. Impact factor- 1.994
  - Krishnamurthy, S., Chatterjee, U. Gupta, V., Prasad, R., Das, P., **Panwar, SL.**, Hasnain, S. E. and Prasad, R. (1998). Deletion of transmembrane domain (TM) 12 of *CDR1* a multidrug transporter from *Candida albicans*, leads to altered drug specificity: Expression of a yeast multidrug transporter in Baculovirus expression system. *Yeast* **14**: 535-550. Impact factor- 2.3
  - Krishnamurthy, S., Gupta, V., **Panwar, SL** and Prasad, R (1998). Expression of *CDR1*, multidrug resistance gene of *Candida albicans*: *in vitro* transcriptional activation by heat shock, drugs and human steroid hormones. *FEMS Microbiol. Letts.* **160**: 191-197. Impact factor- 1.994
  - Gupta, V., Kohli, A., Krishnamurthy, S., Puri, N., Aalamgeer, S. A., **Panwar, S.** and Prasad, R. (1998). Identification of polymorphic mutant alleles of *CaMDR1*, a major facilitator of *Candida albicans*, which confers multidrug resistance and its *in vitro* transcriptional activation. *Curr. Genet.* **34**: 192-199. Impact factor- 3.4
- **Reviews**
- Darakshan Alim, Shabnam Sircaik and **Sneh Lata Panwar**. The significance of lipids to biofilm formation in *Candida albicans*: an emerging perspective (2018). *J. of Fungi*, 4. *Doi:10.3390/jof4040140*.
  - **Sneh Lata Panwar**, Ritu Pasrija and Rajendra Prasad (2008). Membrane homeostasis and multidrug resistance in yeast. *Biosci Rep*, 28: 217-228. Impact factor- 2.535
  - R. Prasad and **Sneh Lata Panwar** (2004) Physiological relevance of multidrug transporters in yeasts. *Curr Sci*, 86: 1. Impact factor- 0.756
  - R. Prasad and **Sneh Lata Panwar** and Smriti (2001) Drug resistance in yeasts- An emerging scenario. *Adv Microb. Physiol.* **46**: 156-189. Impact factor- 5.8
  - R. Prasad., S. KrishnaMurthy, V. Gupta and **Sneh Lata Panwar** (1998) Multidrug transporters of *Candida albicans*. *Folia Microbiol.* **43**, 228. Impact factor- 1.4
  - R. Prasad, S. KrishnaMurthy, Ramasare Prasad, Vinita Gupta and **Sneh Lata Panwar** (1996). Multidrug resistance: an emerging threat. *Curr. Sci.* **71**, 205-213. Impact factor- 0.756
- **Book Chapters**
- Hina Sanwal, **Sneh Lata Panwar** and Rajendra Prasad. ATP-binding cassette (ABC) transporters in yeasts, their role in multidrug resistance and survival. In: ABC transporters in microorganisms: Research, innovation and value as targets against drug resistance. Alicia Ponte-Sucre (Ed), Caister Academic Press (2009).
  - R. Prasad, **Sneh Lata Panwar** and S. Krishnamurthy. Drug resistance mechanisms of human pathogenic fungi. In: Fungal Pathogenesis: Principles and Clinical Applications., R. Cihlar and R. A. Calderone, (Eds).Marcel Dekker (2001).
  - R. Prasad, **Sneh Lata Panwar** and Neeti Puri. Sex and drug ATPases in yeasts. In: Biophysical Processes in Living systems., P. Pardha Saradhi Ed. Oxford and IBH Publishing Co. Pvt. Ltd. (2001).
- **Organization of Seminars/symposia and workshop**

- **Coordinator, Orientation programme at UGC-HRDC, Jawaharlal Nehru University, New Delhi, 2018**
- **Coordinator, Orientation programme at UGC-HRDC, Jawaharlal Nehru University, New Delhi, 2018**
- **Organizing committee member of the 28th small meeting on yeast transport and energetics (SMYTE), 2010**
- **Organizing committee member of the 10<sup>th</sup> conference on yeast biology, Jawaharlal Nehru University, New Delhi, 2018**

- **Presentations and Conferences**

- **Poster presentations**

- Poster presented in conference organized by the **American Society for Microbiology** at Seattle, U.S.A in 2016
- Poster presented in conference organized by the **American Society for Microbiology** at New Orleans, U.S.A in 2014
- Poster presented in conference organized by the **American Society for Microbiology** at San Francisco, U.S.A in 2012
- Poster presented in conference organized by the **American Society for Microbiology** at Miami, Florida, U.S.A in 2010
- Poster presented in **Euroconference on Fungal Virulence Factors and Diseases** at Nice, France in 2009
- Poster presented in the **Yeast General Meeting** at Seattle, Washington, U.S.A in 2004.
- Poster presented in Euroconference on Fungal Virulence Factors and Diseases organized by the **European Commission** at Seefeld, Austria, in 2001.
- Poster presented in conference organized by the **American Society for Microbiology** at Charleston, South Carolina, U.S.A in 1999.
- Poster presented in conference organized by the **Society of Biological Chemists** at Jawaharlal Nehru University, New Delhi in 1998.

- **Invited lectures**

- 11<sup>th</sup> conference on **yeast biology**, University of Hyderabad, Hyderabad, 2019
- **Orientation programme** at UGC-HRDC, Jawaharlal Nehru University, New Delhi, 2019
- International conference on **emerging researches in bioscience**, Guru Ghasidas Vishwavidyalaya, Bilaspur, 2018
- 10<sup>th</sup> conference on **yeast biology**, Jawaharlal Nehru University, New Delhi, 2018
- Conference of **society of biological chemists**, Jawaharlal Nehru University, New Delhi, 2017
- **Interdisciplinary course in contemporary studies** at UGC-HRDC, Jawaharlal Nehru University, New Delhi, 2016
- Recent trends in **nano-biointerface** held in Jawaharlal Nehru University, New Delhi, 2015
- **Antibiotic resistance: a major global threat** held in Bhaskarcharya college, University of Delhi, 2016

- **Infection and disease:** A bug's life held in Sri Venkateswara college, University of Delhi, 2015
  - 9<sup>th</sup> International conference on **yeast biology** held in Jadavpur University, Kolkata
  - Association of microbiologists of India and International symposium on **emerging discoveries in microbiology** held in Jawaharlal Nehru University, New Delhi
  - International conference on **yeast biology** held in IMTECH, Chandigarh, 2013.
  - **Indo-German conference on pathogenic fungi** held in Jawaharlal Nehru Centre for advanced scientific research, 2010
  - Conference on **Candida and candidiasis** organized by the American Society for Microbiology at Jersey City, NJ, U.S.A, 2008
  - Conference of **society of biological chemists** held in Jawaharlal Nehru University, New Delhi, 2006
  - **ICAAC conference** at Chicago, U.S.A, 2003
- **Details of research projects**
- **Ongoing Research Projects**

S. No	Title	Sanctioned amount	Duration	Role as PI/Co-PI	Agency
1.	Screening for drugs against the Endoplasmic Reticulum stress-responsive Rta proteins of <i>Candida albicans</i> for antifungal therapy: implications in wound infections	50,00,000	3 years (2019-2022)	PI	DRDO
2.	Establishing the phospholipid flippase subunit Lem3 as a novel co-target for circumventing resistance to existing antifungals in <i>Candida albicans</i> .	44,56,083	3 years (2020-2023)	PI	ICMR

- **Completed research projects**

S. No	Title	Sanctioned amount	Duration	Role as PI/Co-PI	Agency
1.	Genome-wide impact of tunicamycin-induced response in strains deleted of genes encoding GPCR-like proteins in <i>Candida albicans</i>	44,95,000	3 years (2014-2018)	PI	DBT

2.	Relevance of a WW domain-containing protein coregulated with the drug efflux pumps in <i>Candida albicans</i>	57,65,800	3 years (2012-2015)	PI	DBT
3.	Role of mitochondria in drug resistance in <i>Candida albicans</i>	46, 15,000	5 years (2008-1-2013)	PI	DBT-IYBA
4.	Exploring the link between membrane environment and multidrug resistance human pathogenic fungus <i>Candida albicans</i>	66, 00, 000	3 years (2008-2012)	PI	DBT
5.	Membrane homeostasis: An important determinant of drug susceptibilities in the human pathogenic fungus <i>Candida albicans</i>	11, 82,000	3 years (2007-2010)	PI	DST-fast track