Cluster Innovation Centre

संकुल नवप्रवर्तन केंद्र

...Evolving Senses

Dissolving Boundaries...

Faculty Performa

Title	**Dr.**	**First Name**	**Jogeswar Satchidananda**	**Last Name**	**Purohit**	**Photograph**
Designation		Associate Professor (Level 13)				
Address		**Office:** Room No. 115 First Floor, Cluster Innovation Centre, University Stadium, G.C. Narang Road, Delhi University, North Campus, Delhi-110007, India **Lab:** Epigenetics and Chromatin Biology Lab Room No-G-2 (Ground Floor) DREAM Building Near Gate No. 4 Delhi University, North Campus Delhi- 110007, India				
Phone No Office		(+91) 11-27666706, Extension: 132				
Address Residence		Flat No. C-3, II Floor, Dev Bhoomi Apartments, Vijay Colony, 41 Feet Road, Sant Nagar, Burari, Delhi-110084				
Mobile		(+91) 9764036065				
Email		jspurohit@cic.du.ac.in, sachin.jogesh@gmail.com				
Web-Page		https://cic.du.ac.in/				
Scientific Links/Ids		**ORCiD** : https://orcid.org/0000-0003-0462-3494 **Vidwan-ID** : 308415 **Scopus ID** :10838998600 **Google Scholar Link**: https://scholar.google.com/citations?user=r6hSiukAAAAJ&hl=en				

Educational Qualifications			
Degree	**Institution**	**Division**	**Subjects/Topics**
Ph. D. (2009)	**Delhi University**	-	**Purification and Characterization of a Novel Histone H3 N-Terminus Specific Protease from Chicken and Bovine Liver**
M. Tech (2002)	IIT Kharagpur	1st	Agricultural and Food Engineering
M. Sc.(2000)	Sambalpur University, Orissa	1st	Life Sciences with Genetics special paper
B. Sc.(1998)	Sambalpur University, Orissa	1st	Zoology (Hons), Chemistry and Botany
GATE (2001) (All India Rank 94)	Organized by IIT Kharagpur	1st	Life Sciences
CSIR-JRF (2002)	CSIR	-	Life Sciences

Career Profile	
August 10, 2015-continuing	Assistant Professor, Biochemistry and Molecular Biology, Cluster Innovation Centre, University of Delhi, North Campus, Delhi
November 22, 2010-August 08, 2015	Assistant Professor, Department of Zoology, Smt. C.H.M. College, Ulhasnagar, Thane, Mumbai, Maharashtra (Affiliated to University of Mumbai)
October 01, 2007-November 21, 2010	Assistant Professor, School of Biotechnology, KIIT University, Bhubaneswar, Orissa
July 07, 2007-September 30, 2007	Lecturer, Biosciences and Biotechnology, Banasthali Vidyapith University, Tonk, Jaipur, Rajasthan

Specialization / Research Interests

Epigenetics and Chromatin Biology

- Characterization of chicken nuclear GDH as a histone H3 N-terminus specific Protease
- Characterization of a novel histone H2A C-terminus specific protease from chicken liver
- Age dependent epigenetic changes in mice chromatin and exploring sperm mediated epigenetic inheritance
- Evaluation of chromatin decompaction and epigenetic changes during cancer progression (*In collaboration with **Prof. Anju Shrivastava**, Department of Zoology, Delhi University*)

Public health and diseases

- Exploring novel histone derived AMPs from archaeal, chicken and human histones
- Evaluation of Knowledge and Attitude of Delhi University Students towards cancer
- Data analysis exploring correlation of SWI/SNF complexes with cancer types

Biochemistry and Molecular Biology

- Purification of proteins and complexes from native cell/tissue sources
- Cloning, expression and purification of heterologous proteins

Courses/papers Taught

(Teaching the following courses at M.Sc. / B. Sc. /B. Tech / M. Tech. level since 2007).

- Flow of Information in living system (B. Tech, CIC)
- Biological Networks (B. Tech, CIC)
- Biodefense and Bioengineering (B. Tech, CIC)
- Exploring living systems (B. Tech, CIC)
- Genes to Genomes (B. Tech, CIC)
- Ayurveda and Nutrition (VAC course, CIC)
- Forensic Chemistry (SEC course, DU)
- Isolation and Characterization of Genomic DNA (SEC course, DU)
- Conformation and flexibility of DNA (Structure and Function of Gene) (Special paper, M.Sc. Department of Zoology, DU)
- Molecular Genetics (M. Sc, KIIT University)
- Molecular Biology (M. Sc, KIIT University)
- Instrumentation (M. Tech, KIIT University)
- Recombinant DNA Technology (M. Tech, KIIT University)

Research Guidance

- As Co-supervisor, 2 students have successfully completed Ph.D.
- 3 students pursuing Ph. D. as Supervisor/Joint Supervisor at Department of Zoology, Delhi University.

Research Projects and Extra Mural Grants

1. Exploring novel antimicrobial peptides (AMPs) from proteolytically clipped archaeal and chicken histones: DBT, 2024-27 (**40 lakhs**)
2. Evaluation of Age-linked Chromatin Modifications in Mice Sperm: ICMR Adhoc Grant 2020-23 (**56 lakhs**)
3. Characterization of H3 specific protease (H3ase) activity of chicken liver Glutamate dehydrogenase , DST-SERB-EMR grant 2016-17 (**62.74 lakhs)**.
4. Characterization of the novel histone H2A specific protease from chicken liver nuclear extract (UGC major research project, sanctioned December 2014 (**11.55 lakhs**).
5. Purification of a Novel Histone H2A Specific Protease From Chicken Liver Nuclear Extract, DU R&D grant 2015-16 (**3 lakhs**)
6. Development of Intelligent 3D printed Prosthetics, Joint PI, Delhi University Innovation Project Grant, August 2015 to March 31, 2016 (**6 lakhs**)
7. Biophysical and biochemical characterization of GDH as a H3 specific protease from chicken liver (Minor Research project from University of Mumbai, Completed in 2015).
8. Establishment of assay system for characterization of a histone H2A specific protease from chicken liver

(Minor Research project from University of Mumbai, completed in 2013).

Research Publications

Journal Publications

1. **Purohit, J.S.***, Singh, M., Raghuvanshi, Y. et al., Chaturvedi M.M.* Evaluation of the Moonlighting Histone H3 Specific Protease (H3ase) Activity and the Dehydrogenase Activity of Glutamate Dehydrogenase (GDH). Cell Biochem Biophys 82, 223–233 (2024). https://doi.org/10.1007/s12013-023-01201-9
   (Springer Press, Scopus Indexed Journal).
2. Kala, G., Mir, M.S., Pandey, N., Shrivastava, S., **Purohit, J.S.***. Knowledge, awareness and attitude towards cancer: An intervention-based study among the students of the University of Delhi, India, 10.55131/jphd/2023/210319. J Public Hlth Dev [Internet]. 2023 Oct. 10 [cited 2024 Sep. 3];21(3):246-59. Available from: https://he01.tci-thaijo.org/index.php/AIHD MU/article/view/264182
   (Scopus Indexed Journal).
3. Singh, A., Modak, S.B., Chaturvedi, M.M., **Purohit, J. S.*** SWI/SNF Chromatin Remodelers: Structural, Functional and Mechanistic Implications, Cell Biochemistry and Biophysics, 81, 1-21 (2023).
   (Springer Press, Scopus Indexed Journal).
4. Singh, A., Verma, S., Modak, S.B., Chaturvedi, M.M., **Purohit, J.S.*** Extra-nuclear histones: origin, significance and perspectives, Molecular and Cellular Biochemistry 477 (2), 507-524 (2022).
   (Springer Press, Scopus Indexed Journal).
5. Panda, P.P., Bohot, M., Chaturvedi, M.M., **Purohit, J.S.*** Purification and partial characterization of vinculin from chicken liver nuclear extract Biologia, 76 (4), 1349-1357 (2021).
   (Springer Press, Scopus Indexed Journal).
6. Verma, S., **Purohit**, J.S., Arora, A. et al., Chaturvedi, M.M.,* Liver regeneration: metabolic and epigenetic regulation Hepatoma Res, 7(16), 1-14, (2021).
   (Scopus Indexed Journal).
7. Singh, N., **Purohit, J.S.,** Shanti, S., Singh, A., Panigrahi, A.K., Chaturvedi, M.M.* Characterization of the N-terminally clipped histone H3 (Δ H3) from old chicken and rat liver. Int J Clin Exp Pathol. 10 (5), 5334-5342. (2017)
   (Scopus Indexed Journal).

8. Tiwari, A.K., Panda, P., **Purohit, J.S.*** Evaluation of sub-cellular distribution of glutamate dehydrogenase (GDH) in Drosophila melanogaster larvae, Acta histochemical 116 (2), 297-303 (2014).
   (Elsevier Press, Scopus Indexed Journal).
9. **Purohit**, J.S., Tomar, R.S., Panigrahi, A.K., et al., Chaturvedi, M.M.,* Chicken liver glutamate dehydrogenase (GDH) demonstrates a histone H3 specific protease (H3ase) activity in vitro, Biochimie 95 (11), 1999-2009. (2013)
   (Elsevier Press, Scopus Indexed Journal).
10. Panda, P., Chaturvedi, M.M., Panda, A.K., Suar, M., **Purohit, J.S.***, Purification and characterization of a novel histone H2A specific protease (H2Asp) from chicken liver nuclear extract, Gene 512 (1), 47-54 (2013).
    (Elsevier Press, Scopus Indexed Journal).
11. Babu, K., Garg, S., Mohapatra, P.K., Fernandez, P.X., **Purohit, J.S.*** Comparison of nutritional values of different varieties of onions cultivated in Indi**a.** International Journal of Integrative sciences, Innovation and Technology, 1:4: 25-31 (2012) (ISSN 2278-1145).
    (Peer reviewed Journal)
12. **Purohit, J.S.*,** Chaturvedi, M.M., Panda, P., Histone proteases: the tale of tail clippers. International Journal of Integrative sciences, Innovation and Technology, 1: 1: 51-60 (2012) (ISSN 2278-1145).
    (Peer reviewed Journal)
13. Panda, P., Suar, M., Singh, D., Pandey, S.M., Chaturvedi, M.M., **Purohit, J.S.***, Characterization of Nuclear Glutamate Dehydrogenase of Chicken Liver and Brain. Protein Pept Lett. 12:1194-1203 (2011)
    (Benthem Press, Scopus Indexed Journal).
14. Chaturvedi, M.M*., **Purohit, J.S**., Tomar, R.S., Panigrahi, A.K., An Irreversible Modification of Histone H3: Identification and Characterization of Histone H3specific Protease from Chicken Liver, 2 The FASEB Journal 24, lb64-lb64 (2010) **(Elsevier Press, Scopus Indexed)**
15. **Purohit, J.S**, Dutta, J.R., Nanda, R.K., Banerjee R*, Strain improvement for tannase production from co-culture of Aspergillus foetidus and Rhizopus oryzae. Bioresource Technol. 97(6):795-801 (2006)
    (Scopus Indexed Journal).

Book Chapters

1. **Purohit, J.S.,** Singh, N., Hussain, S.S., Chaturvedi, M.M*. (2020). Attaining Epigenetic Rejuvenation: Challenges Ahead. In: Rath, P. (eds) Models, Molecules and Mechanisms in Biogerontology. Springer, Singapore. https://doi.org/10.1007/978-981-32-9005-1_9

2. **Purohit, J.S**., and Chaturvedi M.M.* (2016) Chromatin and Aging. In Rath, P. (eds) Topics in Biomedical Gerontology. (2017).Page 205-241, Springer Press, Singapore (ISBN: 978-981-10-2154-1)

3. **Purohit J.S.*,** Sarkar, B., Chaturvedi, M.M., and Panda, P. (2014) Creation of Synthetic Cell: From the Concept of Life to Revisiting the Origin of Life. In Sarkar, B. (eds) Biochemistry and Biotechnology Vol. II, Daya Publishing House Delhi, (ISBN:9789351243120)

Administrative Assignments at CIC / at University

- **Deputy Dean, Academic Affairs, University of Delhi (October 2021-February 2023)**
- Program Coordinator, B. Tech. (IT and Mathematical Innovation), CIC (July 2023-continuing)
- Coordinator, Ph. D. program of CIC (July 2023 –continuing)
- Convener, Admission Committee, CIC (July 2024-continuing)
- Convener, Examination committee, CIC (2018-19 and 2022-24)
- Member Secretary DRC, Cluster Innovation Centre (January 2023-continuing)
- Course Coordinator of Integrated M. Tech Biotechnology at KIIT University Bhubaneswar (2007-2010)
- Member, Purchase Committee, CIC (2015-continuing)
- Member, Infrastructure and Space Committee (2021-continuing)
- Member, Academic Committee, CIC (2021-continuing)
- Convener, Store Committee (2020-2022)
- Member, Store Committee (2022-continuing)

Invited talks/Conference presentations

(Attended more than 30, some of them represented where acted as resource person or oral or poster presentations)

1. J.S. Purohit, S.M. Pandey, M.M. Chaturvedi, A protease to remove epigenetic mark(s) of histone H3: Characterization of a histone H3 specific protease from chicken liver, 30th All India Cell Biology Conference, University of Delhi, February 2-4, 2007.

2. J. S. Purohit, “Add some color to your diet”, resource person, training and workshop on environment and health, Ministry of environment and forest, India organized at KIIT University Bhubaneswar, November 21- 22, 2008.
3. J.S. Purohit, “Why to do Research”, resource person, Research communication for societal change, CEPP and KIITCIE, KIIT University Bhubaneswar, August 12, 2009.
4. J.S. Purohit, Creating living Systems, DST Inspire talk, KIIT University Bhubaneswar, April 2010.
5. J.S. Purohit, S.M. Pandey, R.K. Mishra, S.Garg, P.C. Mathew, P.X. Fernandez, M.M. Chaturvedi,
6. Characterization of a histone H3 specific protease, Emerging trends in Biological Sciences, the present era,

   Birla College, Kalyan, University of Mumbai, February 1, 2011.
7. J. S. Purohit, S.M. Pandey, Divya Singh, M.M. Chaturvedi, Characterization of a moonlighting histone H3 specific protease from chicken liver nuclei, Modern research trends and applications in Life sciences, Elphinstone College, Fort, University of Mumbai, January 7, 2012.
8. J. S. Purohit, Epigenetics and human Diseases, BASE annual camp, HBCSE, September 2013
9. J. S. Purohit, The history of DNA discovery and beyond, BASE annual camp, HBCSE, September 2014.
10. J. S. Purohit, Experiments in Science education for school teachers, Goa Science Center, Goa, November 2014.
11. J. S. Purohit, Experiments in Science education for school teachers, Swami Narayan School, Vapi,February 2015.
12. J. S. Purohit, Experiments in Science education for school teachers, Akal University, Bathinda, Punjab February 2017.
13. J. S. Purohit, Experiments in Science education for school teachers, in International Indian Science Festival organized by Vigyan Prasar and DST, Anna University, Chennai October 13-16, 2017.
14. J. S. Purohit, Experiments in Science for Science Village, International Indian Science Festival organized by Vigyan Prasar and DST, On line Mode October 2020.
15. Designing living systems-, Invited talk on the workshop on Synthetic Biology and Biotechnology-A tool for shaping human future, organized by Department of Zoology, Deshbandhu College under DBT star college scheme, October 31, 2020
16. J S Purohit, Resource Person as International Expert, for 18th IJSO academic camp held in UAE, Al Ain from September 20-26, 2021
17. J.S Purohit, Invited talk on Molecular Biology for National level examinations by M.Sc. Life Science students, organized by INYAS and ATBS, Mumbai, May 17, 2021

18. J S Purohit, Invited Talk on Age dependent epigenetic change in the chromatin: Identification and characterization of histone H3 specific proteases in chicken liver, 5th International Conference on Nutraceuticals and Chronic Diseases -7-9 October, 2022.
19. J S Purohit, Resource Person for demonstration of experiments at Science Village, India International Science Festival 2023-24, January 2024
20. J S Purohit, resource person for Capacity Building Workshop on Project-Based Learning in Higher Education for faculty members of Islamia College of Science & Commerce, Srinagar, J&K, Organized by CIC, 10th – 12th Jan 2024.
21. J S Purohit, resource person for Orientation Workshop on Design Your Own Degree (DYOD) for students of Islamic University of Science & Technology (IUST) Awantipora, J&K, Organized by CIC, 1st – 2nd Feb 2024
22. J S Purohit, resource person for Capacity Building Workshop on Design Your Own Degree (DYOD) for faculty members of Govt. College for Women, Parade Ground, Jammu, J&K, Organized by CIC, 15th – 17th Feb 2024
23. J S Purohit, resource person for Capacity Building Workshop on Design Your Degree (DYD) for teachers of Kashmir University, Srinagar, J&K, Organized by CIC, 28 Feb – 1st March 2024
24. J S Purohit, resource person for Workshop on Cultural Heritage and Entrepreneurship for students of Govt. College for Women, Parade Ground, Jammu, J&K, Organized by CIC, 18th – 20th March 2024

Awards Honors and Distinctions

International Recognitions:

1. **Team leader (Biology)** of Indian team for International Junior Science Olympiads (IJSO) 2013, held in Pune, India.
2. **Team leader (Biology)** of Indian team for International Junior Science Olympiads (IJSO) 2014, held in Mendoza, Argentina.
3. **Acting as Judge** for UA global Undergraduate Innovation Awards, organized by Dublin Iceland since 2018.
4. **International expert for Academic committee** for International Junior Science Olympiads (IJSO) 2021, held in Dubai.

National Recognitions:

1. Resource Person for Indian Junior Science Olympiads, organized by HBCSE, India from 2011 to 2021.
2. Subject Co-coordinator (Biology) for the Academic Committee of Vidyarthi Vigyan Manthan, Organized by DST Vigyan Bharti and NCERT, since 2016.
3. 2nd prize for Oral, on, Characterization of a moonlighting histone H3 specific protease from chicken liver nuclei, Modern research trends and applications in Life sciences, Elphinstone College, Fort, University of Mumbai, January 7, 2012.
4. 1st Prize for Oral, Characterization of a histone H3 specific protease, Emerging trends in Biological Sciences, the present era, Birla College, Kalyan, University of Mumbai, February 1, 2011.

Other Activities: B. Tech/BA students projects handled:

1. Garbage to gold: managing kitchen waste of the Jubilee Hall canteen.

2. Awareness about managing kitchen waste and making kitchen garden in DU staff quarters.

3. Understanding the knowledge and attitude of Delhi University students towards cancer.

4. Evaluation of access to nutrition and health of Delhi University students.

4. Mapping Social Innovations in Ancient India

5. In silico study of the compositional micro-heterogeneity of the SWI/SNF complex in cancer: meta-analysis.

6. In silico modeling the chicken SWI/SNF remodeling complex.

7. Exploring histone derived novel AMPs in archaebacteria

Any other Activities

Interested in designing simple and simulation experiments for school children.

(Jogeswar S Purohit)

Updated on September 2024