

Mayanglambam Dhruba Singh

Scientist IV
National Brain Research Centre
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Experience

- Scientist III, National Brain Research Centre, India (2020-2024)
- Postdoctoral researcher (June 1, 2018- June 5, 2020)
Topic: Large-scale modifier screening of the Drosophila model of Alzheimer's disease.
University of Florida, Florida-32610, USA
- Postdoctoral researcher (June 1, 2015- May 31, 2018)
Topic: Use of Drosophila to model human Copy number variation (CNVs) such as 3q29 and 16p11.2 deletion.
The Pennsylvania State University, Pennsylvania-16802, USA

Education

- Ph.D. (2008-2014)
Thesis title: Studies on role of dMyc in modulation of human neurodegenerative disorders in Drosophila poly(Q) disease models.
University of Delhi, South Campus, Delhi-110021, India
- Master of Science in Zoology (2006-08): First Division
University of Delhi-110007, India
- Bachelor of Science in Zoology (2003-06): First Division
University of Delhi, Delhi 110007, India

Awards

- Junior Research Fellowship: 2008-2010; (JRF/NET) Council of Science and Industrial Research (CSIR), Government of India, New Delhi.
- Senior Research Fellowship: 2010-2013; (SRF) Council of Science and Industrial Research (CSIR), Government of India, New Delhi.

Member

- Indian Society of Cell Biology

Supervision of Ph.D. and Dissertation students

- 4 Ph.D. students enrolled.
- Guided 4 M.Sc. dissertation students.
- 2 M.Sc. Dissertation ongoing

Conferences

- PI3K/Akt signalling in Myotonic Dystrophy 1 in Drosophila model, Invited talk, March 07, 2025, IBSD, Manipur.
- Pten knockdown ameliorates Huntington's disease in Drosophila model, Indian Academy of Neuroscience, November 12-24, 2024, NIMHANS, Bengaluru, India.
- Shreya Borthakur, Mayanglambam Dhruba Singh. Alleviation of Myc expression suppresses Myotonic Dystrophy 1 in Drosophila model. (Poster) 47th All India Cell Biology Conference, NISER, Bhubaneswar, 16-18 December 2024.
- M. Dhruba Singh. Downregulation of Pten is neuroprotective in Huntington's disease model in Drosophila. Regional Young Investigator meet, BITS, Pilani, (18-20 January 2024)-Oral Presentation
- Nisha, Bhavya Gohil, Sanchi Ahuja, Deepti Thapliyal, Mayanglambam Dhruba Singh. PTEN knockdown ameliorates Huntington's disease in Drosophila model. (Poster) 46th All India Cell Biology Conference, ACTREC, Mumbai, January 10-12, 2024
- Deepti Thapliyal, M. Dhruba Singh. Upregulation of PI3K/Akt signalling suppresses Spinocerebellar ataxia-3. (Poster) 46th All India Cell Biology Conference, ACTREC, Mumbai, January 10-12, 2024
- Nisha, Bhavya Gohil, Sanchi Ahuja, Mayanglambam Dhruba Singh. Neuroprotective role of PTEN in suppression of Huntington's disease in Drosophila disease model. (Poster) The 6th Indian Drosophila Conference (InDRC, 2023), IISER, Thiruvandrapuram, 6-10 December, 2023
- **Mayanglambam Dhruba Singh**, Jean R Geste and Diego E. Rincon-Limas. Identification of genetic modifiers in a fly model of Alzheimer's disease co-expressing A β 42 and tau. 60th Annual Drosophila Research Conference, March 27–31, 2019, Dallas, Texas, USA
- **Mayanglambam Dhruba Singh**, Pragya Prakash, Jean R Geste and Diego E. Rincon-Limas. A large-scale genetic modifier screening in a fly model of Alzheimer's disease expressing human A β 42 and tau. Southern Neurodegenerative conference, Sept. 27-29, 2018, Orlando, Florida, USA.
- Apoptosis drives the pathogenicity in a Drosophila model of 3q29 deletion. Platform Presentation October 19, 11:30 am, 2017, **American Society of Human Genetics Meeting** at Orlando, Florida, USA.
- A Drosophila model of 16p11.2 deletion supports a complex cis and trans interaction model for neurodevelopmental disorders. Platform Presentation, October 22, 9:15 am, 2016, **American Society of Human Genetics Meeting** at Vancouver, Canada.

Publications

- Dipti Chakraborty, Shreya Borthakur, Ritu Sarkar, **Mayanglambam Dhruba Singh**, Gender disparities in myotonic dystrophy 1, **Life Sciences**, 373, 2025, 123659. doi.org/10.1016/j.lfs.2025.123659
- Nisha, Thapliyal D, Gohil B, Modak AS, Singh NT, Mukherjee C, Ahuja S, Sahu BS, **Singh MD**. Downregulation of Pten Improves Huntington's Disease Phenotype by Reducing Htt Aggregates and Cell Death. **Mol Neurobiol**. 2025 Mar 5. doi: 10.1007/s12035-025-04816-6.
- Pizzo L, Lasser M, Yusuff T, Jensen M, Ingraham P, Huber E, **Singh MD**, Monahan C, Iyer J, Desai I, Karthikeyan S, Gould DJ, Yennawar S, Weiner AT, Pounraja VK, Krishnan A, Rolls MM, Lowery LA, Girirajan S. Functional assessment of the "two-hit" model for neurodevelopmental defects in Drosophila and X. laevis. **PLoS Genet**. 2021 Apr 5;17(4):e1009112. doi: 10.1371/journal.pgen.1009112.
- **Singh MD***, Jensen M*, Lasser M, Huber E, Yusuff T, Pizzo L, et al. (2020) NCBP2 modulates neurodevelopmental defects of the 3q29 deletion in Drosophila and X. laevis models. **PLOS Genetics**, 16(2): e1008590 ISSN 1553-7390. (* Contributed equally). DOI: 10.1371/journal.pgen.1008590
- Iyer J*, **Singh MD***, Jensen M*, Patel P* et al. (2018). Pervasive genetic interactions modulate neurodevelopmental defects of the autism-associated 16p11.2 deletion in Drosophila melanogaster. **Nature Communications**, volume 9, Article number: 2548. ISSN 2041-1723. (* Contributed equally). DOI: 10.1038/s41467-018-04882-6
- **Singh MD**, Raj K, Sarkar S. (2014) Drosophila Myc, a novel modifier suppresses the poly(Q) toxicity by modulating the level of CREB binding protein and histone acetylation. **Neurobiology of Disease**, 63:48-61. ISSN 0969-9961. DOI: 10.1016/j.nbd.2013.11.015
- **M Dhruba Singh**, Soram Idiyasan Chanu, Surajit Sarkar (2016) Deciphering the Enigma of Human Poly(Q) Disorders: Contribution of Drosophila melanogaster. International Journal of Neurology Research, 2(1): 216-223. ISSN 2313-5611. DOI: 10.17554/j.issn.2313-5611.2016.02.42
- S Idiyasan Chanu, **M Dhruba Singh**, Nisha, Surajit Sarkar. (2014) Transcriptional up-regulation and its impact on poly(Q) disorders. Therapeutic Targets for Neurological Diseases, 1: e312. ISSN 2376-0478. DOI: 10.14800/ttnd.312
- S Idiyasan Chanu, **M Dhruba Singh**, Renu Yadav, Kritika Raj and Surajit Sarkar (2013) Neurodegeneration and Ageing: A Fatal Encounter. Cell and Developmental Biology, S1: 002. ISSN 2168-9296. DOI: 10.4172/2168-9296.1000119
- Surajit Sarkar, **M Dhruba Singh**, Renu Yadav and S Idiyasan Chanu (2012) Flying with Flies: Decoding Human Neurodegenerative Disorders in Drosophila. Cell and Developmental Biology, 1:e112. ISSN 2168-9296. DOI: 10.4172/2168-9296.1000e112