Curriculum Vitae

NAME Surajit Ganguly, Ph.D.	CURRENT POSITION TITLE Professor and Former Head, Department of Molecular Medicine
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OFFICE ADDRESS: Department of Molecular Medicine (DMM), Jamia Hamdard (Hamdard University), Hamdard Nagar, New Delhi 110062	Email: surajit.ganguly@jamiahamdard.ac.in, drgangulys@gmail.com;
PERSONAL INFORMATION: Date of birth - June 23, 1966. Gender – Male; Marital status – Married.	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	MM/YY	FIELD OF STUDY
University of Calcutta (St. Xavier's College), India	BSc (Honors)	1989	Chemistry
University of Calcutta, India	MSc	1991	Biochemistry
Jadavpur University, Calcutta, India [work done at Indian Institute Of Chemical Biology (CSIR)]	PhD	1998	Science (Biochemistry)

A. Expertise and Personal Statement

I am currently Head of the Department and Research Investigator (Professor) at the Department of Molecular Medicine (DMM), Hamdard University (Jamia Hamdard) with over 28 years (post-PhD) of experience in the field of Molecular and Cellular Neuro-immune interaction biology, including research on circadian regulation of melatonin synthesis in higher mammals. In collaboration with Dr. David Klein at NIH, Bethesda USA, I identified the clock-driven cellular mechanism promoting daily rhythm in melatonin production in brain of higher mammals. This is still regarded as the major regulatory mechanism of humans as well. I have a PhD degree in Science (Biochemistry) from Jadavpur University (CSIR-NET fellow at Indian Institute of Chemical Biology). After completing Post-Doc training at NICHD, NIH, I was a staff Scientist at NIH, Bethesda, USA and subsequently, was a research/teaching faculty at Johns Hopkins Medical Center, Baltimore, before relocating to India in 2008. I am a recipient of Award of Merit from the US Public Health Service (for the work on Melatonin) at NIH and Prof. B Uvnas Prize (Gold Medal) from the Indian Pharmacological Society including several other awards and fellowships. I was a invited speaker for several Gordon Research Conferences including at Queens College, Oxford University and Ventura at California. I authored over 40 research articles, majority in substantially high impact journals with an average impact factor of more than 6 per publications so far.

Currently, the central thrust of my laboratory at DMM is to understand how pathogenic microbe models like Gain-of-function Engineered *E.coli*, commensal *S aureus*, viruses, induced peripheral inflammation modulating neuronal functions in brain leading to mental disorder in animal models (Publications #1, 2, 8-14; Grant support – DBT; SERB; ICMR). As a new research focus, we have initiated predictive marker identification in Immune Checkpoint Inhibitor Therapy and outcome (publication #4, #7) as well as targeting cancer-stem cells for inhibition of their aggressive tumorigenic potential (#3, #5)

B. Positions, Honors and Honorary Academic services

i) Positions and Employment:

1998 – 2003 Post-Doctoral Fellow, National Institute of Child Health and Human Development (NICHD), NIH, USA.
2003 – 2005 Staff Research Scientist, National Institute of Child Health and Human Development (NICHD), NIH, USA.
2005 – Nov, 2007 Faculty Tenure Track, Johns Hopkins University School of Medicine, Baltimore, MD, USA.
2005 – 2007 Adjunct Scientist, Section of Neuroendocrinology, NICHD, NIH, USA.
2007 – March 31, 2016 Team Lead Scientist, Institute of Molecular Medicine (IMM), New Delhi, India.
April 1, 2016 – June 6, 2019, Team Lead Scientist, Jamia Hamdard-Institute of Molecular Medicine (JH-IMM), Jamia Hamdard (Hamdard University), New Delhi, India.
June 7, 2019 – present; Associate Prof, Department of Molecular Medicine, Jamia Hamdard, New Delhi, India.
July, 2022 – Present Head, Department of Molecular Medicine, Jamia Hamdard, New Delhi, India.

ii) Major Awards:

• Prof. B Uvnas Prize (Gold Medal) from the Indian Pharmacological Society for the Published work in Neuropharmacology 63 (6):1161-1171. Dec 24, 2014.

• DHR/ICMR award for short-term fellowship (2014-15) for Collaborative Genomics studies using Next-Generation sequencing at NIH, USA.

• Award of Merit for "Productivity and Cutting-edge Research" related to contribution in Melatonin biology, Oct 31, 2002, U.S. Public Health Services, National Institutes of Health, Maryland, USA.

• Award of Post-Doctoral research Fogarty International fellowship at NIH, Maryland, USA., 1998.

• Award of NIH-funded Research Associateship at Cardinal Bernadin Cancer Center, Loyola University, Chicago, USA; 1998.

• Award of Research Fellowship (JRF and SRF) from CSIR to conduct Doctoral research in India -1992.

iii) Chairmanship and Selected (Only Major) Invited Talks:

* Invited Popular Lecture at Indian Institute of Engineering Science and Technology, Shibpur (IIEST Shibpur) – 26 December 2017.

* Chaired session "Current Barrier and Directions in Liver Cancer using NGS" at IASLPDC, New Delhi, Nov17, 2013 (Organized by ILBS, Delhi)

* Chaired sessions and Plenary Speaker at the XXII National Symposium on Chronobiology, March, 15-17, 2011, Kurukshetra University, Kurukshetra, India.

* Invited to speak at Taconic, Rockville, Maryland, USA. March 22, 2007.

* Invited speaker at "Mast Cell Research Interest Group" meeting at NIH, Bethesda MD, USA. Feb 20, 2007.

* Invited speaker at National Brain Research Centre, Manesar, Haryana, India, December 22, 2006.
*Invited speaker at Division of Therapeutic Proteins, CDER, FDA, Bethesda, MD, USA; July 15, 2005.
* Invited speaker at Pineal Cell Biology Gordon Research Conference , Queens College, Oxford, U.K., Aug 29- Sept 3, 2004.
* Invited Speaker at Pineal Cell Biology Gordon Research Conference in Ventura, California, USA, February 10, 2002.
* Invited lecture at AANAT International Workshop conducted by NICHD, NIH at Airlie, Virginia, USA, May 2001.

iv) Regular / Guest Teaching Activities (Selected)

***** Course Coordinator and teacher of MSc course (BMS 102, BMS 202, BMS 301, 305) in Biomedical Sciences (BMS) at Department of Molecular Medicine (DMM) – (2020- present).

* Teacher of MSc Medical Virology, Department of Molecular Medicine (Sem-1 to Sem-III, MMV 102/

* Semester-1 M. Pharm Course (MPB 104T) on Pharmaceutical Biotechnology at Jamia Hamdard.

* Semester 1- course 102 (4 credits) Molecular and Cellular Basis of Toxicology - Toxicology Department – Jamia Hamdard – (2016 - 2017).

* 3rd Year Medical MSc – Course on Molecular Biology in Medical Physiology, HMSR, Jamia Hamdard. 2019

* Guest Faculty at SERB School in Chronobiology III (20th June – 3rd July 2012) at the department of Zoology, NE Hill University, Shillong, Meghalaya (DST sponsored).

* Guest Faculty at SERB International School in Chronobiology 01-14 October 2011 at Department of Zoology, CCS University, Meerut, UP (sponsored by DST, Govt of India).

* Taught "Neuroscience" course at Haverford College, Haverford, Pennsylvania, USA; "14-3-3 protein and neurodegeneration" on September (Fall session), 2006.

***** Taught a graduate course (June, 2004) on Neurosciences. Title: "Circadian Gene Expression in the Brain" co-organized by NIH, USA and *Graduate School of Neuroscience*, University of Copenhagen, Denmark, at Copenhagen.

***** Taught Microarry technique at Affymetrix Microarray Workshop, Airlie, Virginia (Jan 13-14, 2003).

v) Honorary academic and organizational Services (Selected):

2022 -	Head of the Department of Molecular Medicine, Jamia Hamdard, New Delhi
2022 -	Chairman, Board of Studies, Department of Molecular Medicine, New Delhi
2022 -	Thesis Examiner, Jawaharlal Nehru University, New Delhi
2019 -	Member of Board of Studies, Department of Molecular Medicine, New Delhi
2016- 17	Paper setter / Examiner – Toxicology and Biotechnology departments, Jamia Hamdard
2015 -	Examiner, Biochemistry department (external member), Jamia Hamdard.
2014 -	Member of the International Society for Neurosciences.

2014	JRF selection committee (external member), Jamia Hamdard
2014	Member of the Board of Examiners, Biochemistry Department, University of Calcutta.
2012	Member, Local Organizing Committee, International Congress on Chronobiology, Delhi, India.
2010 -	Elected, Life Member, Indian Society for Chronobiology.
2009 -	Institutional (IMM) Ethics committee and Bio-Safety committee member.
2003- 07	Co-organizer/Moderator of "14-3-3 Protein Interest Group" Lecture series in Greater Washington DC area at NIH, MD, USA.

C. Selected Publications (total pubs about 50) --- Average Impact Factor > 6.0 per publication.

1. Kriti Jain, Anika Goel, Deepa Mehra, Deepak Kumar Rathore, Akshay Binayke, Shyam Aggarwal, Surajit Ganguly, Amit Awasthi, Evanka Madan and Nirmal Kumar Ganguly. Cytokine profiling identifies circulating IL-2, IL23 and sPD-L1 as prognostic biomarkers for treatment outcomes in non-small cell Lung Cancer patients undergoing anti-PD1 therapy. Journal: Frontiers in Oncology 10.3389/fonc.2025.1628379 (Accepted for Publication; 20-06-2025).

2. Abdullah A, Kumar A, Beg AZ, Chawla A, Kar S, Ganguly S*, Khan AU*. Peripherally-restricted recurrent infection by engineered E. coli strain modulates hippocampal proteome promoting memory impairments in a rat model. Gene. 2025 Jan 15;933:148969. https://doi.org/10.1016/j.gene.2024.148969 *Corresponding authors.

3. Sarkar S, Ganguly S, Ganguly NK, Sarkar DP, Sharma NR. Chandipura Virus Forms Cytoplasmic Inclusion Bodies through Phase Separation and Proviral Association of Cellular Protein Kinase R and Stress Granule Protein TIA-1. Viruses. 2024 Jun 26;16(7):1027. doi: 10.3390/v16071027. PMID: 39066190; PMCID: PMC11281494.

4. Gaur V, Tyagi W, Das S, Ganguly S, Bhattacharyya J. CD40 agonist engineered immunosomes modulated tumor microenvironment and showed pro-immunogenic response, reduced toxicity, and tumor free survival in mice bearing glioblastoma. Biomaterials. 2024 Dec;311:122688. doi: 10.1016/j.biomaterials.2024.122688. Epub 2024 Jun 25. PMID: 38943821.

5. Jain, Kriti; Rathore, Deepak K.; Ganguly, Surajit; et al.. Case report: Correlation of immune profiling and exceptional response to immune checkpoint inhibitor in a patient with head and neck cancer. Journal of Cancer Research and Therapeutics ():, May 25, 2023. | DOI: 10.4103/jcrt.jcrt_2339_22.

6. Anjali Barnwal, Surajit Ganguly, and Jayanta Bhattacharyya (2023) Multifaceted Nano-DEV-IL for Sustained Release of IL-12 to Avert the Immunosuppressive Tumor Microenvironment and IL-12-Associated Toxicities. ACS Applied Materials & Interfaces Article ASAP DOI: 10.1021/acsami.3c02934

7. Kumar J, Dhyani S, Kumar P, Sharma NR, Ganguly S. (2023) SARS-CoV-2-encoded ORF8 protein possesses complement inhibitory properties. J Biol Chem. 299(3):102930. doi: 10.1016/j.jbc.2023.102930. Epub ahead of print. PMID: 36682494; PMCID: PMC9851726.

8. Kriti Jain, Shyam Aggarwal, Surajit Ganguly, Nirmal Kumar Ganguly, Amit Awasthi, Deepa Mehra (2022) Biomarkers to predict response to immune checkpoint inhibitor therapy in Cancer. IJIRT 9 (5): 205-221

9. Arnab Choudhury, Bhawna Solanki, Seema Singh, Upasana Sahu, Suhel Parvez, Sudeshna Kar and Surajit Ganguly (2019) Persistent peripheral presence of Staphylococcus aureus promotes histone H3

hypoacetylation and decreases tyrosine hydroxylase protein level in rat brain tissues. NeuroReport Sept 9, 2019. doi: 10.1097/WNR.0000000000001322.

10. Ganguly S*, Seth S. A translational perspective on histone acetylation modulators in psychiatric disorders. Psychopharmacology (Berl). Psychopharmacology (Berl). 2018 Jul;235(7):1867-1873. *Corresponding authors.

11. Bose S, Ganguly S, Kumar S, Boockfor FR. (2016) A Pit-1 Binding Site Adjacent to E-box133 in the Rat PRL Promoter is Necessary for Pulsatile Gene Expression Activity. Neurochem Res. 41(6):1390-400.

12. Singh S, Choudhury A, Gusain P, Parvez S, Palit G, Shukla S, Ganguly S (2016) Oral acetate supplementation attenuates N-methyl D-aspartate receptor hypofunction-induced behavioral phenotypes accompanied by restoration of acetyl-histone homeostasis. Psychopharmacology (Berl). 233(7):1257-68.

13. Choudhury A, Singh S, Palit G, Shukla S, Ganguly S (2016) Administration of N-acetylserotonin and melatonin alleviate chronic ketamine-induced behavioural phenotype accompanying BDNF-independent and dependent converging cytoprotective mechanisms in the hippocampus. Behav Brain Res. 297:204-212.

14. Chatterjee M, Verma R, Ganguly S,* and Palit G *(2012) Neurochemical and molecular characterization of ketamine induced experimental psychosis model in mice. Neuropharmacology. 63 (6):1161-1171;*Corresponding authors

15. Chatterjee M, Ganguly S, Srivastava M, Palit G. (2011) Effect of 'chronic' versus 'acute' ketamine administration and its 'withdrawal' effect on behavioural alterations in mice: implications for experimental psychosis. Behav Brain Res. 216(1):247-54.

16. Bailey MJ, Coon SL, Carter DA, Humphries A, Kim JS, Shi Q, Gaildrat P, Morin F, Ganguly S, Hogenesch JB, Weller JL, Rath MF, Møller M, Baler R, Sugden D, Rangel ZG, Munson PJ, Klein DC. (2009) Night/day changes in pineal expression of >600 genes: Central role of adrenergic/cAMP signaling. J Biol Chem. 284(12):7606-22.

17. Pavlicek J, Coon SL, Ganguly S, Weller JL, Hassan SA, Sackett DL, Klein DC.(2008) Evidence that proline focuses movement of the floppy loop of arylalkylamine N-acetyltransferase (ec 2.3.1.87). J Biol Chem.;283(21):14552-8.

18. Szewczuk LM, Saldanha SA, Ganguly S, Bowers EM, et al (2007) De novo discovery of serotonin N-acetyltransferase inhibitors. J Med Chem. 50(22):5330-8.

19. Ganguly S, Grodzki C, Sugden D, *et al* (2007) Neural Adrenergic/Cyclic AMP Regulation of the Immunoglobulin E Receptor {alpha}-Subunit Expression in the Mammalian Pinealocyte: A Neuroendocrine/Immune Response Link? J Biol Chem. 282(45):32758-64.

20. Rath MF, Munoz E, Ganguly S, Morin F, Shi Q, Klein DC, Moller M. (2006) Expression of the Otx2 homeobox gene in the developing mammalian brain: embryonic and adult expression in the pineal gland. J Neurochem. 97(2):556-66.

21. Ganguly S, Weller JL , Ho A , Chemineau P, Malpaux B, Klein DC (2005) Melatonin synthesis: 14-3-3-dependent activation and inhibition of arylalkylamine N-acetyltransferase mediated by phosphoserine-205. Proc Natl Acad Sci U S A. 2005 Jan 25;102(4):1222-7.

22. Zheng W, Zhang Z, Ganguly S, Weller JL, Klein DC, Cole PA. (2003) Cellular stabilization of the

melatonin rhythm enzyme induced by nonhydrolyzable phosphonate incorporation. Nature Struct and Mol. Biol. 10(12):1054-7.

23. Klein, D.C., Ganguly, S., Coon, S.L., Weller, J.L., Shi, Q., Gaildrat, P., Morin, F., Weller, J. L.Obsil, T., Hickman, A. and Dyda, F. (2003) 14-3-3 Proteins in pineal photoneuroendocrine transduction: How many roles? Journal of Neuroendocrinology 85: 851-60.

24. Ganguly S, Coon SL, Klein DC. (2002) Control of melatonin synthesis in the mammalian pineal gland: the critical role of serotonin acetylation. Cell Tissue Res. 2002 Jul;309(1):127-37.

25. Ganguly S, Mummaneni P, Steinbach PJ, Klein DC, Coon SL. (2001) Characterization of the Saccharomyces cerevisiae Homolog of the Melatonin Rhythm Enzyme Arylalkylamine NAcetyltransferase EC 2.3.1.87). J Biol Chem 276(50):47239-47247.

26. Ganguly S, Gastel JA, Weller JL, Schwartz C, Jaffe H, et al. (2001) Role of a pineal cAMPoperated arylalkylamine N-acetyltransferase/14-3-3-binding switch in melatonin synthesis. Proc Natl Acad Sci U S A 98(14):8083-8088.

27. Obsil T, Ghirlando R, Klein DC, Ganguly S, Dyda F. (2001) Crystal structure of the 14-3-3zeta:serotonin N-acetyltransferase complex. a role for scaffolding in enzyme regulation. Cell 105(2):257-267.

28. Chakrabarti SR, Sood R, Ganguly S, Bohlander S, Shen Z, Nucifora G. (1999) Modulation of TEL transcription activity by interaction with the ubiquitin-conjugating enzyme UBC9. Proc Natl Acad Sci U S A 96 (13):7467-7472.

29. S Ganguly[#], DC Klein (2017) The Timezyme and Melatonin: Essential Elements of Vertebrate Timekeeping In Biological Timekeeping: Clocks, Rhythms and Behaviour (Springer India; Vinod Kumar ed), pp 503-520. [#] Corresponding Author. (Book Chapter).

E. Patent

1. A CHIP AND A METHOD FOR HEAD & NECK CANCER PROGNOSIS - Application number: PCT/IN2019/050386 Filing Date: May 14, 2019 . Multi-Institutional – sponsored by NMTLI CSIR.

2. DRUG COMBINATION WITH CELLULAR ANTI-PROLIFERATIVE AND SELF-RENEWAL INHIBITING PROPERTIES. Application No.: 202311079808 dated November 27, 2023. Publication Number WO/2025/114815, Publication Date 05.06.2025, International Application No. PCT/IB2024/061599, International Filing Date 20.11.2024

F. Research Support

<u>Ongoing (Only as PI)</u>

1 *Studies to decipher the mechanisms inducing disruption in hippocampal dopaminergic homeostasis by peripherally-restricted-bacterial infection* (Proposal ID 2020-0762). Approved by Indian Council of Medical Research (PI – Surajit Ganguly; 50 Lakhs; 2021-25)

<u>Projects Completed: (Last 5 years, Only as PI)</u>

1. DBT Project Number: BT/PR41989/MED/29/1558/2021Validation and characterization of novel functional role of SARS-CoV-2 ORF8 protein in tricking host complement system using molecular mimicry. (PI: Surajit Ganguly; Rs 23 lakhs, 2021-22).

2. *Studies to delineate the molecular nexus between systemic infection, serotonin biosynthesis and neurocognitive decline using chronic infection model in rodents* (File No. EMR/20l7/002311). Funded by Science & Engineering Research Board (PI – Surajit Ganguly; Rs 57.6 lakhs; 2018 - 21).

3. DHR-Government of India (Project Number DHR/HRD/SUG-15/2015-16; PI – Surajit Ganguly) Title: Role of Acetate *Metabolism in Neuroprotection Against Glutametargic System Mediated aberrant Responses.* (Rs 30 lakhs; Duration 2016 - 19).

4. Department of Biotechnology (DBT), Government of India, project number: BT/PR11062/Med/10/124/208 (Ganguly – PI; Palit, CDRI, Lucknow - CoPI) *Title: Schizophrenia: Developing animal-models, translational markers and a possible treatment strategy*. December 2009- December 2013 (Rs 38 lakhs)

5. Department of Science & Technology (DST), Government of India, project number: D.O. No. SR/SO/HS-01/2009; (Ganguly- PI; Dubey, PGIMER, Chandigarh - coPI) Title: *Congenital Toxoplasmosis and Neurodevelopmental Disorder: Studies to Decipher a Mechanistic link through Tryptophan Metabolic Pathway*. September 2011- March 2015 (Rs 43 lakhs)

Industrial Projects:

Served as Consultant **Principal Investigator** for TCG Lifesciences, Kolkata in CSIR-NMTLI research project on "Head and Neck Cancer," funded by Council of Scientific and Industrial Research, Government of India (Part of Consortium led by IICB, Kolkata, TCGLS, Kolkata and Prince Ally Khan Hospital, Mumbai). [11 Crores grant]

Thesis awarded (Last 5 Years)

1. Dr. Arnab Choudhury (2020)
2. Dr. Kriti Jain (2023)
3. Ms. Sharmistha Sarkar (Submitted 2025; Co-guide)

Students Registered for PhD

1. Ms. Anam Abdullah; 2. Ms. Shilpi Yadav; 3. Ms. Kritika Sonar; 4. Mr. Akshay Kumar; 5. Mr. Prashant Dubey; 6. Ms. Surabhi Gautam; 7. Ms. Priyanka Sharma; 8. Ms. Zeba Firdose Khan

H. Honorary Peer Review activities:

1) Reviewer for the following International Journals :

Molecular Psychiatry (IF 13.2), Neurochemical Research (IF 2.77), Brain Research (IF 3.13), Journal of Neurochemistry (IF 4.6), Schizophrenia Research (IF 4.0) and Journal of Circadian Rhythm.

2) Reviewer of proposals for Grant Application:

Department of Science and Technology (Government Of India), Department of Biotechnology (Government Of India), Indian council of Medical Research (Government Of India).

Signature: