

UNIVERSITY OF CALCUTTA

ACADEMIC DEPARTMENT

FACULTY ACADEMIC PROFILE/ CV

1. **Full name of the faculty member:** Dr. Subhra Prakash Hui, Ph.D.
2. **Designation :** Assistant Professor & Head of the Department (Acting)
3. **Specialisation:** Neural Regeneration, Regenerative Medicine & Neurodegenerative Disease Biology.
4. **Passport size photograph :**



5. **Contact information :**
S. N. Pradhan Centre for Neurosciences
5th Floor, Taraknath Palit Siksha Prangan,
University of Calcutta
35 Ballygunge Circular Road,
Kolkata – 700019, India.

6. **Academic Qualification:**

Please mention here the degrees (graduation onward)

College/ University from which degree was obtained	Abbreviation of the degree
<i>University of Burdwan</i>	<i>B.Sc.</i>
<i>University of Burdwan</i>	<i>M.Sc.</i>
<i>University of Calcutta</i>	<i>Ph.D.</i>

7. **Position held/ holding:**

- **Assistant Professor & Head** at the S. N. Pradhan Centre for Neurosciences, University of Calcutta, Kolkata, West Bengal, India (2019 - Present).
- **Assistant Professor** in the Department of Zoology, University of North Bengal, Siliguri, West Bengal, India (2018 - 2019).
- **Assistant Professor & Head** in the Department of Biotechnology, Brainware University, Barasat, West Bengal, India (2018).
- **Post-doctoral Scientist** in the Developmental and Stem Cell Biology Division, Victor Chang Cardiac Research Institute, Sydney, NSW, Australia (2013 - 2018).

- **Guest Lecturer** in the Department of Zoology, Vidyasagar College, University of Calcutta, Kolkata, India (2012 - 2013).

8. **Research interest :**

- CNS Regeneration and Development,
- Regenerative Medicine,
- Transgenesis and Genome editing,
- Disease Models in Zebrafish,
- Neurogenesis and Neuronal Plasticity,
- Activation of Adult Stem Cells

9. **Research Guidance :**

Number of researchers awarded M.Phil/ Ph.D degrees: None

Number of researchers pursuing M.Phil/Ph.D: **Three**

10. **Projects :**

Completed projects: None

Current projects:

Project title	Funding agency	Principal investigator	Duration	Budget
Uncovering the key regulators of heart regeneration in zebrafish and their potential application in regenerative medicine.	DBT, Govt. of India.	Dr. Subhra Prakash Hui	2019 to 2024	42.5 lakhs
Understanding the mechanism of glial-bridge formation during axonal regeneration in zebrafish spinal cord.	UGC, Govt. of India.	Dr. Subhra Prakash Hui	2022 to 2024	10 lakhs
Decoding the acute pro-regenerative responses after traumatic brain injury (TBI) for its future implications in regenerative medicine.	DRDO, Govt. of India.	Dr. Subhra Prakash Hui	2023 to 2026	60.5 lakhs
Unravelling the epigenetic regulation responsible for regenerative neurogenesis and axonal regrowth after spinal cord injury in zebrafish.	SERB, Govt. of India.	Dr. Subhra Prakash Hui	2023 to 2026	40.8 lakhs

11. Select list of publications:

a) *Journals*:

[https://scholar.google.com/citations?user=2v4e_QUAAAAJ&hl=en]

[1] Sadhukhan D, Mitra P, Mishra S, Roy A, Podder G, Ray BK, Biswas A, Hui SP, Banerjee TK, Biswas A. (2023). Arg4810Lys mutation in RNF213 among Eastern Indian non-MMD ischemic stroke patients: a genotype-phenotype correlation. *Neurological Sciences*. 2023 Sep 12. doi: 10.1007/s10072-023-07051-w. (Impact factor: 3.3).

[2] Gupta S, Dutta S, Hui SP (2023). Regenerative Potential of Injured Spinal Cord in the Light of Epigenetic Regulation and Modulation. *Cells*. 12(13):1694. (Impact factor: 6.7).

[3] Sadhukhan D, Mallick A, Mishra S, Mukherjee A, Biswas A, Hui SP, Biswas A (2023). An Indian Young-onset Dementia with Parkinsonism with Double Heterozygous Mutations in ABCA7 and PRKN. *Alzheimer Disease & Associated Disorders*. 37(2):164-167. (Impact factor: 2.36).

[4] Ghosh S, Jackson-Cook C, Singhal N, Hui SP. (2023). Editorial: Down syndrome: Genetic and epigenetic influences on this multi-faceted condition. *Frontiers in Genetics*. 2023 Mar 24;14:1163133. doi: 10.3389/fgene.2023.1163133. (Impact factor: 3.7).

[5] Ghosh P, Mandal S, Kundu S, Saha S, Sherpa RD, Islam MM, Hui SP, Mandal S, Sahoo P (2023). In vivo 'turn on' fluorescence detection of free cysteine in zebrafish kidney and liver. *J Photochem Photobiol B*. 2023 Jun 14;245:112747. (Impact factor: 6.8).

[6] Nakajima H, Ishikawa H, Yamamoto T, Chiba A, Fukui H, Sako K, Fukumoto M, Mattonet K, Kwon HB, Hui SP, Dobrova GD, Kikuchi K, Helker CSM, Stainier DYR & Mochizuki N (2023). Endoderm-derived islet1-expressing cells differentiate into endothelial cells to function as the vascular HSPC niche. *Developmental Cell* 58(3):224-238.e7. (Impact factor: 13.4).

[7] Raut J, Islam MM, Sherpa RD, Sarkar B, Mandal SM, Hui SP, Mandal S & Sahoo P (2022). Cobalt-conjugated carbon quantum dots for in vivo monitoring of the pyruvate dehydrogenase kinase inhibitor drug dichloroacetic acid. *Sci. Rep.* 12:19366. doi.org/10.1038/s41598-022-22039-w. (Impact factor: 4.9).

[8] Hui SP, Sugimoto K, Sheng DZ and Kikuchi K (2022) Regulatory T cells regulate blastemal proliferation during zebrafish caudal fin regeneration. *Front. Immunol.* 13:981000. doi: 10.3389/fimmu.2022.981000. (Impact factor: 8.7).

[9] Joshi B, Gaur H, Hui SP, Patra C. (2022). Celsr family genes are dynamically expressed in embryonic and juvenile zebrafish. *Dev. Neurobiol.* 2022 Mar;82(2):192-213. doi: 10.1002/dneu.22868. Epub 2022 Mar 7. (Impact factor: 3.9).

- [10] Gupta S, Adhikary S, Hui SP (2021). Decoding the proregenerative competence of regulatory T cells through complex tissue regeneration in zebrafish. *Clin Exp Immunol*. 2021 Dec;206(3):346-353. doi: 10.1111/cei.13661. **(Impact factor: 3.6)**.
- [11] D'Gama PP, Qiu T, Cosacak MI, Rayamajhi D, Konac A, Hansen JN, Ringers C, Acuña-Hinrichsen F, Hui SP, et al., (2021). Diversity and function of motile ciliated cell types within ependymal lineages of the zebrafish brain. *Cell Rep*. 2021 Oct 5;37(1):109775. doi: 10.1016/j.celrep.2021.109775. **(Impact factor: 9.4)**.
- [12] Sherpa RD, Hui SP (2021). An insight on established retinal injury mechanisms and prevalent retinal stem cell activation pathways in vertebrate models. *Animal Model & Experimental Medicine* 2021. 4(3):189-203. doi: 10.1002/ame2.12177.
- [13] Ogawa M, Geng FS, Humphreys DT, Kristianto E, Sheng DZ, Hui SP et al., (2021). Krüppel-like factor 1 is a core cardiomyogenic trigger in zebrafish. *Science* 2021. 372(6528):201-205. DOI: 10.1126/science.abe2762. **(Impact factor: 41.8)**.
- [14] D'Gama PP, Qiu T, Cosacak MI, Chong YL, Konac A, Hansen JN, Ringers C, Hui SP et al., (2021). Diversity and Function of Motile Ciliated Cell Types within Ependymal Lineages of the Zebrafish Brain. *bioRxiv* 2021. 02. 17. 431442; doi.org/10.1101/2021.02.17.431442.
- [15] Adhikary S & Hui SP. (2021). The loss of regeneration competency in the animal kingdom at the expense of immunity: A journey in retrospect. *Brain, behavior, and immunity*, 94:8-10. doi.org/10.1016/j.bbi.2021.02.002. **(Impact factor: 19.2)**.
- [16] Hui SP, Nag TC, Ghosh S. (2020) Neural cells and their progenitors in regenerating zebrafish spinal cord *Int J Dev Biol*, 64(4-5-6):363-376. doi: 10.1387/ijdb.190130sg. **(Impact factor: 2.1)**.
- [17] Ghosh S, Hui SP (2018) Axonal Regeneration in zebrafish spinal cord Regeneration. *Regeneration (Oxf)*, 5(1):43-60. DOI: 10.1002/reg2.99. [ISSN/ISBN: 2052-4412] **(Impact factor: 2.4)**.
- [18] Hui SP, Sheng DZ, Sugimoto K, Gonzalez-Rajal A, Nakagawa S, Hesselson D, Kikuchi K (2017) Zebrafish regulatory T cells mediate organ-specific regenerative programs. *Developmental Cell*, 43(6):659-672.e5. **Featured in cover page article**. DOI: 10.1016/j.devcel.2017.11.010. [ISSN/ISBN: 1534-5807] **(Impact factor: 13.4)**.
- [19] Sugimoto K, Hui SP, Sheng DZ, Kikuchi K (2017) Dissection of zebrafish shha function using site-specific targeting with a Cre-dependent genetic switch. *Elife*, 6: e24635. DOI: 10.7554/eLife.24635. [ISSN/ISBN: 2050-084X] **(Impact factor: 8.5)**.
- [20] Sugimoto K, Hui SP, Sheng DZ, Gonzalez-Rajal A, Kikuchi K (2017) Zebrafish FOXP3 is required for the maintenance of immune tolerance. *Developmental & Comparative Immunology*, 73:156-162. DOI: 10.1016/j.dci.2017.03.023. [ISSN/ISBN: 0145-305X] **(Impact factor: 3.4)**.
- [21] Hui SP, Ghosh S (2016) Various Modes of Spinal Cord Injury to Study Regeneration in Adult Zebrafish. *Bio-protocol*, 6(23): e2043. DOI: 10.21769/BioProtoc.2043. [ISSN/ISBN: 2331-8325] **(Impact factor: 3.1)**.

[22] Panda S, Kumari L, Hui SP, Panda S (2016) Structural Insight of Homeobox DNA Binding Domain of Hox-B7A Protein of *Esox Lucius*. **Journal of PharmaSciTech**, 6(1):1-4. [ISSN/ISBN: 2231 3788] (**Impact factor: 1.2**).

[23] Ghosh S, Hui SP (2016) Regeneration of zebrafish CNS: Adult neurogenesis. **Neural Plasticity**, 2016:5815439. DOI: 10.1155/2016/5815439. [ISSN/ISBN: 2090-5904] (**Impact factor: 3.6**).

[24] Hui SP, Nag TC, Ghosh S (2015) Characterization of proliferating neural progenitors after spinal cord injury in adult zebrafish. **PLoS One**, 10(12):e0143595. DOI: 10.1371/journal.pone.0143595. [ISSN/ISBN: 2090-5904] (**Impact factor: 4.4**).

[25] Hui SP, Sengupta D, Lee SGP, Sen T, Kundu S, Mathavan S, Ghosh S (2014) Genome wide expression profiling during spinal cord regeneration identifies comprehensive cellular responses in zebrafish. **PLoS One**, 9(1):e84212. DOI: 10.1371/journal.pone.0084212. [ISSN/ISBN: 2090-5904] (**Impact factor: 4.4**).

[26] Hui SP, Monaghan JR, Voss SR, Ghosh S (2013) Expression pattern of Nogo-A, MAG, and NgR in regenerating urodele spinal cord. **Developmental Dynamics**, 242(7):847-60. DOI: 10.1002/dvdy.23976. [ISSN/ISBN: 1058-8388] (**Impact factor: 2.5**).

[27] Hui SP, Dutta A, Ghosh S (2010) Cellular response after crush injury in adult zebrafish spinal cord. **Developmental Dynamics**, 239(11):2962-2979. DOI: 10.1002/dvdy.22438. [ISSN/ISBN: 1058-8388] (**Impact factor: 2.5**).

b) **Books/ book chapters** : None

c) **Conference/ seminar volumes** :

[1] Hui SP, Sheng D, Sugimoto K, Kikuchi K (2019) Pro-regenerative regulatory T cells promote tissue regeneration in adult zebrafish. **Invited speaker in “International Symposium on frontiers in development & molecular medicine: models to insight”**, BBCC, Kolkata, India; March 1-3, 2019.

[2] Hui SP, Sheng D, Sugimoto K, Kikuchi K (2018) Pro-regenerative regulatory T cells promote adult tissue regeneration in zebrafish. **Oral presentation in “Indian Zebrafish Investigators Meeting 2018:: iZIM 2018”**, CCBM, Hyderabad, India; July 3-6, 2018.

[3] Hui SP, Sheng D, Sugimoto K, Kikuchi K. (2017) Zebrafish regulatory T cells mediate organ-specific regenerative programs. **Oral presentation in Sydney Zebrafish Meeting** at Centenary Institute, Sydney, Australia; November 8, 2017.

[4] Hui SP, Sheng D, Sugimoto K, Gonzalez-Rajal A, Kikuchi K (2016) An organ specific pro-regenerative program mediated by zebrafish regulatory T cells. **Awarded 2nd Best Postdoc Poster in “17th International Victor Chang Symposium 2017; From Cardiovascular Development to regenerative Medicine”**, Sydney, Australia; November 6-8, 2016.

[5] Hui SP, Sheng D, Sugimoto K, Kikuchi K (2016) A pro-regenerative T cell subset promoting adult tissue regeneration. **Awarded Best Postdoc Poster in “ANZSCDB NSW and ACT Cell & Developmental Biology Meeting 2016”**, Sydney, Australia; April 11, 2016.

- [6] **Hui SP**, Delicia Sheng, Kotaro Sugimoto, Kazu Kikuchi (2016) A pro-regenerative T cell subset promoting adult tissue regeneration. **Oral presentation in 17th Australia & New Zealand Zebrafish Meeting** at Flinders, Australia; February 1-6, 2016.
- [7] **Hui SP**, Kikuchi K (2015) A T cell subset promoting adult tissue regeneration in zebrafish. **Oral presentation in “ComBio 2015”**, at Melbourne Convention Center, Melbourne, Australia; September 27-October 1, 2015.
- [8] **Hui SP**, Kikuchi K (2015) Immunological regulations of cardiac regeneration in zebrafish. **Oral presentation in “ANZSCDB NSW and ACT Cell & Developmental Biology Meeting 2015”**, Garvan Institute of Medical Research, Sydney, Australia; March 16, 2015.
- [9] **Hui SP**, Kikuchi K (2015) Immune regulation of zebrafish heart regeneration. **Oral presentation in “16TH AUSTRALIA AND NEW ZEALAND ZEBRAFISH MEETING”**, Miami Beach Surf Life Saving Club, Gold Coast, QLD, Australia; 4-6 February 2015.
- [10] **Hui SP**, Kikuchi K (2014) Zebrafish in tissue regeneration research. **Invited speaker in “The Zebrafish Husbandry Workshop”** as a part of “15th Annual Australia and New Zealand Zebrafish Conference” at The Garvan Institute of Medical Research in Sydney, Australia; February 5, 2014.

12. **Membership of learned societies :**

- **Member in Australia and New Zealand Society for Cell and Developmental Biology.** (Since 2015), Australia.
- **Member of Indian Society of Develoepmental Biology (InSDB).** (Since 2020), India.
- **Member of Indian Academy of Neurosciences (IAN).** (Life Member), India.

13. **Patents :** None

14. **Invited lectures delivered :** Four

15. **Awards :**

- **Ramalingaswami Re-entry Fellowship & Research Grants (2018);** Department of Biotechnology, Govt. of India.
- **Senior Research Fellowship (SRF) award (2009);** Joint CSIR-UGC, Govt. of India.
- **Junior Research Fellowship (JRF) award (2005);** CSIR, Govt. of India.
- **Junior Research Fellowship (JRF) award and Lectureship (2004);** Joint CSIR-UGC, Govt. of India.
- **Award of National Scholarship (2002-2003),** Ministry of Human Resource Development, Govt. of India.

16. **Other notable activities :**

- Organized the symposium “**22nd and 23rd St Vincent’s Campus Research Symposium**” at Garvan Institute of Medical Research, Sydney, Australia. September 10-11, 2015 as one of the organizing committee members.