



## BRIEF

Joined as Associate Professor of Zoology in School of Sciences of NSOU in 2019. His area of specialization is Cellular Biology and Immunology. Research interest is on monocyte lineage cells function in CNS, in development and in cancer (glioma) microenvironment; and how environmental stress alter function of peripheral to neuronal immune axis in fish.

With PG and UG teaching assignments he is in-charge of 'Cell Development and Immunobiology Lab' (CDIL) and Asst. Coordinator of 'Centre for Propagation of Scientific Knowledge' (CPSK) in School of Sciences, NSOU.

## CONTACT

DEPARTMENT OF ZOOLOGY  
SCHOOL OF SCIENCES

DATE OF JOINING: 03-09-2019

### ADDRESS:

Durgapur Regional Centre, NSOU,  
Jawahar Lal Nehru Road, Durgapur,  
Paschim Bardhaman - 713214

Cell Development and  
Immunobiology Lab (CDIL),  
Kalyani Regional Centre,  
Ghoshpara Station Road, Kalyani,  
Nadia – 741235

# DR. ANIRBAN GHOSH

Associate Professor of Zoology

## M.SC, PH.D

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## TEACHING EXPERIENCE

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**Netaji Subhas Open University, Associate Professor of Zoology**

03-09-2019–till date

**Panihati Mahavidyalaya, Assistant Professor**

02-04-2007–02-09-2019

## AWARD AND FELLOWSHIP

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Summer Research Fellow 2014 (Teacher) of IAS-INSANA-INSI in Indian Institute of Science (IISc), Bangalore (2014).

"J.L. Bhaduri Memorial Medal for Excellence in Research for 2014-15" by 'The Zoological Society, Kolkata' in the Department of Zoology, Calcutta University, 2015.

Research Excellence Medal for the Best Oral Presentation in the National Conference on "Neo-classical Approaches in Zoological Sciences" (NCNAZS'17) – 2<sup>nd</sup> Young Scientist Meet (YSM-II) in Madras University, Chennai, February, 2017.

## RESEARCH INTERESTS & EXPERIENCE

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Working in the field of immunology and cellular biology for over 20 years in animal and human samples. Research started on rat glioma model in the Institute of Post Graduate Medical Education and Research (IPGMER), Kolkata with CSIR-JRF & SRF in 2001. From 2010 onward started to work as independent academic researcher in Panihati Mahavidyalay with the funding support from UGC. Research interest was neuroimmune system in development and disease. Particularly, biology of microglia in CNS in developmental phases was investigated in rodent model. Also the biology of glial cell derived tumors in brain and role of microglia were investigated in human post-operative samples during this phase. This phase of research was funded by SERB, CSIR and ICMR.

Presently, after joining NSOU the research interest is to decipher the function of immunity through peripheral to neuronal axis in fish models under specific environmental stress. Also the biology of brain tumor and

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role of microglia in proliferation vs. invasion dichotomy will be continued simultaneously.

## **ADMINISTRATIVE EXPERIENCE**

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Experienced with various administrative duties namely, IQAC Coordinator (2013-2017), Governing Body member (2016-2019), Purchase Committee Convener (2013-2018) along with the Head of the Zoology Department in Panihati Mahavidyalaya.

Presently In NSOU, acting as the In-Charge of Cell Development and Immunobiology Lab (CDIL), Convener of Laboratory Infrastructure and Research Committee (LIRC), Assistant Coordinator of Centre for Propagation of Scientific Knowledge (CPSK). Also acted as Organizing Secretary of some lectures and conferences in NSOU.

Acted as Joint Organizer and Convener of 39<sup>th</sup> Annual Meeting of Indian Academy of Neurosciences (IAN) and International e-Conference on "Neuro-Glia in Health and Disease" (IAN 2021) [International Conference], December 15-19, 2021 organized with IISER-K and CSIR-IICB.

## **UG & PG TEACHING ASSIGNMENTS**

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UG Assignments:

- Diversity of Chordates
- Cell and Molecular Biology
- Cytogenetics and Molecular Biology
- Parasitology and Immunology
- Animal Physiology and Biochemistry

PG Assignments:

- Ethology and Evolution
- Genetics and Molecular Biology
- Immunology and Microbiology
- Dissertation Project
- PGZO Paper 10 Gr B - Practical

## **NO. OF CANDIDATE AWARDED/ REGISTERED FOR PH.D.**

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Candidate Awarded Ph.D – 1 (University of Calcutta)

Candidate Registered for Ph.D – 2 (NSOU)

## **MEMBERSHIP OF DIFFERENT COMMITTEES**

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Convener – School of Sciences Profile Committee, NSOU for NAAC (06.01.2020 – 02.04.2021)

Organizing Secretary – Special Lecture Series in Life Sciences, School of Sciences (SLS-LSc), NSOU (August-December, 2021)

Convener – Laboratory Infrastructure and Research Committee (LIRC), School of Sciences (28.09.2021-till date)

Organizing Secretary – LMS Sensetization Programme, School of Sciences (14.03.2022-04.04.2022)

Assistant Coordinator – Centre for Propagation of Scientific Knowledge (CPSK), School of Sciences (25.08.2022-till date)

Member of UG-Board of Studies

Member of PG- Board of Studies

Member of Departmental Research Committee

## **MEMBERSHIP OF PROFESSIONAL BODIES**

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Life Member of 'The Cytometry Society', India

Life Member of Indian Science News Association, India  
 Life Member of "Indian Academy of Neurosciences"  
 Life Member of 'The Zoological Society, Kolkata'

#### ELIGIBILITY TEST CLEARED (NET/SET/GATE etc.):

Sl. No.	Details
1	NET in Life Sciences (CSIR-JRF) 2001
2	GATE in Life Sciences 2001

#### CO-CURRICULAR ACTIVITIES / EXPERIENCE

[Popular writing and photography of Nature, Wildlife and Travel]

Sl. No.	Details
1.	"Gene detectives trace human evolution in India, find third gene trail", <i>Nature India</i> doi:10.1038/nindia.2017.12 Published online 30 January 2017. [Science Correspondence].
2.	"Jayantir Rantain" (Cover Story on Nature and Wildlife). <i>Akhon Aranyak</i> Jan-Feb, 2014, pp 7-21. [Bengali]
3.	"Parjatakter Dooars: Rocky Island" (Travel feature). <i>Dooars Akhon</i> September, 2014, pp 19-21. [Bengali]
4.	"Taraier Jole-Jangole Duto Din" (Nature and Wildlife). <i>Akhon Aranyak – Saradiya</i> Sept-Oct, 2015, pp 44-55. [Bengali] (ISSN 2455-1139)
5.	"Sital Chutir Thikana" (Travel feature). <i>Rong Route</i> , May 2016, pp 12-19. [Bengali]
6.	"Jayantir Album" (Nature and Wildlife). <i>Jol Jongol er kotha</i> , Vol 1(4) Sept – Dec 2016, pp 61-62. [Bengali] (ISSN 2456-2459)
7.	"Brishti Name Gurasher Bon-e" (Travel feature). <i>Long Journey</i> (Travel Mag), June 2018, pp. 56-59. [Bengali] (ISSN 2455-1767)
8.	"Purbasthali: Chari Ganga O Bahata Ganga" (Nature and Wildlife). <i>Bihanga Kotha</i> 3, <i>Akhan Aranyak</i> : November-December 2020, pp 14-18. [Bengali] (ISSN 2455-1139)
9.	"Ranganathittur Diary" in 'Prokritir Album' (Nature and Wildlife). <i>Akhan Aranyak</i> : May-June, 2021, pp 60-61. [Bengali] (ISSN 2455-1139)
10.	"Jayantir Dirghaswas: prokriti parjatan o amra" in 'Mukto Bhabana'. <i>Akhan Aranyak</i> : July-September, 2022, pp 77-83. [Bengali] (ISSN 2455-1139)

#### RESEARCH PROJECTS: Principal Investigator (PI)

Sl. No.	Name of the Project	Funding Agency	Period	Grant Mobilized	Outcome
1	<i>An Approach to Segregate the Microglia from Adult and Infant Rodent Brain and Verify Their Functional Viability: A Preamble to Determine its Cellular Hierarchy</i>	UGC	2009-2011	Rs. 1,87,000/-	1 Research paper
2	<i>Identification of Cellular Hierarchy of Microglia by Developing Rodent in vitro Model System: A Unique Analogue to Their Differentiating Developmental Morphs</i>	SERB (DST, Gol)	2012-2015	Rs. 23,00,000/-	2 Project Fellow 2 Research paper
3	<i>Validation of 'Go or Grow' hypothesis and involvement of macrophage/microglia in gelatinase dependent 'Go' and angiogenic switching in human Glioma: An experimental design to resolve the conflicts</i>	CSIR (Gol)	2013-2016	Rs. 15,00,000/-	1 PhD 1 Project Fellow 3 Research paper
4	<i>Morpho-functional dynamics of brain macrophages from early embryo to late adult rodent model: A developmental</i>	ICMR (Gol)	2015-2018	Rs. 32,53,821/-	2 Project Fellow 3 research Paper 1 Book Chapter

	<i>approach to age related innate immunoreactivity in brain</i>				
5	<i>Developing Digital Museum of Zoological Specimens for Virtual Learning</i>	NSOU	2021-2022	Rs. 1, 20,000/-	Continuing

**DETAILS OF PUBLICATIONS (BOOKS/ EDITED VOLUME / RESEARCH PAPERS/REVIEW): [Last 10 Year]** (In reverse chronology, important publications only)

Sl. No.	Title of the paper vol. No., Issue No., Page No, Year	Publisher	Year of publication	ISSN/ ISBN
1	Ghosh K, Ghosh S, Chatterjee U, Bhattacharjee P, <b>Ghosh A</b> (2022). Dichotomy in Growth and Invasion from Low- to High-Grade Glioma Cellular Variants. <i>Cellular &amp; Molecular Neurobiology</i> , 42:2219-2234; DOI: 10.1007/s10571-021-01096-1.	Springer-Nature	2022	0272-4340, 1573-6830
2	Sardar S, Saha N, <b>Ghosh A</b> (2022). Microglia, the sentinel of brain in the evolution of nervous system from invertebrate to vertebrate: A short review. <i>Journal of Scientific Research</i> 14(2), 685-697. DOI: <a href="https://doi.org/10.3329/jsr.v14i2.56222">https://doi.org/10.3329/jsr.v14i2.56222</a> .	Faculty of Sciences, University of Rajshahi	2022	2070-0237, 2070-0245
3	Acharya S, Chatterjee S, Chaudhuri S, Singh MK, Bhattacharya D, Bhattacharjee M, <b>Ghosh A</b> , Chaudhuri S (2021). Akt phosphorylation orchestrates T11TS mediated cell cycle arrest in glioma cells. <i>Cancer Invest.</i> 25:1-30. doi: 10.1080/07357907.2021.1986060.	Taylor & Francis	2021	0735-7907, 1532-4192
4	Ghosh A, Ghosh P, Deb I, Bandyopadhyay S. Morpho-functional variation and response pattern of microglia through rodent ontogeny showing infant microglia as stable and adaptive than matured. <i>Brain Behav.</i> 2021 Aug; 11(8):e2315. doi: 10.1002/brb3.2315. Epub 2021 Aug 6. PMID: 34355540; PMCID: PMC8413723.	John Wiley & Sons.	2021	2162-3279, 2157-9032
5	<b>Ghosh Anirban</b> (2021). How to Reach the Standard of Research and Innovative through Higher Education Hierarchy in Open Universities as Set in NEP-2020: with special reference to Life sciences. <i>University News – Special Issue on Implementation of National Education Policy 2020 to Transform Higher Education in India</i> , 59(15): 164-170 (April 12-18, 2021).	Association of Indian Universities	2021	0566-2257
6	Sinha S, Majumder A, Ghosh S, <b>Ghosh A</b> (2020). Avifaunal Diversity in Kolkata and its Urban Extensions: A Cross-sectional Study. <i>International Journal of Ecology and Environmental Sciences</i> , 46(3-4): 247-258.	National Institute of Ecology	2020	0377-015X, 2320-5199
7	Ghosh K, Chandra J K, <b>Ghosh A</b> (2020). Brain Tumour Classification by Machine Learning Applications with Selected Biological Features: Towards A Newer Diagnostic Regime. <i>Journal of Analytical Oncology</i> , 2020, 9, 11-19 (DOI: <a href="https://doi.org/10.30683/1927-7229.2020.09.02">https://doi.org/10.30683/1927-7229.2020.09.02</a> ).	Neoplasia Research	2020	1927-7229
8	Ghosh P, Das C, Biswas S, Nag SK, Dutta A, Biswas M, Sil S, Hazra L, Ghosh C, Das S, Saha M, Mondal N, Mandal S, <b>Ghosh A</b> , Karmakar S, Chatterjee S (2020). Phytochemical composition analysis and evaluation of in vitro medicinal properties and cytotoxicity of five wild weeds: A comparative study. <i>F1000Research</i> 9:493; DOI: <a href="https://doi.org/10.12688/f1000research.22966.1">https://doi.org/10.12688/f1000research.22966.1</a> .	Taylor & Francis	2020	2046-1402
9	Ghosh K, Bhattacharjee P, Ghosh S, <b>Ghosh A</b> (2017). Glia to glioma: A wrathful journey. <i>Advances in Modern Oncology Research</i> 3(3); DOI: <a href="http://dx.doi.org/10.18282/amor.v2.i3.186">http://dx.doi.org/10.18282/amor.v2.i3.186</a> .	DOJA	2017	2424-7847
10	Ghosh K, Ghosh S, Chatterjee U, Chaudhuri S, <b>Ghosh A</b> (2016). Microglial contribution to Glioma progression: an immunohistochemical study in eastern India. <i>Asian Pacific Journal of Cancer Prevention</i> 17(6): 2767-2773.	West Asia Organization for Cancer Prevention (WAOCP)	2016	1513-7368, 2476-762X
11	Ghosh P and Ghosh A. "Role of Microglia in Adult Neurogenesis", In "Inflammation: the common link in Brain Pathologies" ed Jana N, Basu A and Tandon PN, Springer, Aug 2016, pp.325-345 [ISBN: 978-981-10-1711-7 (eBook), DOI 10.1007/978-981-10-1711-7]	Springer-Nature	2016	978-981-10-1711-7
12	"Biology of Myelomonocytic Cells" Edited by: Anirban Ghosh, ISBN 978-953-51-3123-6, Hard cover, 162 pages,	InTech Open	2016	978-953-51-3123-6

	Publisher: InTech, Janeza Trdine 9, 51000 Rijeka, Croatia, Copyright © 2016, First Published May, 2016, Printed in Croatia.			
13	Ghosh P, Mukherjee N, Ghosh K, Mallick S, Pal C, Laskar A, <b>Ghosh A</b> (2015). Prospective Microglia and Brain Macrophage Distribution Pattern in Normal Rat Brain Shows Age Sensitive Dispersal and Stabilization with Development. <i>Indian Journal of Experimental Biology</i> 53: 561-567.	CSIR-NIScPR	2015	0975-1009, 0019-5189
14	<b>Ghosh A</b> , Streit WJ, Minghetti L, Basu A (2013). Microglia in Development and Disease (Editorial). <i>Clinical &amp; Developmental Immunology</i> [Presently <i>Journal of Immunology Research</i> ], Article ID 736459, <a href="http://dx.doi.org/10.1155/2013/736459">http://dx.doi.org/10.1155/2013/736459</a> .	Hindawi – John Wiley & Sons.	2013	1740-2522, 1740-2530
15	Chatterjee S, Acharya S, Kumar P, Chatterjee A, Chaudhuri S, <b>Ghosh A</b> and Chaudhuri S (2012). Comparative evaluation of T11 target structure and its deglycosylated derivative nullifies the importance of glycan moieties in immunotherapeutic efficacy. <i>Acta Biochim Biophys Sin</i> (Online publication ahead of print DOI: 10.1093/abbs/gmr120).	Oxford University Press	2012	1745-7270

**PAPERS PRESENTED AT SEMINARS, CONFERENCES, WORKSHOPS, ETC.: [Last 10 Year]** (Few important papers in reverse chronology)

Sl. No.	Title of Paper/ Lecture	Organizing Institute	Conference, Seminar, workshop etc	Role (Paper presenter/ invited talk/ chairperson)	International (Within Country)/ International (Abroad)/National
1	Proliferation-invasion dichotomy and microglial polarization in human glioma	IISER-K & CSIR-IICB & NSOU	39 <sup>th</sup> Annual Meeting of Indian Academy of Neurosciences (IAN) and e Conference on "Neuro-Glia in Health & Diseases" on 16-19 Dec, 2021	Chairperson – Symposium XVII – 'Glioma Biology' and Corresponding Author of the paper	International (Within Country)
2		IISER-K & CSIR-IICB & NSOU	39 <sup>th</sup> Annual Meeting of Indian Academy of Neurosciences (IAN) and e Conference on "Neuro-Glia in Health & Diseases" on 16-19 Dec, 2021	Coordinator- Technical Poster Session – I & II on 17.12.2021 & 18.12.2021	International (Within Country)
3	"Microglia: Past Controversies and Present Concepts" [Symposium Theme]	IISER-K & CSIR-IICB & NSOU	39 <sup>th</sup> Annual Meeting of Indian Academy of Neurosciences (IAN) and e Conference on "Neuro-Glia in Health & Diseases" on 16-19 Dec, 2021	Coordinating Symposium XIII on 19.12.2021	International (Within Country)
4	Status of Proliferation-Invasion-Angiogenesis in CNS Tumours and Occurrence of Brain Macrophages: A Study on Post-operative Human Samples	Visva-Bharati University and The Zoological Society, Kolkata	"Advancement of Biology in The 21 <sup>st</sup> Century" (NSAB-2020) on 28 <sup>th</sup> – 29 <sup>th</sup> February, 2020	Invited Speaker	National
5		Social Environmental and Biological Association (SEBA), Kolkata in collaboration with W B Biodiversity Board (WBBB), W B Pollution Control Board (WBPCB) in	"Water Conservation and Harvesting: Focusing Biodiversity Issues and Management" on 8 <sup>th</sup> February, 2020	Adjudicator	National

		Jadavpur University, Kolkata			
6	Microglia in normal brain show transforming variable morphs after colonization and phagocytic pattern through maturation continuum.	University of Calcutta	International Conference "INTZOOCON 2018" to celebrate 100 years of excellence from 1919-2019 of Department of Zoology, University of Calcutta on 01-03 Feb, 2018.	Invited Oral Presentation	International (Within Country)
7	Microglia: Its Colonization, Prospective routes and Morpho-functional Adaptability in rodent Brain.	Madras University	National Conference on "Neo-classical Approaches in Zoological Sciences" (NCNAZS'17) & "A Zoological Society Initiative – II <sup>nd</sup> Young Scientists Meet (YSM-II)" on 16-17 Feb, 2017	Invited Lecture	National
8	Prospective Route of Microglial Repopulation in Adult Rodent Cerebral Cortex: In Search of another Window in Brain Immunity.	National Brain Research Center (NBRC) and Indian Academy of Neurosciences (IAN), at NBRC, Manesar, India	34 <sup>th</sup> Annual Meeting of India Academy of Neurosciences "Molecules to Mind" October 19 – 21, 2016	Poster Presentation	International (within Country)

**PROGRAMMES COORDINATED/ ORGANISED AS CONVENER / ORGANISING SECRETARY AT NETAJI SUBHAS OPEN UNIVERSITY: [Last 5 Year]**

Sl. No.	Programme Name	Sponsored by	Period
1	Special Lecture Series in Life Sciences (SLS-LSc) [Organizing Secretary]	NSOU	Oct-Nov, 2020
2	LMS Sensitization Programme, School of Sciences [Organizing Secretary]	NSOU	March 23, 2022

**RESEARCH GUIDANCE:**

Sl. No.	Year	University	Name of Student	Year of Award	Topic
1	2017	University of Calcutta	Krishnendu Ghosh	2021	<i>Searching the Interplay between Progression and Invasion with Microglial Imposition in Human Glioma Samples</i>
2	2022	NSOU	Samir Sardar	--	Yet to finalize
3	2022	NSOU	Nabajit Mondal	--	Yet to finalize

**TUTORIALS / PRACTICAL / PROJECT SUPERVISION & FIELD WORK: [Last 5 Year]**

Sl. No.	Type of Work	Related Programme	Year
1	Dissertation Project	PG Zoology	2020 – 1 Project 2021 – 5 Project 2022 – 5 Project
2	Practical	LCES Programme for UG Zoology	2019 and 2022
3	Practical	PCP Programme for PG Zoology	2022

**Declaration:**

I hereby declare that the above information are true to the best of my knowledge.



Anirban Ghosh  
25.11.2022