Dr. Anirban Ghosh

Associate Professor in Zoology,
School of Sciences,
Netaji Subhas Open University (NSOU),
Durgapur Regional Center, Durgapur,
West Bengal, India.
Email: aghosh06@gmail.com

Academic:

B.Sc in Zoology (Hons) from University of Calcutta, 1998.

M.Sc in Zoology from University of Calcutta, 2000.

Graduate Aptitude Test in Engineering (GATE) in Life Sciences, 2001.

National Eligibility Test (NET) in Life Sciences with CSIR Junior Research Fellowship, 2001.

CSIR Research Fellowship (Junior and Senior) from 2002 to 2007.

Ph.D from University of Calcutta, 2007.

Summer Research Fellowship 2014 from IAS-INSA-INAS in Indian Institute of Science (IISc), Bangalore.

Teaching:

Associate Professor in Zoology, School of Sciences, Netaji Subhas Open University (NSOU) since September, 2019.

Assistant Professor in Zoology at PanihatiMahavidyalaya through College Service Commission (CSC), Govt of WB, India, April, 2007 –August, 2019.

Guest faculty in the M.Phil course conducted by Department of Zoology, University of Calcutta, 2006-2009.

Guest faculty in the M.Sc course in the Post Graduate Department of Zoology, Dinabandhu Andrews College, Kolkata, 2006-2009.

Guest faculty in the M.Sc course in the Department of Molecular Biology and Biotechnology, Kalyani University, Nadia, 2015.

Examiner, Head Examiner, Reviewer/Re-evaluator, Question Setter, Moderatoretc of B.Sc/M.Sc in Zoology/Biochemistry/Molecular biology/Biotechnology etc in different Universitiesfrom 2008.

Research: **Ph.D** Thesis –"*Role of Microglia in Immunomodulation with a Novel Glycopeptide T11TS/SLFA-3 in Brain Tumor Induced Animal Model: An Approach towards Intracranial Immunereactivity"*; Supervisor – Prof. Swapna Chaudhuri; Awarded in Zoology in 2006 from University of Calcutta.

Junior Research Fellow (JRF) in the Project of Department of Science and Technology (DST), Govt of WB, India, 2001-2002.

Junior Research Fellow (JRF) in the Project of Council of Scientific and Industrial Research (CSIR), Govt of India, 2002-2004.

Senior Research Fellow (SRF) in the Project of Council of Scientific and Industrial Research (CSIR), Govt of India, 2004-2007.

Principal Investigator (PI) of the Research Projects

University Grants Commission (UGC), Govt of India, 2009-2011

Project Title: "*An Approach to Segregate the Microglia from Adult and Infant Rodent Brain and Verify Their Functional Viability: A Preamble to Determine its Cellular Hierarchy*"

Science & Engineering Research Board – Young Scientist (**SERB-YS**) Project of Department of Science & Technology (**DST**), Govt. of India, 2012 – 2015
Project Title: "*Identification of Cellular Hierarchy of Microglia by Developing Rodent in vitro Model System: A Unique Analogue to Their Differentiating Developmental Morphs*"

Council for Scientific & Industrial Research (**CSIR**), Govt. of India, 2013 –2016
Project Title: "*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*"

Indian Council of Medical Research (**ICMR**), Govt. of India, 2015 –2018
Project Title: "*Morpho-functional dynamics of brain macrophages from early embryo to late adult rodent model: A developmental approach to age related innate immunoreactivity in brain*"

Orientation/Refresher: Orientation Programme in Calcutta University, UGC-ASC, March 01-27, 2010.
Refresher Course in Life Sciences in Calcutta University, UGC-ASC, Nov 22-Dec13, 2013.
Refresher Course in Life Science in Calcutta University, UGC-HRDC, Dec 23 – Jan 13, 2017.
Short Term Course in 'Digital India' in Calcutta University, UGC-HRDC, Dec 21 – Dec 27, 2018.

Administrative: Head, Department of Zoology, Panihati Mahavidyalaya since August 2019.
Governing Body Member, Panihati Mahavidyalaya, 2016 – 2019.
IQAC Coordinator, Panihati Mahavidyalaya, 2013 – 2017.
Member of UGC-NAAC committees, Member of Purchase and Maintenance Sub-committee(previously Coordinator 2013-2017) and others in Pahinati Mahavidyalaya since 2019.

Awards & Others:

National scholarship Scheme Merit Certificate for Madhyamik Pariksha, 1993.

Best Poster in 'Tumor Biology' in 6th International Symposium on Biochemical Roles of Eukaryotic Cell Surface Macromolecules, IICB, Jadavpur, India, January 2003.

Wiley Science Advisor, 2012 (http://blogs.wiley.com/scienceadvisors)

"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) and A Zoological Society Initiative – IInd Young Scientist Meet (YSM-II) in Madras University, Chennai, February, 2017.

Enlisted Ph.D Supervisor: 3

Membership: Life Member of 'The Cytometry Society', India (Membership No. L-1197), since 2013

Life Member of Indian Science News Association, India (Membership No. L-697C), since 2009

Life Member of "Indian Academy of Neurosciences" (Membership No. LG-90) since 2016

Life Member of 'The Zoological Society, Kolkata' (Membership No. L/G-89), since 2009.

'Executive Council Member' of 'The Zoological Society, Kolkata' since 2015-2019.

IMPORTANT PUBLICATIONS

Journal Publications:

1. Ghosh K, Bhattacharjee P, Ghosh S, **Ghosh A** (2017). Glia to glioma: A wrathful journey. *Advances in Modern Oncology Research* 3(3): http://dx.doi.org/10.18282/amor.v2.i3.186. [Corresponding Author]
2. Ghosh K, Ghosh S, Chatterjee U, Chaudhuri S, **Ghosh A** (2016). Microglial contribution to Glioma progression: an immunohistochemical study in eastern India. *Asian Pacific Journal of Cancer Prevention* 17(6): 2767-2773. [Corresponding Author]
3. Ghosh P, **Ghosh A** (2016). Morphic and behavioural variation in brain Innate Defence Cell Microglia is Development and Age Sensitive. *NeuroimmunolNeuroinflammation* 3:38-47. [Corresponding Author]
4. Ghosh P, Mukherjee N, Ghosh K, Mallick S, Pal C, Laskar A, **Ghosh A** (2015). Prospective Microglia and Brain Macrophage Distribution Pattern in Normal Rat Brain Shows Age Sensitive Dispersal and Stabilization with Development. *Indian Journal of Experimental Biology* 53: 561-567. [Corresponding Author]

5. **Ghosh A**, Streit WJ, Minghetti L, Basu A (2013). Microglia in Development and Disease (Editorial). *Clinical & Developmental Immunology* [Presently *Journal of Immunology Research*], Article ID 736459, http://dx.doi.org/10.1155/2013/736459. [Corresponding author]

6. **Anirban Ghosh**. "Arms race, coevolution and escalation – a revisit to 'red queen' hypothesis in evolutionary action". *Academic Spectrum* (KU) 4(5): 47 - 53, Dec 2013. (ISSN 0976-9323)

7. Chatterjee S, Acharya S, Kumar P, Chatterjee A, Chaudhuri S, **Ghosh A** and Chaudhuri S (2012). Comparative evaluation of T11 target structure and its deglycosylated derivative nullifies the importance of glycan moieties in immunotherapeutic efficacy. *ActaBiochimBiophys Sin* (Online publication ahead of print DOI: 10.1093/abbs/gmr120).

8. **Ghosh A** (2010). Brain APCs including microglia are only differential and positional polymorphs. *Annals of Neurosciences* 17(4):184-192. [Corresponding author]

9. **Ghosh A**, Chaudhuri S (2010). Microglial action in glioma: a boon turns bane. *Immunology Letters* 131(1):3-9. [Corresponding author]

10. **Ghosh A** (2010). Charles Darwin and World War II: an evolution towards darkness. *Science and Culture* 76(7-8):227-232. [Corresponding author]

11. **Ghosh A**, Bhattacharjee M, Sarkar P, Acharys S, Chaudhuri S (2010). T11TS exerts effector function by activating immune cells in CNS against glioma where cytokine modulation provide the favourable microenvironment to act. *Indian Journal of Experimental Biology* 48:879-888.

12. Bhattacharjee M, Acharya S, **Ghosh A**, Sarkar P, Chatterjee S, Kumar P, Chaudhuri Swapna (2008). Bax and Bid act in synergy to bring about T11TS mediated glioma apoptosis via the release of mitochondrial Cytochrome c and subsequent caspase activation. *International Immunology* 2 (12): 1489–1505.

13. **Ghosh A**, Mukherjee J, Bhattacharjee M, Sarkar P, Acharya S and Chaudhuri Swapna (2007). T11TS/SLFA-3 differentially regulate the population of microglia and brain infiltrating lymphocytes to reduce glioma by modulating intrinsic Bcl-2 expression rather than p53. *Central Nervous System Agents in Medicinal Chemistry* 7(2):145-155.

14. **Ghosh A**, Mukherjee J, Bhattacharjee M, Sarkar P, Acharya S, Chaudhuri S and Chaudhuri Swapna (2007). The Other Side of the Coin: Beneficiary Effect of 'Oxidative Burst' Upsurge with T11TS Facilitates the Elimination of Glioma Cells. *Cellular and Molecular Biology* 53(5), 53-62.

15. Sarkar P, Bhattacharjee M, Acharya S, **Ghosh A**, Tripathy SK and Chaudhuri Swapna (2007). Acute toxicity studies of T11TS: a glycopeptide with antineoplastic effects against glioma. *Toxicol. Int* 14(1) 47-56.

16. Swapna Chaudhuri and **Anirban Ghosh** (2006). Glioma Therapy: A Novel Insight in the Immunotherapeutic Regime with T11TS/SLFA-3. *Central Nervous System Agents in Medicinal Chemistry*, 6(4): 245-270; Bentham Publication Limited, USA. [Invited]

17. Mukherjee J, **Ghosh A**, Duttagupta AK, Chaudhuri S, Chaudhuri S (2006). Characterisation of Genomic instability along with p53 mutation in ENU induced brain tumor cells: Establishment of apoptogenic role of T11TS/S-LFA3 in genetically altered cells. *Cancer Biology & Therapy 5*(2): 156-164.

18. Bhattacharjee M., Bose I, Sarkar P, Banerjee C., Dutta S., **Ghosh A**., Mukherjee J., Acharya S., Goswami S, Mazumdar A., Chaudhuri S and Chaudhuri Swapna (2006). A sequential scanning of the immune efficiency in Astrocytoma (Grade I-Grade III), Meningioma & Secondary glioma patients with and without therapeutic scheduling. *Cancer Investigation*, 24(5): 502-513.

19. Mukharjee J, **Ghosh A**, Sarkar P, Mazumdar M, Banerjee C, Chaudhuri S (2005). Immunotherapy with T11TS /SLFA-3 specifically induces apoptosis of brain tumor cells by augmenting intracranial immune status. *Anticancer Research* 25:2905-2920.

20. Mukherjee J, **Ghosh A**, Sarkar S, Mazumdar M, Sarkar P, Duttagupta AK and Chaudhuri Swapna (2005).T11TS/SLFA-3 induces apoptosis of the brain tumor cells: A new approach to characterize the apoptosis associated genetic changes by arbitrarily primed-PCR. *Caner Letters* 222: 23-38.
21. Sarkar S, **Ghosh A**, Mukherjee J, Chaudhuri S and Chaudhuri Swapna (2004). CD2-SLFA-3/T11TS interaction facilitates immune activation and glioma regression by T11TS, *Canc. Biol&Ther,* 3(11): 1121-1128. [SS & AG both acted as first author]
22. Begum Z, **Ghosh A**, Sarkar S, Mukherjee J, Mazumdar M, Sarkar P and Chaudhuri Swapna (2004) Documentation of immune profile of microglia through cell surface marker study in glioma model primed by a novel cell surface glycopeptide T11TS/SLFA-3. *Glycoconjugate Journal* (20): 515-523.
23. Mukherjee J, Sarkar S, **Ghosh A**, Duttagupta A K, Chaudhuri S and Chaudhuri Swapna. (2004). Immunotherapeutic effects of T11TS/SLFA-3 against nitrosocompound mediated neural genotoxicity.*Tox. Lett.* 150: 239-257.
24. **Ghosh A**, Sarkar S, Dutta S, Begum Z, Mukherjee J, Bhattacharjee M, Sarkar P, Mandal M, Banerjee C, Mazumdar A, Bhattacharjee M K, Chaudhuri S and Chaudhuri Swapna. (2004) The first cross sectional survey on intracranial malignancy in Kolkata, India: Reflection of the state of art in Southern West Bengal. *Asia Pacific J Can Prev* 5(3): 259-267.
25. Begum Z, Sarkar S, Mukherjee J, **Ghosh A**, Chaudhuri S and Chaudhuri Swapna (2003). Evaluation of anti-tumor property of specific and nonspecific BRMS in experimental glioma by assessing the microglial cell functional and phenotypic modulations. *Can. Biol&Ther*. 2 (4), 356-363.

Book Publications (as Editor):

"Glioma – Exploring Its Biology and Practical Relevance" [Book]
Edited by: Anirban Ghosh, ISBN 978-953-307-379-8, Publisher: InTech, Croatia, 2011.

"Biology of Myelomonocytic Cells"[Book]
Edited by: Anirban Ghosh, ISBN 978-953-51-3123-6, Publisher: InTech, Croatia, 2016.

Book Chapters-

- Ghosh A. "Immune connection in glioma: fiction, facts and option" (Chapter 14), *In* "Glioma: Exploring Its Biology and Practical Relevance" *ed* Ghosh A, InTech, Rijeka, Croatia, 2011, 305-324 [ISBN: 978-953-307-379-8]
- 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]

Journal Volume Editor-

Clinical & Developmental Immunology [Presently *Journal of Immunology Research*][IF - 3.06]
Special Issue: *Microglia in Development & Disease (*2013)

Special Publication:

Young Scientist Start-Up Grants Life Sciences 2010-2015 Research Highlights published by Science and Engineering Research Board, India (Department of Science & Technology, Government of India). Report on "Identification of Cellular Hierarchy of Microglia by Developing Rodent *in vitro* Model System: A Unique Analogue to their Differentiating Developmental Morphs" (SR/FT/LS-81/2011), Anirban Ghosh. [Received on 2017]

Abstracts Published at Seminars and Conferences [Presenting/corresponding author in last 5 years]**:**
15 (International – 11, National – 04, awarded – 03)