
CURRICULUM VITAE

NAME Zhumur Ghosh, PhD	POSITION TITLE & ADDRESS Assistant Professor		
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EDUCATION/TRAINING (<i>Begin with bachelor education and include all higher education and postdoctoral training.</i>)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
University of Calcutta, Kolkata, India	M.Sc	1999-2001	Physics
University of Calcutta, Kolkata, India	Post M.Sc	2001-2002	Bioinformatics
Indian Institute of Technology (IIT) Kharagpur, India	Trainee	2002-2002	Bioinformatics
Indian Association for the Cultivation of Science, Kol	PhD & Postdoc	2003-2009	RNA Genomics
Stanford University School of Medicine, CA, USA	Postdoc	2009-2010	Stem Cells, microRNA & regenerative therapy

A. Area of Research:

Stem Cells and RNA biology, Cancer Stem cells, Epigenetics and reprogramming of induced pluripotent stem cells and regenerative medicine, regulatory RNAs in disease networks & systems biology

B. Positions and Honors**Positions and Employment:**

Jan 14-present Assistant Professor, Bioinformatics Centre, Bose Institute, Kolkata, India
 Nov 2010 – Jan 14 Faculty Fellow, Bioinformatics Centre, Bose Institute, Kolkata, India
 June 2010 - Nov 2010 Assistant Professor, Indian Institute of Technology (IIT) Guwahati, India

Honors:

2011-2014 Associate Fellow, Indian Academy of Science
 2011- Editorial Board, Current Bioinformatics
 2017 Member of the National Academy of Science

C. Selected publications**Books**

1. **Regulatory RNAs: Basics, Methods & Applications** (2012) Mallick B and **Ghosh Z** (Eds) Springer-Verlag, Heidelberg, Germany. ISBN-978-3-642-22516-1 (Hardcover).
2. **Bioinformatics-Principles and Applications** (2008) **Ghosh Z** and Mallick B. Oxford University Press (First Print: 2008; Second Print: 2009) [ISBN-9780195692303].
Website: http://www.oup.co.in/search_detail.php?id=144561.

Chapters

1. Ghosh Z and Mallick B (2012) Renaissance of RNA regulators. In Ghosh/Mallick (Eds.) *Regulatory RNAs: Basics, Methods and Applications*, Springer-Verlag, 2011.

Journal Articles (impact factors are provided in brackets)

1. Deb A, Sarkar A and **Ghosh Z**. Dissecting the variation in transcriptional circuits between naive and primed pluripotent states. *FEBS Lett.* 2017 (DOI: 10.1002/1873-3468.12732) (IF 3.623)
2. Sarkar D, Maji R, Dey S, Sarkar A, **Ghosh Z** and Kundu P. Integrated miRNA and mRNA expression profiling reveals the response regulators of a susceptible tomato cultivar to early blight disease. *DNA Research* 2017 (Accepted) (IF 5.267)
3. Roy J, Sarkar A, Parida S, **Ghosh Z**, Mallick B. Small RNA sequencing revealed dysregulated piRNAs in Alzheimer's disease and their probable role in pathogenesis. *Mol Biosyst.* 2017. DOI: 10.1039/C6MB00699J. (IF 2.86)
4. Sen K, Sarkar A, Maji RK, **Ghosh Z**, Gupta S, Ghosh TC. Deciphering the cross-talking of human competitive endogenous RNAs in K562 chronic myelogenous leukemia cell line. *Mol Biosyst.* 2016;12(12):3633-3642. (IF 2.86)
5. Kundu M, Mahata B, Banerjee A, Chakraborty S, Debnath S, Ray SS, **Ghosh Z**, Biswas K. Ganglioside GM2 mediates migration of tumor cells by interacting with integrin and modulating the downstream signaling pathway. *Biochim Biophys Acta.* 2016; S0167-4889(16)30085-4. PMID: 27066976. (IF 5.128)
6. Liu J, Masurekar A, Johnson S, Chakraborty S, Griffiths J, Smith D, Alexander S, Dempsey C, Parker C, Harrison S, Li Y, Miller C, Di Y, **Ghosh Z**, Krishnan S, Saha V. Stromal cell-mediated mitochondrial redox adaptation regulates drug resistance in childhood acute lymphoblastic leukemia. *Oncotarget.* 2015; 6(40):43048-64. PMID: 26474278. (IF 6.359)
7. Halder P, Kumar R, Jana K, Chakraborty S, **Ghosh Z**, Kundu M, Basu J (2015). Gene expression profiling of Mycobacterium tuberculosis Lipoarabinomannan-treated macrophages: A role of the Bcl-2 family member A1 in inhibition of apoptosis in mycobacteria-infected macrophages. **IUBMB Life.** (doi: 10.1002/iub.1430) (IF 3.143)
8. Kumar M, Sahu SK, Kumar R, Subuddhi A, Maji RK, Jana K, Gupta P, Raffetseder J, Lerm M, **Ghosh Z**, van Loo G, Beyaert R, Gupta UD, Kundu M, Basu J (2015). MicroRNA let-7 modulates the immune response to Mycobacterium tuberculosis infection via control of A20, an inhibitor of the NF- κ B pathway. **Cell Host Microbe** 17(3):345-56 (IF 12.194)
9. Chakraborty S, Deb A, Maji R K, Saha S and **Ghosh Z** (2014). LncRBase: An Enriched Resource for lncRNA Information. **PLoS One** (DOI: 10.1371/journal.pone.0108010) (IF 3.5)
10. **Ghosh Z** and Mallick B (2014). Cancer stem cells and regulatory RNAs crosstalk: Fostering possibilities for cancer therapies. **BioScience** 64(12):1138-1149. [Advance Access: doi:10.1093/biosci/biu149] (IF 5.43)
11. Sarkar A, Maji RK, Saha S and **Ghosh Z** (2014). piRNAQuest: searching the piRNAome for silencers, *BMC Genomics* 15(1):555. [Epub ahead of print]. (IF 4.04)
12. Maji RK, Sarkar A, Khatua S, Dasgupta S and **Ghosh Z** (2014). PVT: An Efficient Computational Procedure to Speed up Next-generation Sequence Analysis. *BMC Bioinformatics* 15:167. (IF 2.67)
13. Kumar R, Halder P, Sahu SK, Kumar M, Kumari M, Jana K, **Ghosh Z**, Sharma P, Kundu M, Basu J (2012). Identification of a novel role of ESAT-6-dependent miR-155 induction during infection of macrophages with *Mycobacterium tuberculosis*. **Cell Microbiol.** 14(10):1620-1631. (IF: 5.45)
14. Hu S, Wilson KD, **Ghosh Z**, Han L, Wang Y, Lan F, Ransohoff KJ, Wu JC (2013). MicroRNA-302 increases reprogramming efficiency via repression of NR2F2. **Stem Cells.** 31(2):259-268. (IF: 7.78)
15. Mallick B, **Ghosh Z** (2012) Probing evolutionary biography of microRNAs and associated factors. **Curr Genomics.** 13(2):144-152.
16. Reddy S, Zhao M, Hu DQ, Fajardo G, Hu S, **Ghosh Z**, Rajagopalan V, Wu JC, Bernstein D (2012). Dynamic microRNA expression during the transition from right ventricular hypertrophy to failure. **Physiol Genomics.** 44(10):562-575. (IF: 2.73)
17. Mallick B, **Ghosh Z** (2011). A complex crosstalk between polymorphic microRNA target sites and AD prognosis. **RNA Biol.** 8(4):665-673. (IF: 5.56).

18. **Ghosh Z**, Huang M, Hu S, Wilson KD, Dey D, Wu JC (2011). Dissecting the oncogenic and tumorigenic potential of differentiated human induced pluripotent stem cells and human embryonic stem cells. **Cancer Res.** 71(14):5030-9. (IF: 7.85)
19. Pearl JI, Leveson-Gower DB, Lee A, Sun N, **Ghosh Z**, Negrin RS, Davis MM, Wu JC (2011) Inducing immunotolerance to pluripotent stem cells for long-term engraftment. **Cell Stem Cell** 8 (3):309-317. (IF: 25.421).
20. Li Z, Hu S, **Ghosh Z**, Han Z, Wu JC (2011). Functional comparison and expression profiling of human induced pluripotent stem cell- and embryonic stem cell-derived endothelial cells. **Stem Cells Dev.** 2011 Jan 14. [Epub ahead of print] PMID: 21235328. (IF: 4.146).
21. Mallick B, Chakrabarti J, **Ghosh Z** (2011) microRNA reins in embryonic and cancer stem cells. **RNA Biol.** 8(3):415-426. (IF: 5.56).
22. Hu S, Huang M, Li Z, Jia F, **Ghosh Z**, Lijkwan MA, Fasanaro P, Sun N, Wang X, Martelli F, Robbins RC, Wu JC (2010) MicroRNA-210 as a novel therapy for treatment of ischemic heart disease. **Circulation** 122(11 Suppl): S124-S31. (IF: 14.81).
23. Wilson KD, Hu S, Venkatasubrahmanyam S, Fu JD, Sun N, Abilez OJ, Baugh JJ, Jia F, **Ghosh Z**, Li RA, Butte AJ, Wu JC (2010) Dynamic microRNA expression programs during cardiac differentiation of human embryonic stem cells: role for miR-499. **Circ Cardiovasc Genet** 3(5): 426-435.
24. **Ghosh Z**, Wilson KD, Wu Y, Hu S, Quertermous T, Wu JC (2010) Persistent donor cell gene expression among human induced pluripotent stem cells contributes to differences with human embryonic stem cells. **PLoS One** 5(2): e8975. (IF: 4.35).
25. **Ghosh Z**, Mallick B, Gautheret D, Malhotra P, Sachidanandam R (2009) Regulatory RNomics and gene expression. **J Biomed Biotechnol**: 691286. [Editorial]
26. **Ghosh Z**, Mallick B, Chakrabarti J (2009) MicroRNome analysis unravels the molecular basis of SARS infection in bronchoalveolar stem cells. **PLoS One** 4(11): e7837. (IF: 4.35).
27. **Ghosh Z**, Mallick B, Chakrabarti J (2009) Cellular versus viral microRNAs in host-virus interaction. **Nucleic Acids Res.** 37(4): 1035-48. (IF: 8.026).
28. Mallick B, **Ghosh Z**, Chakrabarti J (2008) Structural determinants characteristic to AARS subclasses and tRNA-splicing endonuclease in eukaryotes. **J Biomol Struct Dyn.** 26(2): 223-34.
29. **Ghosh Z**, Mallick B, Chakrabarti J (2008) MicroRNA switches in *Trypanosoma brucei*. **Biochem Biophys Res Commun.** 372(3): 459-463. [Faculty 1000 Biology recommended]. (IF: 2.54).
30. Koehrer C, Srinivasan G, Mandal D, Mallick B, **Ghosh Z**, Chakrabarti J, Rajbhandary UL (2008) Identification and characterization of a tRNA decoding the rare AUA codon in *Haloarcula marismortui*. **RNA.** 14(1): 117-126. [Appeared on Cover page]. (IF: 5.19).
31. **Ghosh Z**, Chakrabarti J, Mallick B (2007) miRNomics-The bioinformatics of microRNA genes. **Biochem Biophys Res Commun.** 363(1): 6-11. (IF: 2.54).
32. Mallick B, Chakrabarti J, Sahoo S, **Ghosh Z**, Das S (2005) Identity elements of archaeal tRNA. **DNA Res.** 12(4): 235-246. (IF: 4.91).
33. **Ghosh Z**, Chakrabarti J, Mallick B, Das S, Sahoo S, Sethi HS (2006) tRNA-isoleucine-tryptophan composite gene. **Biochem Biophys Res Commun.** 339(1): 37-40. (IF: 2.54).
34. Das S, Chakrabarti J, **Ghosh Z**, Sahoo S, Mallick B (2005) A new measure to study phylogenetic relations in the brown algal order Ectocarpales: the 'codon impact parameter'. **J Biosci.** 30(5): 699-709. (IF: 1.70).

D. Research Support

A. Completed projects:

1. Title of the project: Micro-regulatory networks in leukemia stem cells
Sponsor: DBT, Govt. of India (2013-2016); *Principal Investigator*: Dr. Zhumur Ghosh

B. Continuing projects:

2. Title of the project: Epigenetic alteration inducing oncogenicity in stem cell derivatives
Sponsor: ICMR (2017-2020) *Principal Investigator*: Dr. Zhumur Ghosh
3. Title of the project: Systematic identification of regulatory networks in pluripotent cells intrigating coding and noncoding world
Sponsor: ICMR (2017-2020) *Principal Investigator*: Dr. Zhumur Ghosh and Dr. Sudipto Saha
4. Title of the project: Elucidating the GWAS-Associated Genetic Variants within lncRNA candidate loci: Role in Cancer
Sponsor: SERB (2017-2020) *Principal Investigator*: Dr. Zhumur Ghosh