Mahua Maulik
Wellcome Trust DBT India Alliance Early career fellow
Department of Biological Sciences
Indian Institute of Science Education and Research Kolkata (IISER-K)
E-mail: mahua@iiserkol.ac.in; madhuka@gmail.com

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of Calcutta, Kolkata, India	B.Sc	2002	Zoology (Honours)
Banaras Hindu University, Varanasi, India	M.Sc	2004	Zoology (Specialization in Molecular Human Genetics)
University of Alberta, Edmonton, Canada	PhD	2013	Neuroscience

A. Positions and Honors

(A.1) Positions and Employment

2004-2005 Lecture (part-time) in Zoology, Department of Zoology, Jogesh Chandra Chaudhuri College, University of Calcutta, Kolkata, India.

2005-2007 Research Project Assistant, Molecular & Human Genetics Division, Indian Institute of Chemical Biology (IICB), Kolkata, India.

2007-2012 Graduate student (PhD), Centre for Neuroscience, University of Alberta, Edmonton, Canada.

2013 Research Associate, Centre for Prions & Protein Folding Diseases, University of Alberta, Edmonton, Canada.

2013- 2015 Research Project Scientist, CSIR Ayurgenomics Unit - TRISUTRA, CSIR-Institute of Genomics and Integrative Biology (IGIB), New Delhi, India

2015-2018 Visiting Research Scientist (DST-SERB Fellow in Young Scientist Scheme), Department of Biological Sciences Indian Institute of Science Education and Research Kolkata (IISER-K), Mohanpur, India.

2019-2023 Wellcome Trust DBT India Alliance Early career fellow, Department of Biological Sciences Indian Institute of Science Education and Research Kolkata (IISER-K), Mohanpur, India.

(A.2) Other Experience and Professional Memberships

2007 - Indian Society of Human Genetics (ISHG), Life Member

2007-2012 Society for Neuroscience (USA), Student Member

(A.3) Honors

1997 National Scholarship for securing high marks in Std. X Certificate Examination 1997, Government of West Bengal, India.

1999 National Scholarship for securing high marks in Std. XII Certificate Examination 1999, Government of West Bengal, India.

2002 K.S.Rao Memorial Medal for securing highest marks in B.Sc. Zoology (Honours) Examination, Vivekananda College, University of Calcutta, India.

2002 National Scholarship for securing high marks in B.Sc. Honours Examination 2002, University of Calcutta, Government of West Bengal, India.

2008 Studentship Award from Centre for Neuroscience, University of Alberta, Canada.

2008-2009 75th Anniversary Graduate Student Award, Faculty of Medicine & Dentistry, University of Alberta, Canada.

2009-2011 President's International Doctoral Award, University of Alberta, Canada.

2010 Mary Louise Imrie Graduate Student Award, University of Alberta, Canada.

2010-2012 Full-time Studentship Award from Alberta Innovates Health Solutions (AIHS), Canada.

2010 Graduate Student Best Poster Award, 2nd Annual Translational Neuroscience Symposium, University of Alberta, Canada.

2011 Graduate Student Best Poster Award, Department of Medicine Research Day 2011, University of Alberta, Canada.

2012	Best Oral Presentation Award, Department of Medicine Research Day 2012, University of Alberta, Canada.
2012	Honorable Mention at the 2012 Canadian Institutes of Health Research (CIHR) National Health Research Poster Presentation, University of Manitoba, Canada.
2013	Faculty of Medicine & Dentistry (FoMD) and Alberta Health Services (AHS), Med Star Graduate Student Award (November 2012), University of Alberta, Canada.
2015	Science and Engineering Research Board (SERB), Young Scientist Research Award
2018	Wellcome Trust DBT India Alliance Early Career Research Fellowship Award
2019	Oral presentation, XXXVII Annual Meeting of Indian Academy of Neurosciences, held at AIIIMS, New Delhi during November 19-20, 2019

B. Peer-reviewed publications

1. Kodam A*****, Ourdev D*****, **Maulik M**, Hariharakrishnan J, Banerjee M, Wang Y,Kar S. A Role for Astrocyte-Derived Amyloid β Peptides in the Degeneration of Neurons in an Animal Model of Temporal Lobe Epilepsy. ***Brain Pathol. 2019*** Jan;29(1):28-44. doi: 10.1111/bpa.12617. *****Equal contribution.
2. Chung J, Phukan G, Vergote D, Mohamed A, **Maulik M**, Stahn M, Andrew RJ, Thinakaran G, Posse de Chaves E, Kar S. Endosomal-Lysosomal Cholesterol Sequestration by U18666A Differentially Regulates Amyloid Precursor Protein (APP) Metabolism in Normal and APP-Overexpressing Cells. ***Mol Cell Biol. 2018*** Jun 1; 38(11): e00529-17. doi: 10.1128/MCB.00529-17.
3. **Maulik M***, Vergote D*****, Phukan G, Chung J, Thinakaran G, Kar S. The Effects of Extracellular Serum Concentration on APP Processing in Npc1-Deficient APP-Overexpressing N2a Cells. ***Mol Neurobiol. 2018*** Jul;55(7):5757-5766. doi: 10.1007/s12035-017-0799-5. ****Equal contribution***.
4. Bose A, Basu R, **Maulik M**, Das Sarma J. Loss of Cx43-Mediated Functional Gap Junction Communication in Meningeal Fibroblasts Following Mouse Hepatitis Virus Infection. ***Mol Neurobiol. 2018***; 55(8): 6558–6571. doi: 10.1007/s12035-017-0861-3.
5. **Maulik M**, Peake K, Chung J, Wang Y, Vance JE, Kar S. APP overexpression in the absence of NPC1 exacerbates metabolism of amyloidogenic proteins of Alzheimer's disease. ***Hum Mol Genet. 2015*** Dec 15; 24(24): 7132–7150. doi: 10.1093/hmg/ddv413.
6. Banerjee M, Sasse VA, Wang Y, **Maulik M** and Kar S. Increased levels and activity of cathepsins B and D in kainate- induced toxicity. ***Neuroscience. 2014*** Oct 9; pii: S0306-4522(14)00857-4. doi: 10.1016/j.neuroscience. 2014.10.003.
7. **Maulik M**, Thinakaran G and Kar S. Alterations in gene expression in mutant amyloid precursor protein transgenic mice lacking Niemann-Pick type C1 protein. **PLoS One. 2013**;8(1):e54605. doi: 10.1371/journal.pone.0054605.
8. **Maulik M**, Westaway D, Jhamandas JH and Kar S. Role of cholesterol in APP metabolism and its significance in Alzheimer's disease pathogenesis. ***Mol Neurobiol. 2013*** Feb;47(1):37-63. doi: 10.1007/s12035-012-8337-y. ***(Invited Review)***
9. **Maulik M**, Ghoshal B, Kim J, Wang Y, Yang J, Westaway D and Kar S. Mutant human APP exacerbates pathology in a mouse model of NPC and its reversal by a β-cyclodextrin. ***Hum Mol Genet. 2012*** Nov 15;21(22):4857-75. doi: 10.1093/hmg/dds322.
10. Kodam A*****, **Maulik M***, Peake K, Amritraj A, Vetrivel KS, Thinakaran G, Vance JE and Kar S. Altered levels and distribution of amyloid precursor protein and its processing enzymes in Niemann-Pick type C1-deficient mouse brains. ***Glia. 2010*** Aug 15;58(11):1267-81. doi: 10.1002/glia.21001. ****Equal contribution (Cover illustration)***.
11. Aggarwal S, Negi S, Jha P, Singh PK, Stobdan T, Pasha MA, Ghosh S, Agrawal A, [#]**Indian Genome Variation Consortium**, Prasher B, Mukerji M. EGLN1 involvement in high-altitude adaptation revealed through genetic analysis of extreme constitution types defined in Ayurveda. *Proc Natl Acad Sci U S A. 2010* Nov 2;107(44):18961-6. doi: 10.1073/pnas.1006108107. [#] ***Indian Genome Variation Consortium Author***
12. Sengupta M, Ray A, Chaki M, **Maulik M** and Ray K. SNPs in genes with copy number variation: a question of specificity**.** ***J Genet. 2008*** Apr;87(1):95-7.
13. [#]**Indian Genome Variation Consortium**. Genetic landscape of the people of India: a canvas for disease gene exploration. ***J Genet.*** **2008** Apr;87(1):3-20. [#] ***Indian Genome Variation Consortium Author***
14. Saha A, Mukherjee S, **Maulik M**, Chandak GR, Indian Genome Variation Consortium and Ray K. Evaluation of genetic markers linked to haemophilia A locus: an Indian experience. ***Haematologica. 2007*** Dec;92(12):1725-6.

15. Biswas A, **Maulik M**, Das SK, Indian Genome Variation Consortium, Ray K and Ray J. Parkin polymorphisms: risk for Parkinson's disease in Indian population. ***Clin Genet. 2007*** Nov;72(5):484-6.
16. Gupta A*****, **Maulik M***, Nasipuri P, Chattopadhyay I, Das SK, Gangopadhyay PK, Indian Genome Variation Consortium and Ray K. Molecular diagnosis of Wilson disease using prevalent mutations and informative single-nucleotide polymorphism markers. ***Clin Chem. 2007*** Sep;53(9):1601-8. ****Equal contribution.***

D. Research Support

Ongoing Research Support

Wellcome Trust DBT India Alliance Early Career Award 01/01/2019 – 31/12/2023
Title: Role of Connexin-47 in axon-myelin interaction during virus-induced demyelination of the central nervous system
The goal of this proposal is to identify the role of oligodendrocyte gap junction protein, connexin 47 (Cx47), in the altered interaction of the myelinating glial cells with other neural cells including the astrocytes and neurons during a virus-induced demyelination.
Role: Lead Applicant

Completed Research Support

SERB Young Scientist Award 27/11/2015 – 26/11/2018
Title: Role of Amyloid-β in modulating glial gap junction and hemichannel function: Implications for Alzheimer's disease pathogenesis
The goal of this project was to understand the underlying cellular mechanisms by which Amyloid-β (Aβ), the key pathological trigger in Alzheimer's disease, can modulate the predominant astroglial gap junction protein Connexin 43 function in astrocytes leading to altered brain homeostasis.
Role: PI