MAINAK SENGUPTA
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EDUCATIONAL QUALIFICATION

2010: PhD (Life Science) from Jadavpur University; Title of thesis: *Genetic and Molecular Basis of Albinism in Indian Patients* (*thesis work pursued in CSIR-Indian Institute of Chemical Biology; Supervisor: Dr. Kunal Ray*)
2004 M.Sc. in Zoology from University of Calcutta, Grade Obtained: **1st Class**
2002 B.Sc. (Hons in Zoology from University of Calcutta. Grade Obtained: **1st Class**
1999 Std. XII (Higher Secondary) from West Bengal Council for Higher Secondary Education. Grade Obtained: **1st Division**
1997 Std. X (Madhyamik) from West Bengal Board of Secondary Education.
Grade Obtained: **1st Division**

PROFESSIONAL APPOINTMENTS:

June 25, 2015 – June 31, 2018 and from Jan 2019 to Jan 2021: Head, Department of Genetics, University of Calcutta, Kolkata, India
October 16, 2012 to date: Assistant Professor, Department of Genetics, University of Calcutta, Kolkata, India
April 1, 2011-October 15, 2012: Research Associate (CSIR), Molecular & Human Genetics Division, CSIR-Indian Institute of Chemical Biology, Kolkata, India**.**

HONORS AND AWARDS

- Tulsabai Somani Educational Trust Award (Young Scientist Award) 2018 An effort to characterize genomic variations modifying the clinical discourse of Wilson's disease, a Mendelian disorder with complex traits in the International Conference on Neuroscience & XXXVI Annual Meeting of Indian Academy of Neurosciences on October 29 - 31, 2018 at Benares Hindu University, Benares, India.
- Rabindra Nath Tagore Research Grant Award for promotion of Science Education and Research by West Bengal State Council of Science and Technology, Govt. of West Bengal, India in 2014.
- ISHG Young Scientist Award 2012 for Molecular Genetics of Albinism and Pigmentation Variation in India, in the in 37th Annual Conference of Indian Society of Human Genetics during March 3-5, 2012 at Chandigarh, India.
- IERG 2010 Travel Fellowship Award in the XVIII Annual Meeting of the Indian Eye Research Group meeting during July 31-Aug 1, 2010 at Hyderabad, India.

- Best Paper Award in Scientific Session 11 for Molecular Basis of Oculocutaneous Albinism Type 1 in Indian Patients, in the 2nd ASIAARVO meeting during January 15-18, 2009 at Hyderabad, India.
- Asia-ARVO 2009 Travel Fellowship Award in (one of 50 recipients out of ~400 applicants) in the 2nd Asia ARVO meeting during January 15-18, 2009 at Hyderabad, India.
- Best Poster Award for OCA1 among different ethnic groups of India is caused primarily due to founder mutations in the tyrosinase gene; in the Annual Meeting (2005) of Indian Eye Research Group during July 30-31 at LVPEI, Hyderabad, India.
- Qualified in National Eligibility Test (Joint CSIR-UGC NET) in Biological Sciences in December 2003 in UGC-JRF category.
- Qualified in State Level Eligibility Test in Biological Sciences in February 2004.

MEMBERSHIPS IN PROFESSIONAL AND SCIENTIFIC SOCIETIES

- Life member of Calcutta Consortium of Human Genetics.
- Life member of Indian Society of Human Genetics.
- Life member of Indian Science Congress Association.
- Life member of Indian Academy of Neurosciences.
- Life member of The Zoological Society, Kolkata.
- General Body Member of the Archana Sharma Foundation of Calcutta, Department of Botany, University of Calcutta.

PUBLICATIONS

1. 1. Roy Shubhrajit, Ghosh Sampurna, Ray Jharna, Ray Kunal* and **Sengupta Mainak***. Missing heritability of Wilson disease: a search for the uncharacterized mutations. *Mammalian Genome*. (Accepted for publication). 2022. (*Joint corresponding authors)
2. Sadhukhan Susanta, Paul Nirvika, Ghosh Sudakshina, Munian Dinesh, Ganguly Kausik, Ghosh Krishnendu, **Sengupta Mainak**, Das Madhusudan. Analysis of DNMT1 Gene Variants in Progression of Neural Tube Defects- an in silico to invitro approach. *Bioscience Reports*. doi: 10.1042/BSR20220998. Online ahead of print. 2022.
3. Dutta Tithi, Mitra Sayantan, Saha Arpan, Ganguly Kausik, Pyne Tushar, **Sengupta Mainak.** A comprehensive meta-analysis and prioritization study to identify vitiligo associated coding and non-coding SNV candidates using web-based Bioinformatics tools. *Scientific Reports*. https://doi.org/10.1038/s41598-022-18766-9. 2022.
4. Ganguly K, Sengupta, D, Sarkar, N, Mukherjee N, Dutta T, Saha A, Saha,T, Ghosh B, Chatterjee S, Brahmachari P, Kundu A, **Sengupta M**. Comprehensive in silico analyses of single nucleotide variants of the human orthologues of 171 murine loci to seek novel insights into the genetics of human pigmentation. *Proceedings of Zoological Society*. 75, 361–380. 2022.
5. Bose Rahul, **Sengupta Mainak**, Basu Debabrata, Jha Sumita. rolB-transgenic Nicotiana tabacum T1 plants exhibit upregulated ARF7 and ARF19 gene expression. *Plant Direct*. Jun 18;6(6):e414. 2022.

6. Saha Tania, Bhowmick Bismoy, Sengupta Debmalya, Banerjee Souradeep, Mitra Ritabrata, Sarkar Abhijit, Chaudhuri Tamohan, Bhattacharjee Gautam, Nath Somsubhra, Roychoudhury Susanta, **Sengupta Mainak**. No association of the common Asian mitochondrial DNA haplogroups with lung cancer in East Indian population. *Journal of Basic and Clinical Physiology and Pharmacology*. (doi: 10.1515/jbcpp-2021-0352. Online ahead of print). 2022.
7. Pyne Tushar, Ghosh Poulomi, Dhauria Mrinmay, Ganguly Kausik, Sengupta Debmalya, Nandagopal Krishnadas, **Sengupta Mainak***, Das Madhusudan*. Prioritization of Human Well-being Spectrum related GWAS-SNVs using ENCODE-based web-tools predict interplay between PSMC3, ITIH4, and SERPINC1 genes in modulating well-being. *Journal of Psychiatric Research*. Nov 29;145:92-101. 2021. **Joint corresponding authors.*
8. Sengupta Debmalya[#], Banerjee Souradeep[#], Mitra Ritabrata, Sarkar Abhijit, Chaudhuri Tamohan, Bhattacharjee Gautam, Nath Somsubhra, Roychoudhury Susanta, Bhattacharjee Samsiddhi* and **Sengupta Mainak***. A comprehensive meta-analysis and a case-control study give insights into genetic susceptibility of lung cancer and subgroups. *Scientific Reports*. Jul; 16;11(1):14572. 2021 *[#]Equal Contributors, *Joint corresponding authors.*
9. Saha Tania, Roy Somrita, Chakraborty Rajashree, Biswas Arindam, Das Shyamal K, Ray Kunal, Ray Jharna and **Sengupta Mainak**. Mitochondrial DNA Haplogroups And Three Independent Polymorphisms Have No Association With The Risk Of Parkinson's Disease In East Indian Population. *Neurology India*. Mar-Apr;69(2):461-465. 2021.
10. Sengupta Debmalya, Bhattacharya Gairika, Ganguli Sayak*, **Sengupta Mainak***. Structural insights and evaluation of the potential impact of missense variants on the interactions of SLIT2 with ROBO1/4 in cancer progression. *Scientific Reports* Dec;10, 21909. 2020. **Joint Corresponding authors.*
11. Pyne Tushar, Dhauria Mrinmay, Chaudhury Debadeep, Valecha Drishti, Ghosh Saurabh, Nandagopal Krishnadas, **Sengupta Mainak**, Das Madhusudan. Bengali Translations, Reliability Assessment and Validations of Four Happiness scales in a representative population from Kolkata, India. *International Journal of Indian Psychology,* Dec;8(4), 1439-1461, 2020.
12. Sengupta Debmalya, Banerjee Souradeep, Mukhopadhyay Pramiti, Guha, Ganguly Kausik, Bhattacharjee Samsiddhi, **Sengupta Mainak**. A meta-analysis and *in silico* analysis of polymorphic variants conferring breast cancer risk in the Indian subcontinent. *Future Oncology*. Sep;16(27):2121-2142, 2020.
13. Ganguly K, Dutta T, Saha A, Sarkar D, Sil A, Ray K, **Sengupta M**. Mapping the TYR gene reveals novel and previously reported variants in Eastern Indian patients highlighting preponderance of the same changes in multiple unrelated ethnicities. *Annals of Human Genetics*. May;84(3):303-312. 2020.
14. Roy S, Ghosh S, Bhattacharya S, Saha A, Das S, Gangopadhyay P, Bavdekar A, Ray K, **Sengupta M***, Ray J*. Dopamine β hydroxylase (DBH) polymorphisms do not contribute towards the clinical course of Wilson's disease in Indian patients. *Journal of Gene Medicine* Sep;21(9). 2019 **Joint Corresponding authors.*
15. **Sengupta M,** Dutta T., Ray K. SLC45A2 (Solute Carrier Family 45 Member 2); *Atlas of Genetics and Cytogenetics in Oncology and Haematology* 2019. On line version: http://AtlasGeneticsOncology.org/Genes/SLC45A2ID41306ch5p13.html.

16. Ganguly K, Saha T, Saha A, Dutta T, Banerjee S, Sengupta D, Bhattacharya S, Ghosh S, **Sengupta M.** Meta-Analysis and Prioritization of human skin pigmentation associated GWAS-SNPs using ENCODE data based web-tools. *Archives of Dermatological Research* Apr;311(3):163-171, 2019.
17. Roy S, Pal P, Ghosh S, Bhattacharya S, Das SK, Gangopadhyay PK, Bavdekar A, Ray K, **Sengupta M***, Ray J*. Potential role of Brain Derived Neurotrophic Factor and Dopamine receptor D2 variants modify the susceptibility and clinical course of Wilson's disease. *NeuroMolecular Medicine*. Sep;20(3):401-408. 2018 *[Epub ahead of print] *Joint Corresponding authors*
18. Sengupta D, Guha U, Mitra S, Ghosh S, Bhattacharjee S*, **Sengupta M***. Meta-analysis of polymorphic variants conferring genetic risk to Cervical Cancer in Indian women supports CYP1A1 as an important associated locus. *Asian Pacific Journal of Cancer Prevention.* 24;19(8):2071-2081. 2018. **Joint Corresponding authors*
19. Sultana Z, Bankura B, Pattanayak AK, Sengupta D, **Sengupta M**, Saha ML, Panda CK & Das M. Association of Interleukin-1 beta and Tumor necrosis factor-alpha genetic polymorphisms with gastric cancer in India, *Environmental and Molecular Mutagenesis* 59(7):653-667, 2018.
20. Roy S., Ganguly K., Pal P., Ghosh S., Das S.K., Gangopadhyay P.K., Bavdekar A., Ray K., **Sengupta M**. and Ray J. Influence of Apolipoprotein E polymorphism on susceptibility of Wilson disease. *Annals of Human Genetics*, 82(2), 53-59, 2017. **Joint Corresponding authors*
21. Sengupta D, Guha U, Bhattacharjee S*, **Sengupta M***. Association of 12 polymorphic variants conferring genetic risk to lung cancer in Indian population: An extensive meta-analysis, *Environmental and Molecular Mutagenesis,* 58(9):688-700, 2017. **Joint Corresponding authors*
22. Ganguly K, Dutta T, Samanta S, Sil A, Ray K, and **Sengupta M**. C10ORF11 is Unlikely to have a Major Contribution towards OCA Pathogenesis in Southern and Eastern India, *Journal of Human Biology & Health Education*, 1: 003, 2017.
23. Saha PS, **Sengupta M**, and Jha S. Ribosomal DNA ITS1, 5.8S and ITS2 secondary structure, nuclear DNA content and phytochemical analyses reveal distinctive characteristics of four subclades of Protasparagus, *Journal of Systematics and Evolution,* 55: 54–70, 2017.
24. Ray K, **Sengupta M**, Ghosh S. SLC24A5 (solute carrier family 24 (sodium/potassium/calcium exchanger), member 5); *Atlas of Genetics and Cytogenetics in Oncology and Haematology,* 21(2), 2017.
25. Ray K, **Sengupta M**, Ghosh S. C10orf11 (Chromosome 10 Open Reading Frame 11). *Atlas of Genetics and Cytogenetics in Oncology and Haematology,* 21(1), 2017.
26. Ray K, **Sengupta M**, Ghosh S. TYRP1 (tyrosinase-related protein 1); *Atlas of Genetics and Cytogenetics in Oncology and Haematology,* 21(1), 2017.
27. Mondal M*, **Sengupta M*** and Ray K. Functional assessment of tyrosinase variants identified in individuals with albinism is essential for unequivocal determination of genotype to phenotype correlation, *British Journal of Dermatology*, 175(6):1232-1242, 2016. ** The first two authors contributed equally.*
28. Ray, K; **Sengupta, M**; Ghosh, S. OCA2 (oculocutaneous albinism II), *Atlas of Genetics and Cytogenetics in Oncology and Haematology*. 2016. 20(12), 2016.
29. **Sengupta M**,*# Sarkar D,* Ganguly K, Sengupta D, Bhaskar S, Ray K.# In silico analyses of missense mutations in coagulation factor VIII: Identification of severity-determinants of haemophilia A, *Haemophilia***,** 21(5):662-9. 2015. *(#Equal Contributors,*

**Joint corresponding authors).*

30. Saha PS, Ray S, **Sengupta M** and Jha S. Molecular phylogenetic studies based on rDNA ITS, cpDNA trnL intron sequence and cladode characteristics in nine Protasparagus taxa, *Protoplasma,* 252(4):1121-34, 2015. Mookherjee S, Bhattacharjee A, **Sengupta M.** The aging eye. *Journal of Ophthalmology,* 2015: 832326, 2015.
31. Sarkar D, Ray K, **Sengupta M**. Structure-Function Correlation Analysis of Connexin50 Missense Mutations Causing Congenital Cataract: Electrostatic Potential Alteration Could Determine Intracellular Trafficking Fate of Mutants. *Biomed Research International***,** 2014:673895, 2014.
32. Mukherjee S, Dutta S, Majumdar S, Biswas T, Jaiswal P, **Sengupta M**, Bhattacharya A, Gangopadhyay PK, Bavdekar A, Das SK, Ray K. Genetic defects in Indian Wilson disease patients and genotype-phenotype correlation. *Parkinsonism and Related Disorders***,** 20(1):75-81, 2014.
33. S**engupta M,** Sarkar D**,** Mondal M, Samanta S, Sil A, Ray K. Analysis of MC1R variants in Indian Oculocutaneous Albinism patients: Highlighting the risk of skin cancer among the albinos. *Journal of Genetics,* 92(2):305-8, 2013.
34. Ray K, **Sengupta M**. Oculocutaneous Albinism. *Atlas of Genetics and Cytogenetics in Oncology and Haematology*, 17(1), 2013. *Updated by Ray K, Sengupta M and Ganguly, K in 20(6), 2016*.
35. Mondal M*, **Sengupta M***, Samanta S, Sil A, Ray K. Molecular basis of albinism in India: Evaluation of seven potential candidate genes and some new findings. *Gene*, 511(2):470-4, 2012. **The first two authors contributed equally*.
36. Pradhan S*, **Sengupta M***, Dutta A, Bhattacharyya K, Bag, S, Dutta C and RayK. Indian Genetic Disease Database. *Nucleic Acids Research*, 39:D933-8, 2011. **The first two authors contributed equally*.
37. Chaki M, **Sengupta M**, Mondal M, Bhattacharyya A, Mallick S, Bhadra R, Indian Genome Variation Consortium and Ray K. Molecular and functional studies on Tyrosinase variants: An implication towards Oculocutaneous Albinism type 1 (OCA1) among Indians. *Journal of Investigative Dermatology*, 131(1):260-2, 2011.
38. Gupta A, Chattopadhyay I, Mukherjee S, **Sengupta M**, Das SK and Ray K. A novel COMMD1 mutation Thr174Met associated with elevated urinary copper and signs of enhanced apoptotic cell death in a Wilson Disease patient, *Behavioral and Brain Functions*, 6:33, 2010.
39. **Sengupta M**, Chakraborty Amrita, Indian Genome Variation Consortium, Ray K, Analysis of single nucleotide polymorphisms of *PRNP* gene in twenty-four ethnic groups of India, *Journal of Genetics*, 89:247-51, 2010.
40. **Sengupta M**, Mondal M, Jaiswal P, Sinha S, Chaki M, Samanta S, Ray K, Comprehensive analysis of the molecular basis of OCA in Indian patients lacking mutation in Tyrosinasegene, *British Journal of Dermatology*, 163(3):487-94, 2010.
41. **Sengupta M**, Ray A, Chaki M, Maulik M, Ray K**.** SNPs in genes with copy number variation: A question of specificity, Journal *of Genetics*, 87: 95-97, 2008.
42. Indian Genome Variation Consortium. Genetic landscape of the people of India: a canvas for disease gene exploration, Journal *of Genetics*, 87:3-20, 2008. [***M. Sengupta's*** *role in the study published: Dataanalysis*].
43. **Sengupta M***, Chaki M*, Arti N, Ray K**.** *SLC45A2* variations in Indian oculocutaneous albinism patients, *Molecular Vision*, 13:1406-1411, 2007. **The first two authors contributed equally*.

44. Kunal Ray, Moumita Chaki and **Mainak Sengupta**. Tyrosinase and ocular diseases: some novel thoughts on the molecular basis of oculocutaneous albinism type 1. *Progress in Retinal and Eye Research*, 26(4):323-58, 2007.
45. Chaki M, **Sengupta M**, Mukhopadhyay A, Subba Rao I, Majumder PP, Das M, Samanta S, Ray K**.** OCA1 in different ethnic groups of India is primarily due to founder mutations in the Tyrosinase gene, *Annals of Human Genetics*, 70:623- 630, 2006.
46. Ghosh P, Basu A, Mahata J, Basu S, **Sengupta M**, Das JK, Mukherjee A, Sarkar AK, Mondal LK, Ray K, Giri AK. Cytogenetic Damage and Genetic Variants in the Individuals Susceptible to Arsenic Induced Cancer through Drinking Water. *International Journal of Cancer*, 118, 2470-2478, 2006.
47. Ray K and **Sengupta M**. TRendys meeting report 2005. *Indian Journal of Biochemistry & Biophysics,* 43:190-193, 2006.

BOOK CHAPTER

Kunal Ray, Arijit Mukhopadhyay, **Mainak Sengupta.** Gene discovery by direct genome sequencing (Chapter 10); Gene Discovery for Disease Models. John Wiley & Sons, DOI: 10.1002/9780470933947.ch11, 2012.

MUTATION REPORTS

- Ray K, **Sengupta M**. Gene symbol: OCA2. Disease: Albinism, Oculocutaneous II: **Human Genetics** 2010 Apr;127(4):487
- Ray K, **Sengupta M**. Gene symbol: OCA2. Disease: Albinism, Oculocutaneous II: **Human Genetics** 2010 Apr;127(4):487-488
- Ray K, Chaki M, **Sengupta M**. Gene symbol: SLC45A2. **Human Genetics** 2007 Apr;121(2):295
- Ray K, Chaki M, **Sengupta M**. Gene symbol: SLC45A2. **Human Genetics** 2007 Apr;121(2):295
- Ray K, Chaki M, **Sengupta M**. Gene symbol: SLC45A2. **Human Genetics** 2007 Apr;121(2):294
- Ray K, Chaki M, **Sengupta M**. Gene symbol: SLC45A2. **Human Genetics** 2007 Apr;121(2):294
- Ray K, Chaki M, **Sengupta M**. Novel human pathological mutations. Gene symbol: TYR. Disease: albinism, oculocutaneous 1. **Human Genetics** 2007 Dec;122(5):555
- Ray K, Chaki M, **Sengupta M**. Novel human pathological mutations. Gene symbol: TYR. Disease: tyrosinase deficiency. **Human Genetics** 2007 Dec;122(5):555
- Ray K, Chaki M, **Sengupta M**. Novel human pathological mutations. Gene symbol: TYR. Disease: tyrosinase deficiency. **Human Genetics** 2007 Dec;122(5):556
- Ray K, Chaki M, **Sengupta M**. Novel human pathological mutations. Gene symbol: TYR. Disease: tyrosinase deficiency. **Human Genetics** 2007 Dec;122(5):556
- Ray K, Chaki M, **Sengupta M**. Novel human pathological mutations. Gene symbol: TYR. Disease: albinism, oculocutaneous 1. **Human Genetics** 2006 Jul;119(6):675

INVITED LECTURES

1. **Mainak Sengupta**. *To smoke or not to smoke: Identifying polymorphic cis-regulatory variants as risk markers for lung carcinogenesis modulating chemotherapy responses in tobacco smokers of Eastern India* in the 29th Foundation Day Symposium organized by the Central Calcutta Society for Advancement of Human Development and Research, on 29th July 2022.
2. **Mainak Sengupta.** *In pursuit of happiness: Do genes have a say?* in the monthly seminar series of IPGMER in IPGMER, Kolkata, on 26th May 2022.
3. **Mainak Sengupta.** *To smoke, or not to smoke- that is the question: A search for genetic risk signatures for lung cancer* in the Continuing Medical Education (CME) Program of Saroj Gupta Cancer Centre and Research Institute, Thakurpukur, on 2nd September 2021.
4. **Mainak Sengupta.** *To smoke, or not to smoke: A genetic resolution to the dilemma* in the Inaugural Colloquium of the School of Biosciences, Ramakrishna Mission Vivekananda Educational and Research Institute, Kolkata on 5th December 2020.
5. **Mainak Sengupta**. *Genomics and its impact on health and society* in the "Two Weeks International Student Development Programme: Advance Learning and Career Guidance" organized by IQAC & Department of Zoology, Bijoy Krishna Girls' College, Howrah in association with Clarkson University, United States and Cytogenetics and Genomics Research Unit, Dept. of Zoology, University of Calcutta on 8th August 2020.
6. **Mainak Sengupta**. *To smoke, or not to smoke: that is the question*! in the National Conference on "Science and Technology: Rural development" organized jointly by the Indian Science Congress Association (Kolkata Chapter) & Surendranath College, Kolkata held during 20th and 21st January 2020.
7. **Mainak Sengupta**. *And let the music flow* in a seminar titled "Management of stress and addiction: a new dawn towards optimism" organized by Health Club, Neotia University in the Memorial Hall, Neotia University campus on 27th September, 2019.
8. **Mainak Sengupta**. *Genetics and its Impact on Society* on seminars organized to celebrate National Science Day on 28th February and 6th March, 2019 by Calcutta Consortium on Human Genetics at NIBMG, Kalyani.
9. **Mainak Sengupta.** *Biotechnology Revolution in India in relation to Genetics* in the one-day seminar on: 'Biotechnology Revolution in Indian – Roads ahead' organized by GLF Business School on 25th November 2017, in GLF Business School, Salt Lake City, Kolkata, India.
10. **Mainak Sengupta**. *To smoke or not to: Assessing the genomic signatures of cigarette smoke induced lung cancer* in the 25th West Bengal State Science & Technology Congress held during 4th and 5th March, 2018 at Science City, Kolkata.
11. **Mainak Sengupta.** *Prioritization of regulatory genomic signatures as prognostic susceptibility markers of tobacco smoke-induced lung carcinogenesis,* in the International Conference on 'advances in biological techniques' organized by Raja Peary Mohan College, held during 2nd to 4th November, 2017, in Raja Peary Mohan College, Uttarpara, India.
12. **Mainak Sengupta.** *An in bioinformatic approach to study Genetic Disorders,* in the Winter School in Bioinformatics, WSIB 2017, jointly organized by Amplicon

Biosciences Pvt. Ltd and The Biome on 21st January, 2017 in The Biome Research facility, Kolkata, India.

13. **Mainak Sengupta.** *Genomics and its impact on science and society,* in the International Science Centre and Science Museum Day, organized by Birla Industrial Technological Museum, National Council of Science Museums, Govt. of India on 10th November, 2016 in Birla Industrial Technological Museum, Kolkata, India.
14. **Mainak Sengupta**. *An in-silico approach to combat genetic disorders,* in the WBDST sponsored Workshop and Seminar on Bioinformatics during 30th-31st August, 2016 in Bangabasi College, Kolkata, India.
15. **Mainak Sengupta**. *In search of biomarkers of cigarette smoke induced lung cancer*, in the 17th All India Congress of Cytology and Genetics Conference and Symposium on "Exploring Genomes: The New Frontier" during 22nd-24th December, 2015 at Kolkata, India.
16. **Mainak Sengupta.** *The '3' parental issues in Surrogacy- A reality check!* in the seminar conducted by Kolkata Nivedita Shakti and We-The forum for human unity on the topic, "Realities of surrogacy: Ancient and contemporary India"on 12th June, 2015 at Kolkata, India.
17. **Mainak Sengupta.** *Molecular Genetics of OCA and Pigmentation Variation in India,* in the NIPER Kolkata Foundation Day Celebration on Nov 5, 2013 at Kolkata, India.
18. **Mainak Sengupta.** *Genetics in Community Ophthalmology: A few Examples,* in the International Assembly of Community Ophthalmologists and Third Annual Conference of ACOIN during 3rd-4th November, 2012 at Pune, India.
19. **Mainak Sengupta**. *Genetics of Oculocutaneous Albinism in India***,** in International Assembly of Community Ophthalmologists and Second Annual Conference of ACOIN during 29-30th October, 2011 at Guwahati, India.
20. **Mainak Sengupta**. *Genetics in the pretext of Childhood Blindness,* in the ACOIN Fourth National CME on "Prevalence of Ocular Morbidity with special reference to Vitamin A Deficiency Eye Diseases amongst the Children (0-16 years) of the slum areas of big Metropolis" 24th July, 2011 at Kolkata, India [*Key Note Address*].
21. **Mainak Sengupta.** *Oculocutaneous Albinism in India: the genetic bases of the spread ofthe disorder***,** in the First Annual Conference of Indian Association of Community Ophthalmology during 30-31st October, 2010 at Kolkata, India.

PRESENTATIONS IN SCIENTIFIC MEETINGS

Oral presentations

1. **Mainak Sengupta**. *Identifying polymorphic cis-regulatory variants as risk markers for lung carcinogenesis modulating chemotherapy responses in tobacco smokers of Eastern India* in the National Conference on "Cancer Biology and Therapeutics (CBT-2022), jointly organized by the Department of Zoology, Patharkandi College, Patharkandi, Karimganj, Assam and Pandit Deendayal Upadhyaya Adarsha Mahavidyalaya (PDUAM), Eraligool, Karimganj, Assam held during 30th-31st May, 2022.
2. Shubhrajit Roy, Sampurna Ghosh, Sreyashi Bhattacharya, Arpan Saha, Kausik

Ganguly, (Late) Shyamal Kumar Das, Prasanta Kumar Gangopadhyay, Ashish Bavdekar, Kunal Ray, Jharna Ray, **Mainak Sengupta.** *Identifying genomic signatures of the complex nature of Wilson's disease, a well-characterized Mendelian disorder* in the 44th Annual Conference of the Indian Society of Human Genetics: Genomics for Health and Precision Medicine held during 30th January-1st February 2019; jointly organized by National Institute of Biomedical Genomics (NIBMG) and Kalyani University (KU), Kalyani, WB, India

3. **Mainak Sengupta**. *An effort to characterize genomic variations modifying the clinical discourse of Wilson's disease, a Mendelian disorder with complex traits* in the International Conference on Neuroscience & XXXVI Annual Meeting of Indian Academy of Neurosciences held during 29th – 31st October, 2018 at Benares Hindu University, Benares, India [*as a part of Tulsabai Somani Educational Trust Award lectures*]
4. **Mainak Sengupta**, Devroop Sarkar, Kunal Ray. *Congenital cataract caused by connexin50 missense mutations - role of surface electrostatic potential alteration,* in the Annual Meeting of Indian Eye Research Group, ARVO India chapter held during 26th-27th July, 2014 at Hyderabad, India.
5. **Mainak Sengupta.** *Molecular Genetics of Albinism and Pigmentation Variation in India,*in the 37th Annual Conference of Indian Society of Human Genetics held during 3rd-5th March, 2012 at Chandigarh, India.
6. **Mainak Sengupta**, Moumita Chaki, Maitreyee Mondal, Swapan Samanta, K Ray. *Molecular Bases of Oculocutaneous Albinism in India*, in the Annual Meetingof Indian Eye Research Group held during 31st July -1st Aug, 2010 at Hyderabad, India
7. **Mainak Sengupta**, Moumita Chaki, Maitreyee Mondal, Abhisek Bhattacharya, Kunal Ray. *Genetic and Molecular Basis of Albinism in Indian Patients,* in the Annual Meeting of Society of Biological Chemists held during 4th-5th Sep, 2009 at Digha, India.
8. **Mainak Sengupta**, Moumita Chaki, Maitreyee Mondal, Swapan Samanta, K Ray. *Molecular Basis of Oculocutaneous Albinism Type 1 in Indian Patients,* in the 2nd Asia ARVO meeting held during 15th -18th Jan, 2009 at Hyderabad, India.
9. **Mainak Sengupta**, Maitreyee Mondal, Moumita Chaki, Swapan Samanta, K Ray. *Unidentified Genetic Defects Causing Oculocutaneous Albinism: Heterozygous Deletion in 3'-Region of Tyrosinase Gene as a Potential Case*, in the Annual Meeting of Society of Biological Chemists held during 22nd -23th August, 2008 at Digha, India.
10. **Mainak Sengupta**, Moumita Chaki, Maitreyee Mondal, Swapan Samanta, K Ray. *Molecular Characterization of Oculocutaneous Albinism Type 1 (OCA1) Mutations Found in Indian Population,* in the in the Human Genome Meeting held during 27th – 30th September, 2008 at Hyderabad, India
11. **Mainak Sengupta**, Ananya Ray, Moumita Chaki, Mahua Maulik and Kunal Ray. *Single Nucleotide Polymorphisms in Genes with Copy Number Variation: A Question of Specificity,* in the Annual Meeting of Society of Biological Chemists held during 3rd-5thAugust, 2007 at Digha, India
12. **Mainak Sengupta**, Moumita Chaki, Shampa Mallick, Madhusudan Das, P.P. Majumdar, Swapan Samanta, Ranjan Bhadra and Kunal Ray. *Molecular Basis of Oculocutaneous Albinism in Indian Population,* in the Annual Meeting of Indian Eye Research Group held during 28th-29th July, 2007 at LVPEI, Hyderabad, India.
13. **Mainak Sengupta,** Moumita Chaki, Madhusudan Das, Partha P. Majumdar, Swapan Samanta and Kunal Ray. *Molecular Defects Causing Oculocutaneous Albinism type*

1 in Eastern and Southern Iindian Population; in the Annual Meeting of Society of Biological Chemists held during 14th -16th May, 2006 at Digha, India.

Poster presentations

1. Debmalya Sengupta, Kausik Ganguly, Pramiti Mukhopadhyay, Souradeep Banerjee, Noyonika Mukherjee, Prateek Mascharak, Sourav Pal, Sangeeta Mitra, Ritabrata Mitra, Abhijit Sarkar, Tamohan Choudhury, Goutam Bhattacharya, Samsiddhi Bhattacharya, Somsubhra Nath, Susanta Roychoudhury, **Mainak Sengupta.** *Delineation of the role of genomic variants as susceptibility signatures towards tobacco smoke-induced lung carcinogenesis* in the Regional Young Investigator's Meeting: India Bioscience on Feb 5th and 6th, 2019 in Presidency University, Kolkata.
2. **Mainak Sengupta**, Devroop Sarkar, Kausik Ganguly, Debmalya Sengupta, Sukriti Bhaskar, Kunal Ray. *In silico analysis of point mutations in Factor VIII gene to identify potential determinants of hemophilia A severity,* in the Regional Conference of Young Scientists on the topic "Recent Trends in Physical & Biological Sciences" during 7th -8th March, 2014 at Bangalore, India.
3. **Mainak Sengupta**, Moumita Chaki, Shampa Mallick, Madhusudan Das, Partha P. Majumdar, Swapan Samanta, Ranjan Bhadra and Kunal Ray. *Molecular basis of Oculocutaneous Albinism in Indian population*; in the Golden Jubilee IICB during 7th - 9th Mar, 2007 at IICB, Kolkata, India.
4. **Mainak Sengupta**, Moumita Chaki, Arijit Mukhopadhyay, I Subba Rao, Partha P. Majumdar, Madhusudan Das, Swapan Samanta and Kunal Ray. *OCA1 among different ethnic groups of India is caused primarily due to founder mutations in the tyrosinase gene*; in the Annual Meeting of Indian Eye Research Group during 30th – 31st July, 2005 at LVPEI, Hyderabad, India.

ADMINISTRATIVE SERVICES

- Member of the Departmental Committee, Post Graduate Board of Studies and PhD Research Advisory Committee of Department of Genetics, University of Calcutta.
- Co-ordinator of Refresher Course on Biological Sciences conducted by UGC HRDC, University of Calcutta from 15th February to 10th March 2021 jointly hosted by the Departments of Genetics and Microbiology, University of Calcutta.
- Member, Organizing Committee of 6th Calcutta Consortium on Human Genetics (CCHuGe) during February 3 - 4, 2019 in Panchalingeswar, Odisha.
- Member, Organizing Committee of 5th of Calcutta Consortium on Human Genetics (CCHuGe) during February 3 - 4, 2018 at NIBMG, Kalyani.
- Member And point person, Organizing Committee of 3rd Annual Symposium of Department of Genetics, University of Calcutta on March 11, 2017 in the Department of Biotechnology, University of Calcutta, Kolkata, India.
- Member, Organizing Committee of 4th Annual Symposium of Calcutta Consortium on Human Genetics (CCHuGe) during November12 -13, 2016 in Jhargram, India.
- Member And point person, Organizing Committee of 2nd Annual Symposium of Department of Genetics, University of Calcutta on February7, 2016 in the SN Pradhan Centre of Neurosciences, University of Calcutta, Kolkata, India.

- Member, Organizing Committee of 3rd Annual Symposium of Calcutta Consortium on Human Genetics (CCHuGe) during October 2 -3, 2015 in Falta, India.
- Member, Organizing Committee of 2nd Annual Symposium of Calcutta Consortium on Human Genetics (CCHuGe) during October 18 - 19, 2014in Deulti, India.
- Point person, Organizing Committee *of* 1st Annual Symposium of Department of Genetics, University of Calcutta on February 21, 2015 in the SN Pradhan Centre of Neurosciences, University of Calcutta, Kolkata, India.
- Member, Organizing Committee *of* 1st Annual Symposium of Calcutta Consortium on Human Genetics (CCHuGe) during September 21-22, 2013 in Diamond Harbour, India.

FUNDING:

- Identifying genetic factors involved in the interplay between sleep quality and well-being: comprehensive study in representative West Bengal population ~ supported by Indian Council of Medical Research, Govt. of India. Amount sanctioned: 36.6275 lakhs in Rupees. Duration: 2022-2025.
- Interdisciplinary Life Science Programme for Advanced Research and Education under RRSFP-BUILDER (Level III); Department of Biotechnology, Govt. of India. Amount sanctioned: 8.17 crores in Rupees (recommended) ~ as a Co- investigator of one of the 7 participating departments; Duration: 2021-2026
- Molecular Genetic Analysis to Identify Uncharacterized Hidden Mutations among Wilson Disease Patients of West Bengal: In Search of Novel Genetic Loci ~ supported by Dept. of Science and Technology and Biotechnology, Govt. of West Bengal. Amount sanctioned: 23 lakhs in Rupees. Duration: 2021-2024.
- Developments in Indian Genetic Disease Database: updation, analysis and inclusion of complex diseases ~ supported by the Department of Biotechnology, Govt. of India. Amount sanctioned: 31.355 lakhs in Rupees; Duration: 2020-2023.
- A molecular genetic approach to identify and characterized hidden mutations in Oculocutaneous Albinism (OCA) in Indian population ~ supported by Science and Engineering Research, Department of Science and Technology, Govt. of India. Amount sanctioned: 27 lakhs in Rupees; Duration: 2020-2023.
- Molecular Genetic studies of cognitive function among Wilson's disease patients of India ~ supported by Department of Science and Technology (CSRI), Govt. of India. Amount sanctioned: 59.96 lakhs in Rupees; Duration: 2019-2022.
- UGC UPE II grant: Focus area 1. Modern Biology Group C1: Investigating mechanistic approaches for delineating proliferative diseases. Amount sanctioned: 6 lakhs in Rupees, as a Co-investigator; Duration: 2017-2019.
- Expanding the knowledge of the genetic and molecular bases of Albinism in West Bengal: estimation of carrier frequency among ethnic populations ~ supported by the West Bengal State Council of Science & Technology as Research Grant Award (Rabindranath Tagore Award). Amount sanctioned: 15 lakhs in Rupees; Duration: 2016-2019.
- Elucidating the role of mitochondrial F1F0-ATPase in melanogenesis~ supported by Science and Engineering Research, Department of Science and Technology, Govt. of India as Start Up Research Grant. Amount sanctioned: 25 lakhs in Rupees.Duration:

2014-2017.

- In silico and functional assessment of FVIII mutations to identify the determinant(s) of Haemophilia A severity ~ supported by UGC Start-Up Research grant. Amount sanctioned: 6 lakhs in Rupees; Duration: 2014- 2016.

TEACHING EXPERIENCE IN BRIEF:

- Teach Principles of Genetics, Cell and Developmental Biology, Molecuar Biology and Recombinant DNA Technology *in Semester I;* Regulation of Gene Expression AND Immunology *in Semester II*, Human Genetics and Genomics, Biotechniques and Bioinstrumentation in Genetic Research *in Semester III*, Animal Genetics and Biotechnology AND Bioinformatics in *Semester IV* in M.Sc Genetics course.
- Associated with teaching in the courses run by the Depts. of Biochemistry, Biotechnology, Microbiology, Biophysics and Molecular Biology, Environmental Sciences, SN Pradhan Centre of Neurosciences, University of Calcutta and in the Integrated M.Sc- PhD course in Bose Institute Kolkata.
- Served as a guest teacher in the Integrated B.Sc-MSc course in Indian Association of Cultivation of Sciences, Kolkata, Department of Microbiology, Vijaygarh JyotishRay College, Kolkata Department of Zoology, University of Calcutta AND as paper setter and examiner of M.Sc Zoology, Vidyasagar College and Bangabasi College, Kolkata.

PEER REVIEW AND EDITORIAL WORK

Reviewer for:

NeuroMolecular Medicine (Springer)
Proceedings of the Indian National Science Academy (Springer)
Journal of Genetics (Springer)
BMC Medical Genetics (Springer Nature)
BMC Cancer (Springer Nature)
Scientific Reports (NPG)
Indian Journal of Biochemistry & Biophysics (NISCAIR)
Infection, Genetics and Evolution (ELSEVIER)
PLOS One (PLOS)
International Journal of Experimental Pathology (WILEY)
Indian Journal of Medical Research (MEDKNOW PUBLICATIONS) IndianJournal of Human Genetics (KRE Publication)
Biomarkers in Medicine (Future Science Group)
Social Cognitive and Affective Neuroscience (Oxford Academic)

Guest-Editor:

Journal of Ophthalmology (Hindwai)

EXTRA CURRICULAR SKILLS & ACTIVITIES

- Participate in social activities as Secretary, Rotary Club of Calcutta Jadavpur, Kolkata.
- Participate in social and cultural activities as Joint Secretary, Alumni Association of Zoology, University of Calcutta.
- Participated in cultural activities as President of the cultural group, Maniktala

Kolpokotha.

- Serve as honorary treasurer of Ubac Foundation of Ubac Mountaineering Association, Kolkata.
- Acted and directed in more than forty dramas.
- Participate in certified trekking and adventure camps as Guide.
- Actively participate in outdoor and indoor sports with special interests in football, cricket and badminton.