



UNIVERSITY OF CALCUTTA

FACULTY ACADEMIC PROFILE/ CV

Full name of the faculty member: Dr. Madhusudan Das

Designation: Professor

Specialisation : Endocrinology, Histophysiology, Human Genetics, Cell and molecular Biology



Contact information : Res: 3/1, Ruby Park South, Kolkata-700078

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Academic qualifications:

College/ university from which the degree was obtained	Abbreviation of the degree
University of Calcutta	B.Sc. Hons. in Zoology
University of Calcutta	M.Sc. in Zoology
University of Calcutta	M. Phil in Environmental Science
University of Calcutta	Ph.D.

Positions held/ holding:

- Former Scientist at Indian Institute of Chemical Biology, Kolkata
- Former Post-Doctoral Fellow at Case Western Reserve University, Cleveland, USA
- Former Post-Doctoral Fellow at University of California, San Diego, USA
- Currently working as a Professor, Department of Zoology, University of Calcutta

Research interests: 200 – 250 words max

In our lab, we mainly focus to find out the associations of Single Nucleotide Polymorphisms (SNPs)/ mutations associated with complex diseases to establish genetic markers and eventually develop a simple genetic screening protocol for early diagnosis and disease management.. Currently, we are investigating the possible roles of these variations with Gastric Cancer, Non Syndromic Hearing Loss (NSHL), Type 2 Diabetes Mellitus (T2DM), Hypothyroidism, Kidney Stone diseases and Congenital neural tube and heart defects in the in the population of West Bengal. Likewise, we are also analyzing if drug efficacy of metformin varies among diabetic individuals with their genetic makeup.

Research guidance:

Number of researchers awarded Ph.D degrees : 8

Number of researchers pursuing Ph.D : 6

Projects :***Completed projects :***

- Mitochondrial and nuclear gene mutations/polymorphisms and their association with Gastric Cancer in Mizoram and West Bengal [Funded by DBT, Govt. Of India].
- GJB2, SLC26A4 and KCNQ4 genes polymorphism associated with Non Syndromic Hearing Loss (NSHL) in population of West Bengal [Funded by DBT, Govt. Of West Bengal].
- Candidate gene association study in Type 2 Diabetes Mellitus (T2DM) in the population of West Bengal [Funded by BRNS, Govt. of India].

- Genetic analysis of the purity of seed of Indian Major Carp using polymorphic DNA markers [Funded by UGC, Govt. of India].
- Thyroid dysfunction and its effect on glucose homeostasis in Rat [Funded by UGC, Govt. of India].
- Thyroid peroxidase (TPO) gene polymorphism and its relation with thyroid Dysfunction [Funded by DBT, Govt. Of India].
- Status of anti-malarial drug resistance of *P. falciparum* Malaria in West Bengal [Funded by Dept. of Health and Family Welfare, Govt. of W.B.].
- Status of anti-malarial drug resistance of *P. falciparum* malaria in Jalpaiguri [Funded by Dept. of Health and Family Welfare, Govt. of W.B.].
- Comparative efficacy of ACTs in *P. falciparum* malaria in Jalpaiguri District [Funded by Dept. of Health and Family Welfare, Govt. of W.B.].
- Role of diagnosis and treatment of asymptomatic malaria [National Rural Health Mission, India].

Current projects :

- Ecotyping identification of detritivorous organisms in Indian Sunderbans using molecular profiling [Funded by DST, Govt. of West Bengal]
- Association of gene mutations/polymorphisms with therapeutic efficacy of Metformin in Type 2 Diabetes Mellitus patients of West Bengal [Funded by DBT, Govt. Of India]

Membership of Learned Societies:

- The Zoological Society of India, Kolkata
- Electron Microscope Society of India
- Cytology and Genetics Society of India
- *Calcutta Consortium* of Human Genetics

Awards :

- Best Participant Award, Workshop on Applications of Electron Microscopy in Medicine and Biotechnology, at Centre for Cellular and Molecular Biology, Hyderabad, 1995.
- Awarded Mentor of the year-2012 by the Harlem Children Society, Association of Science and Society, New York, 2012.

Tie - ups and collaborations:

- Dr. Subhankar Chowdhury
Professor and Head, Dept. of Endocrinology, IPGME&R and SSKM Hospital, Kolkata
- Dr Dilip Kumar Pal
Professor and Head, Dept. of Urology, IPGME&R and SSKM Hospital, Kolkata
- Dr M.L. Saha
Professor, Dept. of Surgery, IPGME&R and SSKM Hospital, Kolkata
- Dr. Subhradev Biswas
Dept. of ENT, IPGME&R and SSKM Hospital, Kolkata
- Dr. Kartiki V Desai
Associate Professor, NIBMG, Kalyani 741251, West-Bengal
- Prof. N. Senthil Kumar
Head, Dept. of Biotechnology, Mizoram University, Mizoram.

Research group:

- Dr. Sourav Mukherjee [DBT-Research Associate]
- Dr. Srikanta Guria [Research Fellow]
- Dr. Arup Kumar Pattanayak [Research Fellow]
- Biswabandhu Bankura [DBT- SRF]
- Bidisha Adhikary [Research Fellow]
- Silpita Paul [University Fellow]
- Manalee Guha [University Fellow]
- Sudakshina Ghosh [Research Fellow]
- Soumee Ghosh [DBT- SRF]
- Zareen Sultana [DST Inspire Fellow]
- Susanta Sadhukhan [Upendra Nath Brahmachari Fellow]

- Suvojit Saha [WBDST-JRF]

Select list of publications: maximum limit of 10 publications (best and latest)

Bankura B, **Das M**, Bhattacharjee R, Pattanayak AK, Adhikary B, Goswami G, Chowdhury S and Roy A. (2016). Inter-patient variability in clinical efficacy of metformin in type 2 diabetes mellitus patients in West Bengal, India. *J Metabolic Syndr* 5: 198. doi:10.4172/2167-0943.

Ghosh S, Ghosh S, Bankura B, Saha ML, Maji S, Ghatak S, Pattanayak AK, Sadhukhan S, Guha M, Senthil Kumar N, Panda CK, Maity B and **Das M**. (2016). Association of DNA Repair and xenobiotic pathway gene polymorphisms with genetic susceptibility to gastric cancer patients in West Bengal, India. *Tumour Biology*, DOI 10.1007/s13277-015-4780-5

Guha M, Bankura B, Ghosh S, Pattanayak AK, Ghosh S, Pal DK, Puri A, Kundu AK, **Das M**. (2015). Polymorphisms in CaSR and CLDN14 Genes Associated with Increased Risk of Kidney Stone Disease in Patients from the Eastern Part of India. *PLoS One*. **10(6)**:e0130790. doi: 10.1371/ journal.pone.0130790. eCollection 2015.

Adhikary B, Ghosh S, Paul S, Bankura B, Pattanayak AK, Biswas S, Maity B, **Das M**. (2015). Spectrum and frequency of GJB2, GJB6 and SLC26A4 gene mutations among non syndromic hearing loss patients in eastern part of India. *Gene*, **573(2)**: 239-245.

Mahto R and **Das M**. (2014). Effect of gamma irradiation on the microstructural, textural, visual and microbiological quality of fresh water prawn (*Macrobrachium rosenbergii*) and tiger prawn (*Penaeus monodon*), *LWT - Food Science and Technology*, **61(2)**: 573-582.

Mahto R and **Das M**. (2014). Effect of γ irradiation on the physico-mechanical and chemical properties of potato (*Solanum tuberosum* L), cv. 'Kufri Chandramukhi' and 'Kufri Jyoti', during storage at 12 °C. *Radiation Physics and Chemistry*, **10**:12–18.

Guria S, Bankura B, Balmiki N, Pattanayak AK, Das TK, Sinha A, Chakrabarti S, Chowdhury S and **Das M.** (2014). Functional Analysis of Thyroid Peroxidase (*TPO*) Gene Mutations Detected in Patients with Thyroid Dysmorphogenesis. *International Journal of Endocrinology*, 1-8. <http://dx.doi.org/10.1155/2014/390121> Volume 2014 (2014).

Mahto R and **Das M.** (2014). Effect of gamma irradiation on the physico-mechanical and chemical properties of potato (*Solanum tuberosum* L), cv. 'Kufri Sindhuri', at non refrigerated storage conditions. *Postharvest Biology and Technology*, **92**:37-45.

Balmiki N, Bankura B, Guria S, Das TK, Pattanayak AK, Sinha A, Chakrabarti S, Chowdhury S and **Das M.** (2014). Genetic analysis of Thyroid peroxidase (*TPO*) gene in patients with adult onset hypothyroidism in West Bengal, India, *Endocrine J.* **61(3)**: 289-296.

Pattanayak AK Bankura B, Balmiki N, Das TK, Chowdhury S, **Das M.** (2013). Role of peroxisome proliferator-activated receptor gamma gene polymorphisms in type 2 diabetes mellitus patients of West Bengal, India. *Journal of Diabetes Investigation*, doi:10.1111