

## Dr. Surajit Debnath , PhD

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MSME's, Start-up's and Organizations may communicate for contract research and customized training in Quality control, Biomedical, Clinical and allied fields as per Govt. norms. M.Sc, M.Tech, B.Sc, B.Tech students with specific interest in the field of Protein and Nucleic acid simulations, Computational biology and Proteomics, Cell and Molecular Biology can directly contact me for projects and dissertations.

### **Background**

<b>Qualification / Degree</b>	<b>Awarded by</b>
PhD (January 2012)	Tripura University (Department of Life Science)
MSc- Biotechnology	Bangalore University (Department of Biotechnology)
SLET –Biotechnology (2006)	UGC

### **Peer Reviewed Single Author Publications:**

1. **Surajit Debnath (2021).**, Downstream Processing of Waste Biomass: From Biophysical Aspects of Biomass yield to Engineered Microbial Cells for better Harvesting. In *Biotechnology for Waste Biomass Utilization*, **Publisher: Taylor and Francis UK** ., (DOI: update on Sep 2021).
2. **Surajit Debnath (2020).**,Peptide Based Composites for Biomedical Applications: Focus on the new age of pathogen control ; In *Biomedical Applications of Green Composites*. **Publisher: Springer UK** ., (DOI:update on Aug 2021).
3. **Surajit Debnath (2019).**, Characterization of Extra-cellular Proteins to Explore their role in Bio-flocculation for Harvesting Algal Biomass for Waste water Treatment ; In *Role of Micro-algae in Waste water Treatment*. **Publisher: Springer Singapore.**, [https://doi.org/10.1007/978-981-13-1586-2\\_18](https://doi.org/10.1007/978-981-13-1586-2_18)
4. **Surajit Debnath (2017).**, Preliminary studies on the inhibition potential of Indian domestic curd against coliforms, an emerging periodontal pathogen. *Journal of Indian Society of Periodontology.*, 21.5: 357.(SCOPUS/SCI/PUBMED/UGC)
5. **Surajit Debnath (2016).**, BMI is a better indicator of cardiac risk factors, as against elevated blood pressure in apparently healthy female adolescents and young adult students: Results from a cross-sectional study in Tripura. *Indian Journal of Community Medicine.*, 41(4), 292. (SCOPUS/SCI/PUBMED/UGC)
6. **Surajit Debnath (2011).**, Current research on *Clarias batrachus*, the medicinal fish. *Tropical Freshwater Biology* 20 : 25.,DOI:[10.4314/tfb.v20i1.3](https://doi.org/10.4314/tfb.v20i1.3)

7. **Surajit Debnath (2011).**, *In-silico* studies of Indian Catfish : An update ., ***International Research Journal of Applied and Basic Sciences***. Vol., 2 (8), 303-319. ISSN: 2251-838X ., <https://europub.co.uk/articles/4848>
8. **Surajit Debnath (2010).**, A review on the physiology of Insulin like Growth Factor-I (IGF-I) peptide in bony fishes and its phylogenetic correlation in 30 different taxa of 14 families of teleosts. ***Advances in Environmental Biology*** 5.1: 31-52., (SCOPUS/SCI/UGC)

**Peer Reviewed Publications as Lead / 1<sup>st</sup>/ Corresponding author:**

9. **Surajit Debnath, S. Addya. (2015).**, Mis-sense mutations in Tafazzin (TAZ) that escort to mild clinical symptoms of Barth syndrome is owed to the minimal inhibitory effect of the mutations on the enzyme function: in-silico evidence. ***Interdisciplinary Sciences: Computational Life Sciences*** 7.1: 21-35. (SCOPUS/SCI/PUBMED/UGC).
10. **Surajit Debnath, S. Addya. (2014).**, Structural basis for heterogeneous phenotype of ERG11 dependent Azole resistance in *C. albicans* clinical isolates. ***Springerplus*** 3.1 (2014): 1-16. (SCOPUS/SCI/PUBMED/UGC)
11. De, Utpal Chandra, **Surajit Debnath**, and Ranjit Ghosh. (2014)., Preliminary screening for in vitro anti-enteric properties of a traditional herb *Dillenia pentagyna* Roxb. fruit extracts. ***Asian Pacific Journal of Tropical Medicine***, 7: S332-S341. (SCOPUS/SCI/PUBMED/UGC).
12. **Surajit Debnath , R.Gupta (2009).**, Phylogenetic Inference from the Correlation of Some Microsatellite DNA Segments for Indirect Assessment of Genetic Diversity in the Asian Catfish, *Clarias batrachus*. ***IU Journal of Computational Mathematics***. Vol.II,No.2,2009. ISSN:0974-6544. [www.iupindia.in/609/IJCM\\_Phylogenetic\\_Inference\\_22.html](http://www.iupindia.in/609/IJCM_Phylogenetic_Inference_22.html)
13. S.B,N.R, **Surajit Debnath** and A.S.,(2008) Impact of Climate Changing Environment on Survival Potential of the Fish *Nandus nandus* (Ham.) in Tripura., ***Environment and Ecology ; 26(1): 86-90.***, ISSN: 0970-0420.
14. S.B,N.R, **Surajit Debnath** and A.S.,(2008) Impact of Climate Changing Environment on Growth Efficiency of *Nandus nandus* (Ham.) in Tripura. ***Environment and Ecology ; 26(1): 142-144.***, ISSN: 0970- 0420.

**Full papers in Peer Reviewed International Conference Proceedings**

15. **Surajit Debnath, S. Addya. (2012).**, Investigation of Genetic Epidemiology of Metabolic Compromises in  $\beta$  Thalassemia Minor Mutation: Phenotypic Pleiotropy. ***Proceedings of the International Conference on Human Genetics , Copenhagen , 2012.***, *International Journal of Medical and Health Sciences* 6.6: 265-269. DOI: [doi.org/10.5281/zenodo.1334808](https://doi.org/10.5281/zenodo.1334808)
16. **Surajit Debnath (2011).**, *Clarias batrachus*, the medicinal fish: An excellent candidate for aquaculture and employment generation. ***Proceedings of International Conference on Asia Agriculture and Animal, Hongkong , July 2011 IPCBEE vol.13 (2011) © (2011) IACSIT Press, Singapore. ISSN:2010-4618, pp32-37. (Citations: 50 , as on March 2021).***

### **Abstracts in Peer Reviewed International Journals**

- a. **Surajit Debnath, S. Addya. (2013).**, Correlates of Anthropometric Measures with Salivary Metabolites in a Subsample of College Women in Suburban North East India., *Journal of Diabetes., Wiley Publishers., Volume 5, Issue s1.*, [https://onlinelibrary.wiley.com/doi/epdf/10.1111/1753-0407.12032\\_1](https://onlinelibrary.wiley.com/doi/epdf/10.1111/1753-0407.12032_1)
- b. **Surajit Debnath (2012).**, Vitamin D deficiency and elevation of para-thyroid in Thalassaemia minor: a case study., *Endocrine Abstracts (2012) Volume 29.,P413., ISSN 1479-6848.*
- c. **Surajit Debnath, S. Addya. (2013).**, Recent Epidemiology of Human Protozoan Parasites in terms of PdIR (Protozoan disease Information Report) using Data Mining. *Clinical Microbiology and Infection (CMI), the official journal of ESCMID* [https://www.escmid.org/escmid\\_publications/escmid\\_elibrary/?q=Surajit+Debnath&id=2173&L=0&x=0&y=0](https://www.escmid.org/escmid_publications/escmid_elibrary/?q=Surajit+Debnath&id=2173&L=0&x=0&y=0)

### **PATENTS FILED:**

1. **Title of the Patent Filed: System for rapid and low-cost detection of mutation effect in proteins for initial screening.** Docket No -7558 ., Indian Patent.  
Author: Surajit Debnath.
2. **Title of the Patent Filed: Easy to use cost-effective system for primary mapping of water pathogens in localities.** Docket No -7848 .,Indian Patent.  
Joint Patent Author: Surajit Debnath.

### **AWARDS and GRANTS**

1. **CSIR, Govt. of India Grant** for Oral Presentation in *Royal College of Pathologists, London, UK.* 28<sup>th</sup> February 2013. (CSIR Ref No: PFA/1404/12-HRD, dated Dec 24,2013).
2. **Sir Tata Young Scientists Grant** to attend CME on Biomarker Discovery , *Royal College of Pathologists, London, UK.* (TATA Grant Ref no: Memo/E/1/2013-14 , dated April 16, 2013).
3. **DST, Govt. of India Young Scientist Award** for Oral Presentation in *International Conference on Human Genetics, Copenhagen, Denmark* , June 2012 . (DST Ref No: SR/ITS/0823/2012-2013, dated 13, May, 2012).
4. **DBT, Govt. of India Young Scientist Award** for Oral Presentation in *ICAAA, Hong-Kong* (2011) (DBT Ref No: IITG/P/DOFA/02, dated 06, June, 2011).

### **Invited Talks Delivered as Resource Person / Workshops Delivered**

1. Invited Talk as Resource Person on –“Bio-Electric Signals, Propagation, Analysis and Instrumentation with Introduction to Hands-on Simulation of signalling Bio-molecule using a PYTHON based Server?”. In *AICTE (ATAL) – FDP on*

*Biomedical Instrumentation: What and how to teach. Conducted by Rajasthan Technical University, Rajasthan, Jaipur ,24-28<sup>th</sup> August 2020.*

2. Invited Talk as Resource Person on –“Instrumentation of Cardiac Pacemakers and Hands-On-Session with a PYTHON program using Myosin protein of heart”. In *AICTE (ATAL) – FDP on Innovation in Medical Devices and Impact of IOT in Tele-health for rural India. Conducted by RMKE Engineering College, Anna University, Tamilnadu, 14-18<sup>th</sup> September 2020.*
3. Invited Talk as Resource Person on – “Cardiac signals of biomedical importance”. In *AICTE (ATAL) – FDP on Signal Processing and Machine Learning Algorithms for Biomedical Data analytics in Health Care. Conducted by Coimbatore Institute of Technology, Anna University, Tamilnadu, 21-25<sup>th</sup> September 2020.*
4. Invited Talk as Resource Person on – “Analogy of Machine Learning and Molecular Learning: Hands-on Session on COVID19 Proteomics”. In *AICTE (ATAL) – FDP on Computational Science and Biology. Conducted by National Institute of Technology, Arunachal Pradesh, 5-9<sup>th</sup> October 2020.*
5. Invited Talk as Resource Person on – “Biophysical Aspects of Waste biomass reutilization and microbe based systems”. In *AICTE (ATAL) – FDP on Waste Technology, Conducted by CV Raman Global University, Orissa, 21-25<sup>th</sup> December 2020.*
6. Invited Talk as Resource Person on –“Quadruplet substitution for enhanced stability of Basic Fibroblast Growth Factor / FGF2”. In ***DBT Sponsored International Conference on Translational Biotechnology- 2016*** , Conducted by Department of Biotechnology , MN-NIT , Allahabad .Uttar Pradesh. February 2016.
7. Invited Talk as Resource Person on –“HLA type and natural resistance to HIV serotypes: Elaborating Immunoinformatics”. In ***CSIR Sponsored National Seminar on Genomic and Cultural Variation of Indian Population***, Conducted by Department of Anthropology, SV University, Tirupati , Telangana, February 2017.
8. Invited Talk as Resource Person in ***DBT Sponsored Regional Workshop cum Training Programme on Application of Bioinformatics Tools and Techniques in Fisheries***, Aquaculture and Life sciences. *Bioinformatics Centre , College of Fisheries, Central Agricultural University (CAU), Lembucherra. October 21-23, 2013.*
9. Invited Talk as Resource Person in ***DBT Sponsored Workshop for College Teachers in Tripura “Hands on Bioinformatics Techniques and Fisheries Database”*** organized by Bioinformatics Centre of College of Fisheries, Central Agricultural University (CAU), Lembucherra from 21-23 , January ,2014.
10. Invited mentor in Internship Workshop on “COVID 19 : Exploring uncommon epitopes for a stable immune response through MHC1 binding”, In *Genomics & Proteomics , Sponsored by H-Bio, Nigeria during Aug-Sep 2020.*

11. Invited mentor in 5 days Workshop on “*In-silico Protein Engineering for Industrial & Biomedical Applications*”, Sponsored by EGene Biomed (OPC) , Gurgaon , UP , Sep 2020.
12. Invited mentor in 5 days Workshop on “*NGS Data Analysis & Proteomics*”, Sponsored by Spectrum Bioscience (LLP) , Pune , Maharastra , March 2021.

### **Popular Literature**

1. Literature as an outcome of International mentoring workshop –**Surajit Debnath et al (2020)**., COVID19: Exploring uncommon epitopes for a stable immune response through MHC1 binding. DOI: <https://doi.org/10.1101/2020.10.14.339689>
2. Book - **Surajit Debnath (2012)** ., Some Physiological and Biochemical Aspects of A Rare Tropical Fish: Morphometrics to Computational Biology. Publisher: Lap Lambert Academic Publishing AG & Co Kg , Germany ISBN 13: 9783847348689 ISBN 10: 384734868X.
3. **Surajit Debnath (2009)** ., Traditional Consumption of Magur (*Clarias batrachus*) an Air Breathing Catfish among the Population of North Eastern India is rationalized by Its Blood Lipid Parameters. *CHEMFERENCE-IITM. (Citations =07 as on March 2021)*.
4. Book - **Surajit Debnath (2012)**.,Evaluation of Hemoglobinopathies in Resource Limited Set-ups and In-silico Studies on Iron Binding Proteins. Lap Lambert Academic Publishing AG & Co, Germany ISBN 978-3-659-20612-2.
5. **Surajit Debnath (2008)**.,Occurrence of morphological deformities in wild *Clarias batrachus* , in a natural ecosystem of Tripura, North east India , A possible case of stress induced polyploidy as revealed by Erythrocyte Examination. *BioAsia, 2008. (Citations =01 as on March 2021)*.
6. Book Chapter- **Surajit Debnath (2012)**.,Chapter-08, A Review of Computational Biology and Bioinformatics Driven Research in Indian Catfish. Applied Computational Biology and Statistics in Biotechnology and Bioinformatics. Edited by: Prof Ajit K. Roy. Publisher: *New India Publishing Agency,New Delhi* ., ISBN 10: 9380235925.
7. Book - **Surajit Debnath (2012)**.,New-Age Economics: The Sustainable Model of Hongkong SAR: Neo-Confusian Practice ., Lambert Academic Publishing AG & Co, Germany .,ISBN-13 : 978-3848487271.
8. **Surajit Debnath (2008)**., Fishing Business For Sustainable Development: Current Scenario In IndoAsia. Online Article in Aquafind.com. [http://aquafind.com/Fishing\\_business.php](http://aquafind.com/Fishing_business.php)
9. **Surajit Debnath (2019)**., Proceedings for the “Workshop on Blood Borne Virus HIV:Monitoring the burden” , Sponsored by TACS , Tripura.25<sup>th</sup> January , 2019.
10. **Surajit Debnath (2019)**., A manual on the Occasion of Swacha Bharat Mission “Rainwater harvesting and other sustainable practices” 2019.

## **WORK EXPERIENCE:**

1. Lecturer, Nalanda Educational Institution, Vijaywada, Affiliated to Nagarjuna University, Guntur, Andhra Pradesh (Academic session 2004 - 2005).
2. Research Assistant- DBT Sponsored Project in Department of Life Science, Tripura University, Suryamaninagar. (April 2005-April 2006).
3. Junior Research Fellow- DST Sponsored Project in Department of Life Science, Tripura University, Suryamaninagar. April 2006 (RefNo.F.3 (392) TU/03, dated: 13-04-2006) to September 2007.
4. Lecturer, Biotechnology (UGC Scale)- ICFAI University Tripura from 18-09-2007 to 31-03-2010.
5. Guest Faculty - Biochemistry & Microbiology, Vinayaka Mission Study Centre.(Academic Session 2007-2008).
6. Guest Faculty - Biochemistry, Department of Life Science, Tripura University, Suryamaninagar. 2007-08 (Ref.No.F.TU/FCPGS/GL...Dated:11-12-2007).
7. Guest Faculty- Bioinformatics for M.F.Sc, College of Fisheries, Lembucherra under CAU, Imphal. Session 2007-2008.
8. Lecturer, Department Medical Laboratory Technology, Women's Polytechnic, Hapania, Government of Tripura. 25-06-2010 to 11-01-2016.
9. Lecturer (Senior Scale), Department Medical Laboratory Technology, Women's Polytechnic, Hapania, Government of Tripura from 12-01-2016 onwards.

## **Outreach Activities**

1. Visited G.W.Gothe University, Frankfurt, Germany 2012.
2. Papers Reviewed - *Gene Journal*- ISSN:0378-1119 - Elsevier, *Biomed Research International*- ISSN: 2314-6133- Hindawi Publishing , *BMC Complementary & Alternative Medicine*- ISSN 1472-6882 -Bio Med Central , *Journal of Clinical and Diagnostic Research*-ISSN:0973-709X , *Egyptian Journal of Human Genetics*-ISSN 1110-8630-Elsevier.
3. Membership of Professional Organizations:  
*Senior Member* , *APCBEEES*, Hong Kong (Senior Membership No:200206).  
*Member* , *IACSIT*, Singapore (Membership No: 80340986)
4. Major Laboratory exposure –  
-Bioinformatics Facility, *IIT ,Kharagpur* , September, 26-27, 2008 –Sponsored by ICFAI University , Tripura.  
-Cytogenetics facility, 29<sup>th</sup> November to 1<sup>st</sup> December, 2012 ., *AIIMS , New Delhi*.  
-DNA Fingerprinting Facility, National Bureau of Plant Genetic Resources, *NBPGR, New Delhi* , 26<sup>th</sup> -28<sup>th</sup> November 2012.  
-Biomedical Engineering Lab, *IIT, Guwahati*. 25<sup>th</sup> February– 1<sup>st</sup> March, 2015.

5. National Advisory Committee Member, National Seminar on Marine Natural Products as Pharmaceutical Agents. 17-18 September 2019, *Sponsored by DBT , Organized by Sathyabama University , Chennai , Tamil Nadu.*
6. National Advisory Committee Member, International Conference on Intelligent Computing , Smart Communication and Network Technologies., 26<sup>th</sup> -27<sup>th</sup> March 2021 , *Sponsored by ISTE, CSI., Organized by RMKE Engineering College , Anna University , Tamilnadu.*
7. Organizing Secretary, STEDAL 2020, Sponsored by Ministry of Tribal Affairs in association with TRCI, Govt of Tripura.
8. Interview with LrkAI Health Care Pvt Ltd , Bhubaneshwar , Orissa on Industrial Biotechnology on 22-08-2020 through Facebook Live was viewed 4000 times (4K Views).

**Oral Presentation in International / National Conferences & Workshops/Training**

Presented Research Papers in many International and National Conferences. Attended several Workshops and Training.

**March 2021 , Agartala , Tripura**

**Dr.Surajit Debnath**