Dr. Mahananda Chutia, M.Sc., Ph.D.
Scientist – D & DBT Overseas Associate
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Educational Qualification: M.Sc. with specialization in Microbiology from Gauhati University (2003).
Ph.D. in Biotechnology (Microbial Biotechnology) from Gauhati University (2012)
Post Doctorate Fellow (Virology) in University of Leicester, UK (2015-16).

Area of research interest:

- Bacteriophage Biology and Phage therapy
- Host Plant and Silkworm pathology, host-pathogen interaction
- Bio-prospecting of Microorganisms, molecular microbiology and interdisciplinary research.

Professional Experiences:

- Scientist - D in Central Muga Eri Research & Training Institute (CMER&TI), Central Silk Board, Govt. of India, Jorhat, Assam w.e.f. 1st July 2018 to till date.
- Scientist - C in Central Muga Eri Research & Training Institute (CMER&TI), Central Silk Board, Govt. of India, Jorhat, Assam w.e.f. 26th February 2014 to 30th June 2018.
- Scientist - B in Central Muga Eri Research & Training Institute (CMER&TI), Central Silk Board, Govt. of India, Jorhat, Assam w.e.f. 19th January 2009 to 25th February 2014.
- CSIR-Senior Research Fellow in the Dept. of Biotechnology, Gauhati University, Ghy (2008-2009).
- Research Fellow in CSIR-North East Institute of Science & Technology (NEIST), Jorhat, Assam (2005-2008)
- Guest Faculty in the Dept. of Botany, Nowgong College, Assam, India (2005-2007).

Awards/honour/Fellowship (if any):

1. Honorary Visiting Fellow, University of Leicester, UK
2. Dr. S.N. Choudhury Award - Best Scientist category (2016).
3. DBT Overseas Associateship in the year 2014.
4. DBT- Rapid Grant for Young Investigator (RGYI) award in 2012.
5. CSIR Senior Research Fellowship (SRF) in Life Sciences in 2007-08.
6. Most Cited Articles Award in the journal "LWT-Food Science & Technology" published by Elsevier, UK for the period of 2008-2013.
7. Best Poster Presentation in International Consultative Meeting on Seri-biotechnology (ICMS)-2012 held at IBSD, Imphal during 6-7th December 2012.
8. UGC recognized NET/SLET qualified in Life Sciences.
9. 1st Class 1st position with distinction in B.Sc. from Dibrugarh University, Assam.
10. National Merit Scholarship for postgraduate studies.

Major/ongoing Projects:

1. Isolation and characterization of lytic bacteriophages infecting bacterial pathogens of muga silkworm, *Antheraea assamensis* Helfer [As PI, funded by DST, New Delhi; Total budget: 37.6 Lakhs].

2. Utilization of mulberry leaf for production of mulberry tea and value addition of green tea [As CoPI, funded by CSB, Bangalore; Total budget: 30.498 lakhs
3. Establishment of Advanced Level Institutional Biotech Hub (PI; funded by DBT, New Delhi; Total Budget: 69.00 lakh].

Concluded projects

1. Characterization and efficacy of bacterial antagonists against *Alternaria ricini* infecting Castor in North-eastern India (Co-PI; Funding agency- Central Silk Board, Bangalore; Duration 3 years).
2. Enhancement of rural economy through technology intervention for sustainable Muga culture in Upper Brahmaputra Valley of Assam ([Co-PI; funded by DBT, New Delhi].
3. Next generation sequencing studies and bioinformatics analysis of microbiome of flacherie infected Antheraea assamensis Helfer for developing effective disease control measures (Co-PI; funded by CSB, Bangalore).
4. Studies on the cross transmission of pebrine spores from lepidopteran caterpillars to muga silkworm (Antheraea assamensis, Helfer) and its control measures (Co-PI; funded by CSB, Bangalore); Total Budget: 15.55 lakhs].
5. Characterization, transmission and cyto-pathology of Infectious Flacherie and Cytoplasmic Polyhedrosis Virus in Muga Silkworm, Antheraea assamensis Helfer [PI; funded by DBT, New Delhi; Total Budget: 37.286 lakh].
6. Characterization and efficacy of bacterial antagonists against Alternaria ricini infecting Castor in North-eastern India (PI; funded by CSB, Bangalore).
7. Etiology of bacterial diseases and molecular characterization of the pathogens of muga silkworm (*Antheraea assamensis* Helfer) from North East India (PI; DST, New Delhi; Total Budget: 27.5132).
8. Forecasting and forewarning for pest and diseases of muga host plants and silkworm. (Project Code: PRE 5852; Co-PI; Central Silk Board, Bangalore; Total Budget: 19.138 lakh).
9. Collection, characterization, evaluation and conservation of perennial host plants for eri silkworm rearing. (Project Code: PRE 5853; Co-PI; Central Silk Board, Bangalore; Total Budget: 10.04 lakhs).
10. Identification and morpho-molecular characterization of certain important diseases of eri silkworm, *Samia ricini* Donovan (Co-PI; Pilot study, CMER&TI, Lahdoigarh).

Important / recent Publications:

[*Corresponding Author]

1. JY Nale, M Chutia, JKJ Cheng, M Clokie (2020) Refining the *Galleria mellonella* model by using stress markers genes to assess *Clostridioides difficile* infection and recuperation during phage therapy. *Microorganisms (MDPI),* 2020, 8, 1306; doi:10.3390/microorganisms8091306; **[Impact factor 4.152].**
2. G Subrahmanyam, M Chutia, KP Arunkumar (2020) Annual Review of Genetics, 2018. Nancy M. Bonini, Andrew G. Clark and Michael Lichten. *Current Science* 118 (1): 142-13 **[Impact factor 0.725].**
3. G. Subrahmanyam, V. Gowri Esvaran, K.M. Ponnuvel, W. Hassan, M. Chutia, R. Das (2019) Isolation and molecular identification of microsporidian pathogen causing nosemosis in Muga silkworm, *Antheraea assamensis* Helfer (Lepidoptera: Saturniidae). *Indian Journal of Microbiology, 59:* 525–529 [ISSN 0046-8991; **Impact factor 1.830].**

4. J.Y. Nale, M. Chutia, P. Carr, P.T. Hickenbotham, M.R. Clokie (2016) 'Get in early'; biofilm and wax moth (*Galleria mellonella*) models reveal new insights into the therapeutic potential of Clostridium difficile bacteriophages. *Frontiers in Microbiology, 7:1383* (1-16) (http://dx.doi.org/10.3389 /fmicb.2016.01383), [ISSN 1664-302X; **Impact Factor 4.235**].
5. MC Sarmah, M Chutia*, K Neog, R Das, G Rajkhowa, SN Gogoi (2011) Evaluation of promising castor genotype in term of agronomical and yield attributing traits, biochemical properties and rearing performance of eri silkworm, *Samia ricini* (Donovan). *Industrial Crops and Products,* 34: 1439– 1446 [Elsevier; ISSN 0926-6690; **Impact Factor 4.244**].
6. R Das, M Chutia*, K Das, DK Jha (2010) Factors affecting sporulation of *Pestalotiopsis disseminata* causing grey blight disease of *Persea bombycina* Kost., the primary food plant of muga silkworm. *Crop Protection,* 29:963-968 [Elsevier (UK); ISSN 0261-2194; **Impact Factor 2.381].**
7. P Deka Bhuyan, M Chutia*, MG Pathak, P Boruah (2010) Effect of essential oils from *Lippia geminata* H.B. Ksyn and *Cymbopogon jwarancusa* (Jones) Schult on *in vitro* growth and sporulation of two rice pathogen causing brown spot and sheath blight disease. *Journal of the American Oil Chemists' Society,* 87:1333–1340 [Springer (USA); ISSN 0003-021X; **Impact Factor 1.659].**
8. M Chutia, P Deka Bhuyan, MG Pathak, TC Sharma and P Boruah (2009) Antifungal activity and chemical composition of *Citrus reticulata* Blanco essential oil against phytopathogens from North East India. *LWT-Food Science and Technology,* 42: 777–780 [Elsevier; ISSN 0023-6438; **Impact Factor 4.006**].
9. S Borkataki, M Chutia*, S.K. Borthakur (2008) Ethno botany of biofencing among teagarden and ex-teagarden communities of Nagaon district, Assam. *Indian Journal of Traditional Knowledge,* 7(4):166-168 [NISCAIR, CSIR, India; ISSN: 0972-5938**; Impact Factor 0.731].**
10. JJ Mahanta, M Chutia, M Bordoloi, RK Adhikary, TC Sarma (2007) *Cymbopogon citratus* L. essential oil as a potential antifungal agent against key weed moulds of *Pleurotus* spp. spawns. *Flavour and Fragrance Journal*, 22: 525-530 [Wiley InterScience (USA); ISSN 0882-5734; **Impact Factor 1.598].**
11. M Chutia, JJ Mahanta, N Bhattacharyya, M Bhuyan, P Boruah, TC Sarma (2007) Microbial Herbicides for Weed Management: Prospects, Progress and Constraints. *Plant Pathology Journal,* 6 (3): 210-218 [ANSI; ISSN 1812-5387; **Impact Factor 0.920].**

Book:

1. M. Chutia, R. Kumar, B.K. Singh (2017) Techniques and technologies in Muga and Eri culture. CMER&TI, Central Silk Board, Jorhat, Assam (ISBN 978-81-932697-3-2).
2. B.K. Singh, M. Chutia (2016) Frequently asked questions on Muga and Eri culture. CMER&TI, Central Silk Board, Jorhat, Assam.
3. M Chutia, K Das (2011) Emerging areas of Seri-biotechnology. CMERTI, Central Silk Board.
4. M Chutia, N Bhattacharyya (2008) Kathfulla Ki Kiya aru Kenekoi (*A book on mushroom in Assamese*), Sahitya Ratna Prakshan, Panbazar, Guwahati.

Patent:

1. A novel herbal antifungal formulation against dermal infection [Ref No.: 0289NF2006 (India)].

Other professional contribution: Editor in Chief, BioQuest (A scientific magazine).

(Dr. M. Chutia)