



Dr. Mahananda Chutia, M.Sc., Ph.D.

Scientist – D & DBT Overseas Associate

Central Muga Eri Research & Training Institute

Central Silk Board, Ministry of Textiles: Govt. of India

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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
- Silkworm pathology and 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 North East Institute of Science & Technology (NEIST), Jorhat, Assam (2005-2008)
- Guest Faculty in Nowgong College, Assam, India (2005-2007).

Awards/honour/Fellowship (if any):

1. Dr. S.N. Choudhury Memorial Award - Best Scientist category (2016).
2. Honorary Visiting Fellow, University of Leicester, UK
3. DBT Overseas Associateship in the year 2014.
4. Most Cited Articles Award in the journal "LWT-Food Science & Technology" published by Elsevier, UK for the period of 2008-2013.
5. Best Poster Presentation in International Consultative Meeting on Seri-biotechnology (ICMS)-2012 held at IBSD, Imphal during 6-7th December 2012.
6. DBT- Rapid Grant for Young Investigator (RGYI) award in 2012.
7. UGC recognized NET/SLET qualified in Life Sciences.
8. CSIR Senior Research Fellowship (SRF) in Life Sciences in 2007-08.
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. 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**].
1. Characterization and efficacy of bacterial antagonists against *Alternaria ricini* infecting Castor in North-eastern India (**PI; funded by CSB, Bangalore**).
2. Establishment of Advanced Level Institutional Biotech Hub (**PI; funded by DBT, New Delhi; Total Budget: 49.00 lakh**).
3. Enhancement of rural economy through technology intervention for sustainable Muga culture in Upper Brahmaputra Valley of Assam (**[Co-PI; funded by DBT, New Delhi]**).
4. 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**).
5. 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**].

Important / recent Publications (peer reviewed):

[*Corresponding Author]

1. 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* (<http://dx.doi.org/10.3389/fmicb.2016.01383>), (ISSN 1664-302X; Impact Factor 4.019).
2. A. Borgohain, R. Das, D. Bora, R. Samanta, M. Chutia (2016) *Lysinibacillus sphaericus* infection in muga silkworm (*Antheraea assamensis* Helfer, Lepidoptera: Saturniidae): a new report. *Sericologia*, 56(3): 170-177 [ISSN 0250-3980].
3. B Barbaruah, M Chutia*, P Boruah (2012) Soil hyphomycetes population dynamics in disturbed and undisturbed tropical soils of North-eastern India. *African Journal of Microbiology Research*, 6(25): 5344-5352 (South Africa, ISSN 1996-0808; Impact Factor 0.539).
4. M Chutia*, GU Ahmed (2012) Diversity, antimicrobial activities and associated microbiota of soil Penicillia from virgin forest floor. *Journal of Microbiology, Biotechnology and Food Sciences*, 1(5): 1279-1294 [Slovakia, ISSN 1338-5178].
5. M Chutia*, GU Ahmed (2012) Optimization of biomass and pigment production by *Penicillium* species isolated from virgin forest floor. *Biotechnology: An Indian Journal*, 6(3):61-69. [Trade Science Inc; ISSN: 0974 – 7435].
6. 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; IF 3.849].

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; ISSN 0003-021X; IF 1.601].
8. 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; ISSN 0261-2194; IF 1.920].
9. 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* (Elsevier), 42: 777–780 [Elsevier; ISSN 0023-6438; IF 3.129] (Most cited article).
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; ISSN 0882-5734; IF 1.95].
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; IF 0.92].

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**, N. Bhattacharyya (2008) Kathfulla Ki Kiya aru Kenekoi (*A book on mushroom in Assamese*), Sahitya Ratna Prakshan, Panbazar, Guwahati.
4. **M Chutia**, K Das (2011) Emerging areas of Seri-biotechnology (edited book). CMERTI, Central Silk Board.

Patent:

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

Responsibility / Membership in Professional Bodies

1. Editor In Chief, *BioQuest* (a scientific magazine), published by Advanced Level Institutional Biotech Hub, CMER&TI, Lahdoigarh
2. Member Editorial Board, *Journal of Food, Agriculture and Environment (JFAE)*, WFL Publisher Ltd., Helsinki, Finland.
3. Life Member, Society of Bio-safety, India, Bhopal.
4. Secretary, Silk Board Nature Club, CSB-CMER&TI, Lahdoigarh.
5. North East India Research Forum (A worldwide forum of Researcher from NE India).

Reviewers of International journals

1. International Journal of Food Microbiology (Elsevier).
2. Journal of American Oil Chemists Society (Springer).
3. Environmental Monitoring and Assessment (Springer).
4. International Journal of Microbiological Research.
5. African Journal of Microbiological Research.
6. Journal of Medicinal and Pharmacy Research.
7. Bulletin of Insectology etc.

(Dr. M. Chutia)