

FACULTY PROFILE

(as on 05/03/2026)

1. **Full Name** : NG. TOMBISANA MEETEI
2. **Designation** : Associate Professor (Molecular Biology & Biotechnology),
3. **Department/School** : School of Crop Improvement, CPGSAS, Umiam
4. **Official Email id** : ntmeetei@gmail.com
5. **Area of Specialization** : Agricultural Biotechnology, Plant Tissue Culture
6. **Research Interests** : Quality Planting Material Production,
Crop Improvement (Underutilized Crops & Medicinal Plants)

7. **Highest Educational Qualification:**

Degree	Subject	University
PhD	Agricultural Biotechnology	BCKV, Mohanpur, Nadia, West Bengal

8. **Professional Experience:**

Sl. No.	Position	Organization	Duration
1.	Associate Professor	CAU, Imphal (CPGSAS, Umiam)	3 Years
2.	Assistant Professor	CAU, Imphal (CPGSAS, Umiam)	14 Years
3.	Lecturer	SK Women's College, Nambol, Manipur	5 Years

9. **Research Projects:**

Sl. No.	Title	Funding Agency	Budget (Rs.in lakhs)	Duration	Role/ Status
1.	Network Project for Establishment of disease free elite Khasi mandarin and Sweet Orange genetic stocks through shoot tip grafting (STG) and mass production of quality planting material for Northeastern states of India	DBT, GoI	55.62	2021-2025	PI/ Completed
2.	Understanding the <i>Citrus tristeza virus</i> resistance mechanisms in citrus species and development of disease-free quality planting material of Khasi mandarin (<i>Citrus reticulata</i> Blanco) from North East India	DBT, GoI	53.57	2021-2025	PI/ Completed
3.	Clonal propagation of <i>Hedychium rubrum</i> -a rare ornamental herb of northeast India	CAU, Imphal	2.00	2020-2022	PI/ Completed
4.	Standardization and development of <i>in vitro</i> microrhizome induction and production package of locally adapted Ginger varieties of Meghalaya	CAU, Imphal	0.69	2011-2013	PI/ Completed
5.	A study on the efficiency of Azolla as an agent of bioremediation for the treatment of Polluted water in Manipur	UGC, GoI	1.00	2008-2010	PI/ Completed
6.	Establishment of model mushroom bioresource complex for bio-entrepreneurship development of rural youth in aspirational district of Meghalaya	DBT, GoI	36.26	2022-2024	Co-PI/ Completed
7.	Exploring diversity of <i>Bacillus thuringiensis</i> in the NER for mining novel insecticidal genes	DBT, GoI	55.00	2021-2024	Co-PI/ Completed
8.	Mapping and inheritance studies for Northern corn leaf blight resistance in maize (<i>Zea mays</i> L.) population generated from landraces of North east hill region of India	DBT, GoI	54.69	2018-2021	Co-PI/ Completed
9.	Genetic diversity analysis of chili samples from North-Eastern India using molecular markers	CAU, Imphal	0.55	2010-2011	Co-PI/ Completed
10.	Improvement of locally adapted rice cultivars of North East Hill region by incorporating blast resistance genes through marker assisted backcrossing	DBT, GoI	106.02	2009-2014	Co-PI/ Completed

10. Selected Publications: (20 Selected Publications)

- 1) Julia S. Yumnam, Wricha Tyagi, Avinash Pandey, **Ng. Tombisana Meetei** and Mayank Rai. (2012). Evaluation of Genetic Diversity of Chilli Landraces from North Eastern India based on morphology, SSR Markers and the Pun1 Locus. *Plant Molecular Biology Reporter*. doi.org/10.1007/s11105-012-0466-y.
- 2) Chulet Handerson, S. K. Noren, Tyagi Wricha, **N.T. Meetei**, V. K. Khanna, A. Pattanayak, Shiv Datt, P. Ray Choudhury and Mukul Kumar. (2014) Assessment of genetic diversity in pea (*Pisum sativum* L.) using morphological and molecular markers. *Indian Journal of Genetics and Plant Breeding*, 74(2): 205-212.
- 3) **Ng. Tombisana Meetei*** and K. Noren Singh (2015). Micro-Rhizome Induction in *Syng Makhir*, An Important Ginger Cultivar of Meghalaya. *Vegetos* 28 (4): 29-34.
- 4) **Ng. Tombisana Meetei**, Amit Kumar Singh, Brijesh Singh and N. Mandal (2016). Recent Advances in Naga King Chilli (*Capsicum chinense* Jacq) Research. *International Journal of Agriculture, Environment and Biotechnology*. 9(3), June, 2016. doi.org/10.5958/2230-732X.2016.00054.1.
- 5) Amit Kumar Singh, **Ng. Tombisana Meetei**, Brijesh Kumar Singh and Nirmal Mandal (2016). Khasi mandarin: its importance, problems and prospects of cultivation in northeastern Himalayan region. *International Journal of Agriculture, Environment and Biotechnology*. 9(4), 573-592, Aug 2016. doi.org/10.5958/2230-732X2016.00076.0.
- 6) Amit Kumar Singh, **Ng. Tombisana Meetei**, Brijesh Kumar Singh, Nirmal Mandal (2017). High incidence of *Citrus tristeza virus* in mandarin (*Citrus reticulata*) in North-East states of India. *Virus Disease*. 28, 4: 401–407.
- 7) Amit Kumar Singh, **Ng. Tombisana Meetei**, Monoj Sutradhar, Brijesh Kumar Singh, Nirmal Mandal (2018). Prevalence of severe *Citrus tristeza virus* infection in Khasi mandarin throughout the north-eastern states of India: an evidence study based on coat protein gene analysis. *Indian Phytopathology*. 71(3): 435–443.
- 8) Amit K. Singh, **Ng. Tombisana Meetei**, Suprabuddha Kundu, Umme Salma & Nirmal Mandal (2018). *In vitro* micrografting using three diverse indigenous rootstocks for the production of *Citrus tristeza virus* - free plants of Khasi mandarin. *In Vitro Cellular & Developmental Biology – Plant*. doi.org/10.1007/s11627-018-9946-6.
- 9) **Ng. Tombisana Meetei**, Amit Kumar Singh, Brijesh Kumar Singh and N. Mandal (2019). Disease incidence and molecular indexing of viruses in King chilli (*Capsicum chinense* Jacq) of north east India. *Indian Phytopathology*. doi.org/10.1007/s42360-019-00169-y.
- 10) Puthem Victoria Devi, Noren Singh Konjengbam, N. Janaki Singh, G. D. Harish, **Ng. Tombisana Meetei** and Devyani Sen. (2021). Assessment of genetic variation in lentil (*Lens culinaris* Medik.) for its agronomic performance, aluminium tolerance and phosphorus uptake efficiency. *Indian J. Genet.*, 81(3): 431-439 (2021). doi.org/10.31742/IJGPB.81.3.10.
- 11) Sadhan Debnath, **Ng. Tombisana Meetei**, Mayank Rai (2022). Advancement in Genomics and Molecular Marker Technologies for Breeding of Faba Bean with Low Vicine-Convicine Content- A Review. *Legume Research*. doi.org/10.18805/LR-5041.
- 12) Sadhan Debnath, Sujana Majumder, Wricha Tyagi, Mayank Rai, and **Ng. Tombisana Meetei*** (2024). An Optimized Simple, Rapid and Reliable Method for Large-Scale Estimation of Vicine from Faba Bean (*Vicia faba* L.). *Food Analytical Methods*. doi.org/10.1007/s12161-024-02571-3.
- 13) Shyam P. Paraskar, Kishor B. and **Ng. Tombisana Meetei*** (2024). Evaluation of Genetic Fidelity of *in vitro* Regenerated Sweet flag (*Acorus calamus*) Using Molecular Markers. *Indian Journal of Experimental Biology (IJEB)*. pp.133-139. doi.org/10.56042/ijeb.v62i02.3738.
- 14) Sadhan Debnath, Wricha Tyagi, Mayank Rai, Kuldeep Singh, Sujana Majumder, Naveen Duhan, **Ng. Tombisana Meetei*** (2024). Discovery of potential haplotypes associated with varying levels of vicine content due to a novel InDel and a coding-SNP in the *VCI* gene in faba bean (*Vicia faba* L.). *Plant Gene*. doi.org/10.1016/j.plgene.2024.100481.
- 15) Angshuman Kar, Sadhan Debnath, Mayank Rai, Wricha Tyagi, **Ng. Tombisana Meetei*** (2024). Exploring Altitude-Driven Diversity: Morphological, Biochemical, and Genetic Diversity Analysis of Khasi Mandarin (*Citrus reticulata* Blanco) in Meghalaya (Dec, 2024). *Genetic Resources and Crop Evolution*. doi.org/10.1007/s10722-024-02287-7.
- 16) Sadhan Debnath, Mayank Rai, Wricha Tyagi, Sujana Majumder, **Ng. Tombisana Meetei*** (2025). Lower vicine content reduces the reproductive yield performance in Faba Bean (*Vicia faba* L.). *Scientific Reports*. doi.org/10.1038/s41598-024-83488-z. (2025)15:311.

- 17) Aheibam Loyanganba Meitei, Kalenahalli Yogendra, Hemalatha Sanivarapu, **Ng. Tombisana Meetei**, Mayank Rai, Wricha Tyagi (2025). Metabolite Profiling Reveals Differential Accumulation of Secondary Metabolites Related to Flavour and Colour across Four Heirloom Chilli Landraces. *Physiology and Molecular Biology of Plants*. doi.org/10.1007/s12298-025-01576-4.
- 18) Pariseeta Boruah, Sadhan Debnath, **Ng Tombisana Meetei** and Dwipendra Thakuria (2025). Isolation, characterization and study of multi-faceted plant growth promoting traits of Rhizobium from root nodules of faba bean (*Vicia faba* L.) grown in acid soil of Eastern Himalaya. *Journal of Food Legumes* 272 38(2): 272-285. doi.org/10.53550/jfl.v38.i2.269.
- 19) Malemnganbi Keisham, Mazahar Moin, **Ng. Tombisana Meetei**, Mayank Rai, Wricha Tyagi (2026). Quantitative gene expression analysis across contrasting linseed genotypes identifies new candidates for aluminum toxicity and low-phosphorus tolerance. *Plant, Cell & Environment*, 2026; 1–12. doi.org/10.1111/pce.70447.
- 20) Meryhun M M, Tasvina R B, Mahesh P M, **Ng. T. Meetei**, Ibanrishisha K, Aditee B, Mahasweta C, Pankaj B. (2026). Native bioagents of the North-eastern Himalayas for the management of *Sclerotinia sclerotiorum*. *Plant Science Today*. doi.org/10.14719/pst.11673.

11. Courses Taught:

- i) MBB 501 - Principles of Biotechnology (3+0)
- ii) MBB 505 – Omics and System Biology (2+1)
- iii) MBB 506 – Plant Genetic Engineering (3+0)
- iv) MBB 509 – Plant Tissue Culture (2+1)
- v) MBB 602 – Plant Genome Engineering (3+0)
- vi) BIOCHEM 501- Basic Biochemistry (3+1)

12. Student Guidance

i) Number of Students Guided as Major Advisor:

- a) M.Sc. Guided = 11 Students
- b) PhD Guided = 1 Student; Thesis submitted = 1 Student; Ongoing = 2 Nos

Sl. No.	Name of Student	Admission No.	PG/PhD	Title of thesis
1.	Ms. Saumika Bhattacharjee	CAU/CPGS/ MBB/ M17/03	PG	Production of virus-free quality planting material in chilli var. Dalle khursani by <i>in vitro</i> meristem tip culture
2.	Mr. Balaji S.	CAU/CPGS/ MBB/ M18/05	PG	Genetic variability analysis of Faba bean (<i>Vicia faba</i> L.) genotypes of North East Hill region of India using morphological characteristics and SSR markers
3.	Mr. Paraskar Shyam Purushottam	CAU/CPGSAS/ MBB/ M19/04	PG	Genetic fidelity assessment of <i>in vitro</i> regenerated Sweet Flag (<i>Acorus calamus</i>) using molecular markers
4.	Mr. Kishor B.	CAU/CPGSAS/MBB/ M19/03	PG	<i>In vitro</i> regeneration and genetic fidelity assessment of red ginger lily (<i>Hedychium rubrum</i>)
5.	Mr. Geetchandra Loukrakpam	CAU/CPGSAS/MBB/ M20/06	PG	<i>In vitro</i> micrografting for evaluation of graft compatibility in Khasi mandarin (<i>Citrus reticulata</i> Blanco) with diverse rootstocks
6.	Mr. Angshuman Kar	CAU/CPGSAS/MBB/ M21/04	PG	Assessment of genetic variability of elite Khasi Mandarin (<i>Citrus reticulata</i> Blanco) plants from varying altitudes in Meghalaya using molecular markers
7.	Mr. Sunny Raj Konsam	CAU/CPGSAS/MBB/ M21/08	PG	Nutritional characterization of Faba bean (<i>Vicia faba</i> . L) accessions and screening for low tannin using molecular markers
8.	Mr. Sadhan Debnath	CAU/CPGSAS/MBB/ P19/03	PhD	Evaluation of Faba bean (<i>Vicia faba</i> L.) germplasm for yield component traits and

				identification of allelic variation at VC locus for low vicine-convicine content
9.	Ms. Anwasha Mohapatra	CAU/CPGSAS/MBB/M22/01	PG	Molecular detection of Huanglongbing bacterium <i>Candidatus Liberibacter asiaticus</i> associated with Khasi Mandarin
10.	Ms. Chinglembi Thokchom	CAU/CPGSAS/MBB/M22/06	PG	Genetic fidelity assessment of <i>in vitro</i> regenerated shampoo ginger (<i>Zingiber zerumbet L.</i>)
11.	Ms. Anushruti Chowdhury	CAU/CPGSAS/MBB/M22/03	PG	Screening of Faba Bean (<i>Vicia faba</i>) accessions for L-DOPA and variability analysis using associated molecular markers
12.	Mr. Beeravolu Dharani Kumar	CAU/CPGSAS/MBB/M23/07	PG	Screening of diverse citrus species for resistance to HLB(CLas) as potential rootstock for <i>Citrus reticulata</i>

ii) Number of Students Guided as Member of Advisory Committee:

- a) M.Sc. Students = 60 Nos
- b) PhD. Students = 6 Nos

13. Workshops/Training/Conferences Organized: 2 Trainings and 1 Conference

- i) National Conference “Enhancing Agricultural Growth with Special Reference to North East India: Synergizing Industry and Scientific Innovations for Demand-Driven Crop Improvement” (EAG-2025) on 16th & 17th January, 2025 at CPGSAS, CAU(Imphal), Umiam, Meghalaya. (*Co-organizing Secretary*)
- ii) ICAR sponsored 10 days training programme on “Molecular approaches for rice improvement” from 19th to 28th Sept, 2013 at College of Post Graduate Studies, Umiam, CAU, Imphal. (*Academic Staff Member*)
- iii) ICAR Sponsored 21-days Winter School on “Advances in Cutting-Edge Allele Mining and Bioinformatics Tools and techniques for Skill Development in Efficient and Tailored Crop Improvement” at CPGSAS, Umiam, from 24th January to 13th February, 2026. (*Course Coordinator*)

14. Google Scholar/ORCID/Research Gate/Scopus ID:

- a. Google Scholar - <https://scholar.google.com/citations?user=I6SPIYwAAAAJ&hl=en>
- b. ORCID - <https://orcid.org/0000-0002-3729-6445>
- c. Research Gate - <https://www.researchgate.net/profile/Tombisana-Ngasepam>
- d. Scopus ID - 55440411700