

# College of Post Graduate Studies in Agricultural Sciences

(Central Agricultural University-Imphal)

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## FACULTY PROFILE

### Dr. Ng. Tombisana Meetei

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#### Assistant Professor

School of Crop Improvement

**Ph.D.** Agricultural Biotechnology, BCKV, Mohanpur, West Bengal

**M.Sc.** Biotechnology, Jiwaji University, Gwalior, Madhya Pradesh



**Specialization** : Plant Tissue Culture and Molecular Biotechnology

#### Teaching / Research Experience:-

Sl. No.	Designation	Organization	From	To
1.	Assistant professor (Tissue Culture)	Central Agricultural University, Imphal	9 <sup>th</sup> March, 2009	Till Date
2.	In-charge Academics (Additional Charge)	CPGS-AS, Umiam, Central Agricultural University (Imphal)	19 <sup>th</sup> Jan, 2018	Till date
3.	In charge, Students' Welfare Officer (Additional Charge)	CPGS, Umiam, Central Agricultural University (Imphal)	May, 2009	July, 2014
4.	Lecturer in Biotechnology (UGC Approved)	S. Kula Women's College, Nambol, Manipur	2 <sup>nd</sup> July, 2004	3 <sup>rd</sup> March, 2009

## Publications:

### a) Research Publications:

Sl. No	Authors	Title	Publication details	Year
1	Julia S. Yumnam, Wricha Tyagi, Avinash Pandey, <b>Ng. Tombisana Meetei</b> and Mayank Rai.	Evaluation of Genetic Diversity of Chilli Landraces from North Eastern India based on morphology, SSR Markers and the Pun1 Locus	<i>Plant Molecular Biology Reporter</i> . doi 10.1007/s11105-012-0466-y.	2012
2	<b>C. Debbarma, V. K. Khanna, W. Tyagi, M. Rai and N.T. Meetei</b>	Wide Hybridization and Embryo-Rescue for Crop Improvement in Capsicum.	<i>Agrotechnology</i> . 2013, S11. <a href="http://dx.doi.org/10.4172/2168-9881.S11-003">http://dx.doi.org/10.4172/2168-9881.S11-003</a> .	<b>2013</b>
3	Herbert P. Kharkongar, V.K. Khanna, W. Tyagi, M. Rai, and <b>N.T. Meetei</b>	Wide Hybridization and Embryo-Rescue for Crop Improvement in Solanum	<i>Agrotechnology</i> . 2013, S11. <a href="http://dx.doi.org/10.4172/2168-9881.S11-004">http://dx.doi.org/10.4172/2168-9881.S11-004</a> .	2013
4	Chulet Handerson, S. K. Noren, Tyagi Wricha, <b>N.T. Meetei</b> , V. K. Khanna, A. Pattanayak, Shiv Datt, P. Ray Choudhury and Mukul Kumar.	Assessment of genetic diversity in pea ( <i>Pisum sativum</i> L.) using morphological and molecular markers	<i>Indian Journal of Genetics and Plant Breeding</i> , 74(2): 205-212.	2014
5	<b>Ng. Tombisana Meetei</b> and K. Noren Singh	Micro-Rhizome Induction in <i>Syng Makhir</i> , An Important Ginger Cultivar of Meghalaya.	<i>VEGETOS</i> 28 (4): 29-34.	2015
6	Karma Landup Bhutia, <b>Ng. Tombisana Meetei</b> and V. K. Khanna	<i>In vitro</i> regeneration of Dalle Khursani, an important chilli cultivar of Sikkim, using various explants	<i>Agrotechnology</i> , 5:142. doi:10.4172/2168-9881.1000142.	2016
7	Amit Kumar Singh, <b>Ng. Tombisana Meetei</b> , Brijesh Kumar Singh and Nirmal Mandal	Map-Based Cloning and its Application in Cloning Plant Disease Resistance Genes	<i>Advances in Life Sciences</i> . 5(5), 1573-1580, 2016.	2016
8	<b>Ng. Tombisana Meetei</b> , Amit Kumar Singh, Brijesh Singh and N. Mandal	Recent Advances in Naga King Chilli ( <i>Capsicum chinense</i> Jacq) Research.	<i>International Journal of Agriculture, Environment and Biotechnology</i> . 9(3), June, 2016. doi:10.5958/2230-732X.2016.00054.1	2016
9	<b>Ng. Tombisana Meetei</b> , Amit Kumar Singh, and N. Mandal	Mitigation of Reactive Oxygen Species in Plants by Enzymatic Antioxidants	<i>Advances in Life Sciences</i> 5(16), ISSN 2278-3849, 5797-5805, 2016	2016

		under Stress Conditions - A Review		
10	Amit Kumar Singh, <b>Ng. Tombisana Meetei</b> , Brijesh Kumar Singhand Nirmal Mandal	Khasi mandarin: its importance, problems and prospects of cultivation in northeastern Himalayan region	<i>International Journal of Agriculture, Environment and Biotechnology</i> . 9(4), 573-592, Aug 2016. doi:10.5958/2230-732X2016.00076.0	2016
11	Brijesh Kumar Singh, Amit Kumar Singh, <b>Ng. Tombisana Meetei</b> , Arijit Mukherjee and Nirmal Mandal	QTL Mapping for Cold Tolerance at the Seedling Stage in Rice	<i>International Journal of Bio-resource and Stress Management</i> 2016, 7(5):1214-1224. DOI: 10.5958/0976-4038.2016.00183.4	2016
12	Brijesh Kumar Singh, Manoj Sutradhar, <b>Ngasepam Tombisana Meetei</b> , Amit Kumar Singh, Nirmal Mandal	Genetic Engineering for imparting Abiotic stress tolerance in Rice – A review	<i>International Journal of Agriculture Sciences</i> . 54, 2881-2883. ISSN 0975-3719.	2016
13	Amit Kumar Singh, <b>Ng. Tombisana Meetei</b> , Brijesh Kumar Singh, Nirmal Mandal	High incidence of <i>Citrus tristeza virus</i> in mandarin ( <i>Citrus reticulata</i> ) in North-East states of India	<i>Virus Disease</i> . 28, <a href="#">4</a> : 401–407	2017
14	<b>Ng. Tombisana Meetei</b> , Amit Kumar Singh, and N. Mandal	Production of <i>Cucumber mosaic virus</i> free Naga king chilli ( <i>Capsicum chinense</i> jacq.) by <i>in vitro</i> meristem tip culture.	<i>The Bioscan</i> . 12(4): 1791-1795	2017
15	Karma Landup Bhutia, <b>Ng. Tombisana Meetei</b> and V. K. Khanna	<i>In vitro</i> regeneration of Dalle khursani ( <i>Capsicum annum</i> ) from salicylic acid treated explants.	<i>Journal of Pharmacognosy and Phytochemistry</i> . 7(2):1008-1012.	2018
16	Amit Kumar Singh, <b>Ng. Tombisana Meetei</b> , Monoj Sutradhar, Brijesh Kumar Singh, Nirmal Mandal	Prevalence of severe <i>Citrus tristeza virus</i> infection in Khas mandarin throughout the north-eastern states of India: an evidence study based on coat protein gene analysis	<i>Indian Phytopathology</i> . 71( <a href="#">3</a> ): 435–443.	2018
17	Karma Landup Bhutia, V. K. Khanna, <b>Ng. Tombisana Meetei</b> and NangsolBhutia D	Effects of climate change on growth and development of chilli	<i>Agrotechnology</i> 7: 180. doi: <a href="#">10.4172/2168-9881.1000180</a> .	2018
18	Amit K. Singh, <b>Ng. Tombisana Meetei</b> , Suprabuddha Kundu, Umme Salma & Nirmal Mandal	<i>In vitro</i> micrografting using three diverse indigenous rootstocks for the production of <i>Citrus tristesavirus</i> - free plants of Khasi mandarin.	<i>In Vitro Cellular &amp; Developmental Biology – Plant</i> . <a href="https://doi.org/10.1007/s11627-018-9946-6">https://doi.org/10.1007/s11627-018-9946-6</a>	2018

b) **Books:** V. K. Khanna and N. T. Meetei. Plant Tissue Culture (2016). Kalyani Publishers

c) **Gene Sequences published in NCBI database:**

Sl. No.	Accession No.	Details
1	LT837447	<i>Cucumber mosaic virus</i> CP gene, segment RNA3, isolate As1
2	LT837448	<i>Cucumber mosaic virus</i> CP gene, segment RNA3, Isolate Ma1
3	LT837449	<i>Cucumber mosaic virus</i> CP gene, segment RNA 3, isolate Umiam
4	LT837450	<i>Cucumber mosaic virus</i> CP gene, segment RNA 3, isolate Medziphema
5	LT900003	Detection of ChiVMV using cp gene specific primers. Isolate: ChiVMV/ KC-Me1
6	LT899999	Detection of ChiVMV using cp gene specific primers, isolate: ChiVMV/ UM-Ma1
7	LN997804	<i>Citrus tristeza virus</i> CP gene for coat protein, isolate ARP1 from Bodak Village, Arunachal Pradesh
8	LT576374	<i>Citrus tristeza virus</i> CP gene for coat protein, isolate AS 1 from Assam
9	LT576375	<i>Citrus tristeza virus</i> CP gene for coat protein, isolate Dimapur isolate, clone NL1
10	LN997805	<i>Citrus tristeza virus</i> CP gene for coat protein, isolate M-1 from Umsning, Meghalaya
11	LT626941	<i>Citrus tristeza virus</i> CP gene for coat protein, isolate SK1 from Sikkim
12	LT671630	<i>Citrus tristeza virus</i> ORF7 gene for coat protein, isolate Amarpur, clone TR 1 from Tripura

## Research:

a) **Students Research**

Sl. No.	Programme	As Major Advisor		As Member of the Advisory Committee	
		Completed	Ongoing	Completed	Ongoing
1	M.Sc. (Ag)	1	1	19	2
2	Ph.D. (Ag)	-	-	-	1

**b) Research Projects (As Principle Investigator)**

Sl. No.	Title	Year of Sanction	Funding Agency	Status
1.	Standardization and development of <i>in vitro</i> microrhizome induction and production package of locally adapted Ginger varieties of Meghalaya	2011	CAU (Imphal)	Completed
2.	A study on the efficiency of Azolla as an agent of Bioremediation for the treatment of Polluted water in Manipur	2008	UGC	Completed

**c) Research Projects (As Co-PI)**

Sl. No.	Title	Year of Sanction	Funding Agency	Status
1.	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	2019	DBT	Ongoing
2.	Improvement of Locally Adapted Rice Cultivars of North East Hill Region by Incorporating Blast Resistance Genes through Marker Assisted Backcrossing	2009	DBT	Completed
3.	Genetic diversity analysis of chili samples from North-Eastern India using molecular markers	2010	CAU (Imphal)	Completed

**Trainings Attended**

Sl. No.	Topic	Details	Venue
1	Comparative Genomics of Horticulture Plant Genetic Resources: Methods and Applications	21 Days Centre for Advanced Faculty Training (CAFT) programme from 1 <sup>st</sup> to 21 <sup>st</sup> August, 2018	Department of Agricultural Biotechnology, College of Horticulture, University of Horticultural Sciences (Bagalkot), Bangalore.
2	Quality enhancement: Conventional and molecular Approaches	21 Days Summer School from 15/07/2009 to 04/08/2009	Genetics Division, Indian Agricultural Research Institute, PUSA Complex, New Delhi
3	Intellectual Property Rights	Two-Day Short Term Course on 6 <sup>th</sup> and 7 <sup>th</sup> September, 2010.	UGC-Academic Staff College, NEHU, Shillong,
4	Data Analysis Using SAS' of NAIP consortium "Strengthening Statistical Computing for NARS	Six days training from 19 <sup>th</sup> to 24 <sup>th</sup> September, 2011.	Division of Agricultural Economics and Statistics, ICAR Complex for NEH region, Umiam, Meghalaya

## Trainings/Seminars Organized

Sl. No.	Topic	Details	Venue
1	Sensitization programme on Plant Tissue Culture to Rural Youth	Programme Co-ordinator, Extension Activities of the College of Post Graduate Studies in Agricultural Sciences, Umiam held on 28 <sup>th</sup> March, 2018	College of Post Graduate Studies, Umiam, CAU (Imphal),
2	Molecular approaches for rice improvement	Academic staff member in the ICAR sponsored 10 days training programme from 19 <sup>th</sup> to 28 <sup>th</sup> Sept, 2013	At College of Post Graduate Studies, Umiam, CAU, Imphal,
3	Plant Tissue Culture for Crop Improvement	Course co-ordinator of the two day hands on training programme under Institutional Biotech Hub on Feb, 2012	At College of Post Graduate Studies, Umiam, CAU, Imphal,
4	Microscopy: Basic Theoretical Aspects and Hands on Training	Organizing Committee member for Two days Training Course under Institutional Biotech Hub on Dec 2-3, 2011	At College of Post Graduate Studies, Umiam, CAU, Imphal,
5	Biotechnology for Food and Water security	Co-Convenor of the Two days State level Seminar held on 24 <sup>th</sup> and 25 <sup>th</sup> Feb, 2005	S. Kula Women's College, Nambol, Manipur.

## Presentations in Seminars/Trainings

Sl. No	Title	Particulars of the Seminar	Organised by
1	Production of virus free Naga king chilli ( <i>Capsicum chinense</i> Jacq.) by <i>in vitro</i> meristem tip culture.	International conference on Agriculture, Food Science, Natural Resource Management and Environmental Dynamics: The Technology, People and Sustainable Development	Organised by Department of Agril Extension, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal and Krishi Sanskriti, New Delhi, on 13th
2	Diseases prevalent in Naga king chilli ( <i>Capsicum chinense</i> Jacq) and their Management.	National Symposium on "Impact of Climate Change, Biodiversity and Good Plant Protection Practices on Crop Productivity"	Organised by Association for Advancement in Plant Protection on 22 <sup>nd</sup> & 23 <sup>rd</sup> December, 2016 at BCKV, Kalyani, Nadia, WB.

3	Transgenics: Basic concepts	ICAR sponsored 10 days training programme “Molecular approaches for rice	SCI, CPGS, CAU, Umiam. from 19 <sup>th</sup> to 28 <sup>th</sup> Sept, 2013
4	Genetic Engineering for biotic stress tolerance.	ICAR sponsored 10 days training programme “Molecular approaches for rice	SCI, CPGS, CAU, Umiam. from 19 <sup>th</sup> to 28 <sup>th</sup> Sept, 2013
5	Electrophoresis Techniques	Two Days training programme under DBT Institutional Biotech Hub, on Basic Techniques in Biotechnology.	SCI, CPGS. 11 <sup>th</sup> & 12 <sup>th</sup> Nov, 2013.
6	Introduction to Gene Cloning	“Institutional Biotech Hub Programme”	Union Christian College, Umbir, Barapani and Institutional Biotech Hub,
7	Techniques of Plant Tissue Culture.	“Institutional Biotech Hub Programme”	Kendriya Vidyalaya, Umroi Cantt and Institutional Biotech Hub, CPGS, Umiam, 22 <sup>nd</sup> July
8	“Techniques in Tissue Culture”	Hands on Training Programme on “Plant Tissue Culture for Crop Improvement”	Institutional Biotech Hub, School of Crop Improvement, CPGS, CAU, Umiam on 2 <sup>nd</sup>
9	“Application of Biotechnology in Agro-forestry for sustainable development in the	National Seminar on Sustainable Development of Hill Agriculture in NEH Region”	Central Agricultural University, Imphal from 24-25 <sup>th</sup> March, 2010.