

CURRICULUM VITAE OF MRINAL KUMAR MAITI

[Updated on 17/04/2019]

SUMMARY

Being a graduate of Agricultural Science, post-graduate of Biotechnology and doctorate in Biochemistry; Dr. M. K. Maiti has acquired theoretical knowledge, technical skill and research experience in the fields of Microbiology, Botany, Molecular Biology and Biotechnology. He has gained further research expertise and developed the proficiency of research-guidance, teaching-ability and laboratory-management during his professional career (~24 years post-Ph.D.) in the areas of Plant Science and Biotechnology.

Dr. Maiti is a recognized Plant Scientist of national repute. As a Research Scientist and Faculty in IIT Kharagpur (since 1997), he has distinguished contribution in the areas of lipid metabolism in oilseed crops and functional genomics in rice plant with respect to abiotic stress tolerance and grain yield. His group has developed genetically modified (GM) plant lines for nutritionally improved mustard-oil (80% reduction in erucic acid along with balanced ratio of ω -6: ω -3 fatty acids) and rice bran-oil (10-fold increase in ω -3 fatty acid content). Their work has also resulted GM semi-dwarf Badshabhog rice lines with improved yield and IR64 rice lines with low-arsenic/cadmium accumulating grains. His group, for the first time, has documented the role of any plant matrix metalloproteinase (i.e., rice OsMMP1) in plant growth, organ differentiation, and development in relation to cell wall modification.

Dr. Maiti and his group have published 57 articles (including 43 as group leader/corresponding author) in international peer-reviewed journals. From 2003 onwards under his official guidance, 15 research scholars and 38 M.Sc./M.Tech. students have completed their research projects to earn Ph.D. and Masters degrees, respectively.

From 2001 onwards, Dr. Maiti (as a PI) has completed 11 (worth of INR. 322.08 lakhs) and ongoing 06 (worth of INR. 233.35 lakhs) sponsored projects (funded by DBT, DST, CSIR, MHRD, Govt. of India and DHESTBT, Govt. of West Bengal). Besides, he (as Co-PI) has contributed for 13 (worth of INR 1685.65 lakhs) sponsored projects of other scientists.

Dr. Maiti's persistent endeavor is to serve students, researchers and end-users in the field of Plant Science & Biotechnology, and to elevate the repute of himself and the Institution with passion and determination.

BIODATA

Name: **MRINAL KUMAR MAITI**
Present position: Professor
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Date of birth: 05th June, 1963 Sex: Male
Nationality: Indian Category: General

Educational qualifications:

Examination/ Degree	Discipline/Subject	Board/University	Year	Division/Class
Madhyamik (Secondary)	Bengali, English, Sanskrit, Mathematics, Physical Sci., Life Sci., History, Geography, Work Education, Additional Mathematics	West Bengal Board of Secondary Education (WBBSE)	1979	1 st Division
Higher Secondary	Bengali, English, Physics, Chemistry, Biology, Mathematics	West Bengal Council of Higher Secondary Education (WBCHSE)	1981	1 st Division
B.Sc. (Hons.)	Agriculture	Bidhan Chandra Krishi Viswavidyalaya (WB)	1987	1 st Class [1 st in Mohanpur campus]
M.Sc.	Biotechnology	Madurai Kamaraj University (TN)	1989	1 st Class
Ph.D.	Biochemistry	Calcutta University (Bose Institute)	1997	Not applicable

Professional experience/Employment [after doctoral research]:

Sl. No.	Institution, Place	Position	From (Date)	To (Date)	Responsibility
1	Dept. of Chemistry, Miami University, Ohio, USA	Research Associate	01/05/1995	26/04/1997	Post-doctoral research
2	IIT-BREF Biotek, IIT Kharagpur	Scientist	02/05/1997	31/08/2007	Research Guidance, Project Investigator
3	Adv Lab for Plant Genetic Engineering, IIT Kharagpur	Principal Research Scientist	01/09/2007	04/01/2009	Research Guidance, Project Investigator
4	Dept. of Biotechnology, IIT Kharagpur	Assistant Professor	05/01/2009	07/10/2013	Teaching, Research Guidance, Project Investigator

5	Dept. of Biotechnology, IIT Kharagpur	Associate Professor	08/10/2013	28/02/2018	Teaching, Research Guidance, Project Investigator
6	Dept. of Biotechnology, IIT Kharagpur	Professor	01/03/2018	Till date	Teaching, Research Guidance, Project Investigator

Specialization and Expertise:

Plant Molecular Biology, Molecular Genetics, Rice Functional Genomics and Transgenesis, Metabolic Engineering. In the areas of Microbiology, Biochemistry, Recombinant DNA Technology, Molecular Biology, Transgenic research using plant and microbial systems.

Awards/ fellowships/ scholarships and Distinctions:

- (A) National (Govt. of India): National Scholarship, Biotechnology Merit Scholarship, CSIR-NET Fellowship, Research Associate fellowship.
 (B) International (Govt. of USA): USDA Visiting Research Associate Fellowship
 (C) **Elected Fellow (Plant Sciences): West Bengal Academy of Science & Technology (FAScT)**

Membership in Professional Bodies:

Life Member: Plant Physiology Forum, Kolkata; Institute of Science, Education and Culture (ISEC) Kolkata; Society for Plant Biochemistry & Biotechnology, IARI, New Delhi.
 Regular/Annual Member: Asian Federation of Biotechnology, American Society of Plant Biologists & Plantae.

Total Teaching Experience:

About 10 years till this date.

Subjects of Regular Teaching [since January 2009]:

At UG level: Science of Living System, Cell & Molecular Biology, Cell & Molecular Biology Lab., Plant Cell & Tissue Culture, Plant Cell & Tissue Culture Lab., Biochemistry Lab., Genetics, Genetics Lab., Analytical Biochemistry Lab, Bioprocess Technology.

At PG & Ph.D. level: Gene Expression, Secondary Metabolism in Plants and Microbes, Biotechnology of Plant Metabolites, Plant Biotechnology Lab., Microbial Genomics and Metagenomics, Transgenic Technology [*new interdisciplinary elective subject* floated by me since 2010-11 in Spring Semester for Dual degree, M.Tech & Ph.D. students of different departments/centres].

Total Research Experience:

About 24 years (post-Ph. D.) including 16 years of research guidance till this date.

Areas of Research Guidance [since January 2003]:

Qualitative and quantitative improvement of storage-lipids in oil-seeds, fungi and algae; Rice functional genomics for improved productivity and grain quality; Bioprospecting of endophytic microbes for animal health care and plant growth promotion.

Research Guidance:

Ph.D. thesis supervision [since 2003]: Completed: **15** Ongoing: **12**
 M.Sc./M.Tech/MS thesis supervision [since 2001]: Completed: **38** Ongoing: **06**

Industrial and Sponsored Projects [since 2001, total INR. 2241.08.45 lakhs (555.43 lakhs as PI + 1685.65 lakhs as Co-PI)]:

As PI: Completed: **11** (INR. 322.08 lakhs) Ongoing: **06** (INR. 233.35 lakhs)

As Co-PI: Completed: **12** (INR 1242.87 lakhs) Ongoing: **01** (INR. 442.78 lakhs)

Research Publications (since Ph.D. work):

Papers in Peer-reviewed International Journals: **57** (including **43** as group leader/corresponding author).

Conference/Workshop Proceedings: **33** (National: 16 + International: 17)

Patent Filed:

01 with other scientists of IIT-BREF Biotek (Transgenic sweet sorghum with altered lignin composition)

Reviewer of Journals [in last 3 years: 2016-2017, 2017-2018, 2018-2019]: 23 manuscripts

Plant Molecular Biology, Wiley-Blackwell Biotechnology Book Series, PLOS ONE (3), Environmental Pollution, Journal of Biotechnology, Plant Science, Journal of Biosciences (3), Plant Physiology and Biochemistry, Functional & Integrative Genomics, BMC Genomics, Scientific Reports (2), BMC Microbiology, Plant Cell Tissue and Organ Culture (PCTOC), Biocontrol Science & Technology, BMC Plant Biology, Functional Plant Biology, Bioresource Technology Reports

Selected Publications (out of 55) in International Peer-reviewed Journals:

Microbiology 142:2097-2103 (1996). *Plant Mol. Biol.* 35:471-481 (1997). *FEBS Letters* 481:351-354 (1997). *Plant Science* 163:791-800 (2002). *Plant Physiol. Biochem.* 44:645-655 (2006). *Plant Physiol. Biochem.* 45:490-500 (2007). *Plant Biotechnol Rep.* 1:185-197 (2007). *Plant Physiol. Biochem.* 48:476-480 (2010). *Biochem. Biophys. Res. Commun.* 394:178-183 (2010). *Biochem. Biophys. Res. Commun.* 402:637-643 (2010). *Plant Cell Rep.* 30:485-493 (2011). *Bioresour. Technol.* 102:5815-5823 (2011). *Biochem. Biophys. Res. Commun.* 420:862-868 (2012). *Biochem. Biophys. Res. Commun.* 426:280-285 (2012). *Phytochem Rev* 11:197-209 (2012). *J. Appl. Microbiol.* 114:1357-1368 (2013). *Plant Cell Tiss Organ Cult.* 119:117-129 (2014). *FEMS Yeast Res.* 15(4):fov013. DOI:10.1093/femsyr/fov013. (11 pages) (2015). *Plant Physiol. Biochem.* 96:345-355 (2015). *PLOS ONE* 11 (3): e0150763. DOI:10.1371/journal.pone.0150763 (26 pages) (2016). *Plant Physiol. Biochem.* 105:297-309 (2016). *BMC Plant Biology.* 16:158. DOI:10.1186/s12870-016-0845-x. (20 pages) (2016). *Plant Mol. Biol.* 94:167-183 (2017). *Microb Ecol.* 75:647-661 (2018). *Arch Microbiol.* 200:355-369 (2018). *Scientific Reports* 8 (1):2783. (DOI:10.1038/s41598-018-20070-4). (16 pages) (2018). *Appl. Microbiol. Biotechnol.* 102:7389-7406 (2018). *Plant Mol. Biol.* 98:101-120 (2018).

Ph.D. THESIS SUPERVISION (FROM 2003):

Sl. No.	Name of the scholar	Title of the thesis [Name of the joint supervisor, if any]	Status
1	Jyoti Krishna Jha	Attempt to modify the fatty acid composition of <i>Brassica</i> seed oil through genetic engineering [Prof. D. J. Chattopadhyay]	Degree awarded (2008, CU)
2	Sampurna Sattar	Molecular characterization of a novel vegetative insecticidal protein from <i>Bacillus thuringiensis</i> effective against sap sucking insect pest [Prof. Tapas K. Maiti]	Degree awarded (2008, IIT KGP)

3	Saheli Sinha	Metabolic engineering approach to reduce the erucic acid content in seed oil of Indian mustard (<i>Brassica juncea</i>)	Degree awarded (2009, CU)
4	Banani Chattopadhyaya	Cloning and characterization of two desaturase genes for their potential applications in modifying seed fatty acid profile of <i>Sesamum indicum</i> [Prof. Sudip K. Ghosh]	Degree awarded (2011, IIT KGP)
5	Joydeep Banerjee	Molecular cloning and functional characterization of germin-like protein 1 from rice [Prof. Satyahari Dey]	Degree awarded (2011, IIT KGP)
6	Tirthartha Chattopadhyay	Molecular cloning and functional characterization of a novel hemopexin fold protein gene from rice [Prof. Tapas K. Maiti]	Degree awarded (2013, IIT KGP)
7	Prabuddha Dey	Bioprospecting of oleaginous endophytic fungi and rhizospheric yeasts for lipid feedstock	Degree awarded (2015, IIT KGP)
8	Rupam Kumar Bhunia	Genetic engineering of fatty acid biosynthetic pathway to improve the nutritional quality of sesame oil [Prof. Soumitra K. Sen]	Degree awarded (2015, IIT KGP)
9	Sheuli Roy	Molecular characterization of the <i>gibberellic acid insensitive</i> and the <i>grain size 3</i> genes of <i>indica</i> rice cultivar Badshabhog	Degree awarded (2016, IIT KGP)
10	Surajit Bhattacharya	Metabolic engineering approach for qualitative and quantitative improvement of edible oils from rice (<i>Oryza sativa</i>) and Indian mustard (<i>Brassica juncea</i>)	Degree awarded (2017, IIT KGP)
11	Reeza Patnaik	<i>Scenedesmus obliquus</i> biomass as feedstock for production of biodiesel and other industrially important co-products: An algal refinery approach [Prof. Nirupama Mallick]	Degree awarded (2017, IIT KGP)
12	Avishek Dey	Functional characterization of the <i>SAPK9</i> and <i>bZIP23</i> genes as positive regulators of drought stress tolerance in rice plant [Prof. Saumen Hajra]	Degree awarded (2017, IIT KGP)
13	Prabir Kumar Das	Cloning and characterization of the matrix metalloproteinase <i>OsMMP1</i> gene from rice	Degree awarded (2018, IIT KGP)
14	Abhirup Mookherjee	Bioprospecting of endophytic fungi for antimicrobial, quorum sensing inhibitory and antioxidant metabolites	Degree awarded (2019, IIT KGP)
15	Natasha Das	Functional characterization of rice <i>OsMATE2</i> , <i>OsPCS2</i> and <i>OsMTP1</i> genes in relation to arsenic and cadmium stress tolerance and accumulation	Degree awarded (2019, IIT KGP)

M.Sc. / M.Tech. THESIS SUPERVISION (FROM 2001):

Sl. No.	Name of the student	Title of the thesis [Name of the joint supervisor, if any]	Status
1	Sanjukta Chatterjee (M.Sc.)	Cloning and partial characterization of rice pyruvate dehydrogenase kinase (PDHK) gene	Degree awarded (2001, CU)
2	Mallika Chatterjee (M.Sc.)	Attempts for isolation and cloning of a part of vacuolar Na ⁺ /H ⁺ antiporter gene from cotton through PCR technique	Degree awarded (2003, CU)

3	Srirupa Das (M.Sc.)	Attempts for isolation and cloning of a part of vacuolar Na ⁺ /H ⁺ antiporter gene from Indian mustard through PCR technique	Degree awarded (2003, CU)
4	Jineta Banerjee (M.Sc.)	Isolation and cloning of a part of diacylglycerol acyltransferase (DGAT) gene from <i>Sesamum indicum</i> plant	Degree awarded (2006, CU)
5	Soumita Das (M.Sc.)	Isolation and cloning of a part of diacylglycerol acyltransferase (DGAT) gene from <i>Brassica juncea</i> plant	Degree awarded (2006, CU)
6	Sourav Datta (M.Tech.)	To develop a successful metabolic model to predict the concentration of metabolites involved in the synthesis of fatty acids	Degree awarded (2011, IIT KGP)
7	Rohan Jaiswal (M.Tech.)	Structure and function prediction of a hypothetical Hemopexin like protein (HXLP) from rice	Degree awarded (2011, IIT KGP)
8	Prahallad Kumar (M.Tech.)	Cloning and characterization of a putative auxin binding germin-like protein (ABGLP) gene from indica rice	Degree awarded (2011, IIT KGP)
9	Kamdar Maulik Rajendra (M. Tech.)	Functional characterization of a novel extracellular antifungal protein from the endophytic fungus <i>Colletotrichum</i> sp. DM06	Degree awarded (2012, IIT KGP)
10	Sonu Jha (M.Tech.)	Cloning and bacterial expression of a part of the putative arsenic transporter gene OsMATE from <i>Indica</i> rice	Degree awarded (2012, IIT KGP)
11	Chaitali Chakraborty (M.Tech.)	Metabolic engineering approach to increase oleic acid content in rice bran oil	Degree awarded (2012, IIT KGP)
12	Lokanand Koduru (M.Tech.)	Metabolic engineering of lipid biosynthesis pathway in rice for the biofortification of α -linolenic acid in rice bran oil [Prof. Ramkrishna Sen]	Degree awarded (2012, IIT KGP)
13	Raghavendra Singh (M.Tech.)	Attempt for the development of <i>Agrobacterium</i> -mediated genetic transformation protocol in pineapple [Prof. Satyahari Dey]	Degree awarded (2012, IIT KGP)
14	Veda Gogineni (M.Tech.)	Attempt to clone and express two genes involved in fatty acid biosynthesis in plants	Degree awarded (2013, IIT KGP)
15	Atrayee Chattopadhyay (M.Tech.)	Cloning and characterization of <i>Rap1</i> gene from an oleaginous yeast <i>Candida tropicalis</i> .	Degree awarded (2013, IIT KGP)
16	Shyamal Kishore Kumar (M.Tech.)	Functional characterization of the promoter region of rice germin-like protein1 gene in tobacco system	Degree awarded (2013, IIT KGP)
17	Nikunj Mall (M.Tech.)	Bioprocess optimisation for lipid productivity and bio fuel characterization in wild type and genetically modified endophytic oleaginous fungus <i>Colletotrichum</i> sp. DM06	Degree awarded (2014, IIT KGP)
18	Aditya Sharma (M.Tech.)	Cloning and partial characterization of <i>Oryza sativa</i> cation efflux transporter gene <i>OsCET</i>	Degree awarded (2014, IIT KGP)
19	Vegesna Neeraja (M.Tech.)	Metabolic Flux Analysis in <i>Chlorella</i> sp. [Prof. Ramkrishna Sen]	Degree awarded (2014, IIT KGP)
20	Shvaita Madhuri (M.Tech.)	Establishment of an efficient <i>Agrobacterium</i> -mediated genetic transformation of <i>Chlorella vulgaris</i> and	Degree awarded (2014, IIT KGP)

		<i>Scenedesmus obliquus</i> [Prof. Nirupama Mallick]	
21	Renuka Kolli (M.Tech.)	Metabolic engineering of the L-phenylalanine biosynthetic pathway in <i>Corynebacterium glutamicum</i> [Prof. Georg Sprenger]	Degree awarded (2014, IIT KGP)
22	Kumar Satyaki (M.Tech.)	Phylogenetic tree construction using evolutionary distances for analysis of genes involved in lipid accumulation in yeast	Degree awarded (2015, IIT KGP)
23	Konathala S S Mounika (M.Tech.)	Studies on lignocellulose utilizing capacity of endophytic fungi producing bioactive metabolites	Degree awarded (2015, IIT KGP)
24	Ankur Bhargava (M.Tech.)	Standardization of genetic transformation protocol for freshwater microalga <i>Chlorella vulgaris</i> to enhance lipid content [Prof. Ramkrishna Sen]	Degree awarded (2015, IIT KGP)
25	Arun Thapa (M.Tech.)	Cloning and characterization of a putative transcription factor <i>CtGCR1</i> gene potentially involved in lipid metabolism of <i>Candida tropicalis</i>	Degree awarded (2015, IIT KGP)
26	Karthikbabu K. R (M.Tech.)	An attempt to produce rice cell wall-derived prebiotics in calli suspension culture: Biochemical analysis of cell wall constituent and cloning of β -glucan synthase gene <i>OsCslF6</i> [Prof. Satyahari Dey]	Degree awarded (2015, IIT KGP)
27	Darshan P. (M.Tech.)	Identification and partial characterization of two different <i>OsGLP2</i> genes in indica rice	Degree awarded (2016, IIT KGP)
28	Shashank Garg (M.Tech.)	Interaction study of plant pathogens and endophytes harboured in different indigenous plants	Degree awarded (2016, IIT KGP)
29	Anjali Gupta (M.Tech.)	Cloning and partial characterization of <i>OsDTX1</i> gene in relation to tolerance against toxic chemicals	Degree awarded (2016, IIT KGP)
30	Ashwini Navsagre (M.Tech.)	Structural and functional analysis of oleosin gene	Degree awarded (2017, IIT KGP)
31	N. Satya Lasya (M.Tech.)	Effect of Abiotic Stress on Growth Parameters of Different Rice Cultivars	Degree awarded (2017, IIT KGP)
32	Shivangi Singh (M.Tech.)	Bioprospecting of endophytic fungi producing quorum sensing inhibitory metabolites	Degree awarded (2017, IIT KGP)
33	Kavya P. (M.Tech.)	Cloning and characterization of two transcription factor genes <i>CtTup1</i> and <i>CtCat8</i> in an oleaginous yeast <i>Candida tropicalis</i> SY005	Degree awarded (2017, IIT KGP)
34	Ashish Verma (M.Tech)	Effect of 5-aminolevulinic acid on seed germination and seedling growth in three rice cultivars	Degree awarded (2018, IIT KGP)
35	Jayaswal Nishant Sandeep (M.Tech)	Search for plant growth promoting traits in rhizospheric bacterial isolates and endophytic metagenome of rice roots	Degree awarded (2018, IIT KGP)
36	Sanapala Ramesh (M.Tech)	Expression profiling of <i>OsPCS2a</i> and <i>OsPCS2b</i> transcripts in five aromatic rice cultivars under cadmium stress and <i>in-silico</i> analysis of the two proteins	Degree awarded (2018, IIT KGP)
37	Sesan Nayak (M.Tech)	Attempt to characterize sucrose non-fermenting 1-related kinase of <i>Chlorella vulgaris</i> by RNAi-mediated gene silencing	Degree awarded (2018, IIT KGP)

38	Jeganath A (M.Tech)	Bioprospecting of endophytic bacteria for terpenoids	Degree awarded (2018, IIT KGP)
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DETAILS OF SPONSORED RESEARCH PROJECTS UNDERTAKEN (FROM 2001):

(A) As Principal Investigator (PI):

Sl. No.	Title of Project	Funding Agency	Amount (INR in lakhs)	Date of sanction and Duration
1	Development of transgenic Brassica oil-seed crop plants tolerant against damages caused by aphids	DBT, Govt. of India	16.00	Mar 2001 to Mar 2004
2	Development of transgenic rice expressing plant-lectin genes to defend the crop against plant-hopper infestation	CSIR, Govt. of India	9.64	May 2001 to Apr 2004
3	Recombinant DNA for development of a male-sterility system in jute	DBT, Govt. of India	37.00	Nov 2006 to Oct 2009
4	Metabolic engineering of gibberellins signal transduction pathway for increasing the yield potential of indigenous aromatic rice cultivar	DST, Govt. of India	23.00	Dec 2007 to Nov 2010
5	Metabolic engineering of fatty acid biosynthesis to develop nutritionally improved Brassica seed oil	DBT, Govt. of India	39.68	Jan 2008 to Jan 2011
6	Search for local isolates of oleaginous micro-organism as potential source of biodiesel production	SRIC (ISIRD), IIT-Kharagpur	4.96	Sep 2009 to Mar 2014
7	Reducing accumulation of toxic metals or metalloids in rice grains by RNAi-mediated gene silencing approach	DBT, Govt. of India	29.81	May 2010 to May 2014
8	Nutritional enhancement of rice bran oil through metabolic engineering of fatty acid biosynthesis	CSIR, Govt. of India	22.82	April 2013 to Mar 2016
9	Molecular characterization of an antimicrobial protein secreted by endophytic fungus <i>Colletotrichum</i> sp. DM-06	DBT, Govt. of India	19.31	July 2015 to Feb 2017
10	Genomics-supported screening of aromatic rice cultivars with high yielding potentiality for growing in local agro-climatic zones	MHRD, Govt. of India	94.76	Feb 2014 to Oct 2017
11	Understanding plant growth promoting traits of rhizospheric and endophytic microbes through metagenomics approach	SRIC (SGIRG), IIT-Kharagpur	25.00	May 2014 to Mar 2018
12	Genetic engineering of algae for enhanced oil production	DBT, Govt. of India	65.08	Dec 2014 to Dec 2019
13	Engineering of metabolic pathway in	DBT, Govt. of India	64.90	Dec 2014 to Dec

	algal strain in favour of direct bioethanol production	India		2019
14	Formulation of mycofumigation technique using endophytic fungus <i>Geotrichum candidum</i> PF005 for improving storage facility of food grains in state warehouses	DHESTBT, Govt. of West Bengal	18.98	Apr 2018 to Mar 2021
15	Genetic engineering approaches to achieve bigger grain size in indigenous aromatic rice cultivar for yield improvement	CSIR, Govt. of India	26.96	Apr 2018 to Mar 2021
16	Exploration of endophytic microorganisms from selected indigenous rice landraces of North East India and their applications for improvement of growth and yield of traditional rice varieties	DBT, Govt. of India	25.45	July 2018 to June 2021
17	Genomics-led improvement of biotic and abiotic stress tolerance in mustard rape for economic and environmental sustainability	DBT, Govt. of India. [UK-India (Newton-Bhabha) Collaborative Program]	31.98	Oct 2018 to Oct 2021

(B) As Co-Principal Investigator (Co-PI):

Sl. No.	Title of Project	Funding Agency	Amount (INR in lakhs)	Date of sanction and Duration
1	Transgenic approach to manipulate the pathway of lignin biosynthesis of jute	DBT, Govt. of India	23.35	Dec 2000 to Nov 2004
2	Generation and cataloguing of bast-fibre developmental stage-specific EST library from jute	DBT, Govt. of India	36.45	Apr 2006 to Mar 2009
3	Targeted gene integration in rice and cotton	NAIP-ICAR, Govt. of India	83.27	Dec 2006 to Nov 2011
4	Genetic Engineering of Lignin Biosynthetic Pathway in Sorghum	Nagarjuna Fertilizers and Chemicals Ltd.	37.00	Dec 2007 to Nov 2010
5	Molecular tools for exploitation of heterosis, yield and oil quality in sesame	NAIP-ICAR, Govt. of India	395.51 (IIT KGP component)	Jan 2008 to Mar 2012
6	Production of pure variety disease-free potato seeds through <i>in-vitro</i> culture technique	SRIC, IIT-Kharagpur	54.20	Nov 2008 to Oct 2012
7	Bioprospecting of genes and alleles mining for abiotic stress tolerance	NAIP-ICAR, Govt. of India	116.32	Aug 2009 to July 2012
8	Characterization of arsenic oxidizing bacteria from contaminated ground water and their mechanism of arsenic	CSIR, Govt. of India	27.28	Feb 2012 to Jan 2016

	oxidation process for potential application			
9	Whole cell modeling and simulation in bacterium <i>Escherichia coli</i>	SRIC (SGIGC), IIT-Kharagpur	250.00	May 2014 to May 2017
10	Food security through reduced dietary intake: Low cost nutraceutical development from rice, wheat and coarse grain	MHRD, Govt. of India	108.09	Feb 2014 to Oct 2017
11	Targeted metabolomics-based selection of superior scented rice cultivars appropriate for growing in local agro-climatic zones	MHRD, Govt. of India	94.70	Feb 2014 to Oct 2017
12	Assessment of chemical and genetic divergence of some fragrant orchids of north-east India for sustainable improvement of community livelihood	DBT, Govt. of India	16.70	Mar 2015 to Mar 2018
13	DBT Pan-IIT Center for Bioenergy	DBT, Govt. of India	442.78	Dec 2014 to Dec 2019

LIST OF PUBLICATIONS IN THE PEER-REVIEWED JOURNALS (of impact factor 1 and above):

[Note: 'Maiti MK' indicates as group leader/corresponding author in the following publications. Research Papers in Peer-reviewed Journals: **57 including 43 as group leader/corresponding author**]

1. Pathak MK, Ghosh D, Maiti MK, Ghosh S (1994) Oil content and fatty acid composition of seeds of various ecotypes of *Arabidopsis thaliana*: a search for useful genetic variants. *Current Science* 67: 470-472.
2. Maiti MK, Ghosh S (1996) Acyl carrier protein of *Azospirillum brasilense*: properties of the purified protein and sequencing of the corresponding gene, acpP. *Microbiology* 142: 2097-2103.
3. Maiti MK, Krishnasamy S, Owen HA, Makaroff CA (1997) Molecular characterization of glyoxalase II from *Arabidopsis thaliana*. *Plant Mol. Biol.* 35: 471-481.
4. Crowder MW, Maiti MK, Banovic L, Makaroff CA (1997) Glyoxalase II from *A. thaliana* requires Zn (II) for catalytic activity. *FEBS Letters* 481: 351-354.
5. Bhattacharjee A, Ghosh SK, Ghosh D, Ghosh S, Maiti MK, Sen SK (2002) Identification of a heat-stable palmitoyl/oleoyl specific acy-acyl carrier protein thioesterase in developing seeds of *Madhuca butyracea*. *Plant Science* 163: 791-800.
6. Jha JK, Maiti MK, Bhattacharjee A, Basu A, Sen PC, Sen SK (2006) Cloning and functional expression of an acyl-ACP thioesterase FatB type from *Diploknema (Madhuca) butyracea* seeds in *Escherichia coli*. *Plant Physiol. Biochem.* 44: 645-655.
7. Hossain MA, Maiti MK, Basu A, Sen S, Ghosh AK, Sen SK (2006) Transgenic expression of onion leaf lectin gene in Indian mustard offers protection against aphid colonization. *Crop Science* 46: 2022-2032.

8. Jha JK, Sinha S, Maiti MK, Basu A, Mukhopadhyay UK, Sen SK (2007) Functional expression of an acyl carrier protein (ACP) from *Azospirillum brasilense* alters fatty acid profiles in *Escherichia coli* and *Brassica juncea*. ***Plant Physiol. Biochem.*** 45: 490-500.
9. Ghosh SK, Bhattacharjee A, Jha JK, Mondal AK, Maiti MK, Basu A, Ghosh D, Ghosh S, Sen SK (2007) Characterization and cloning of a stearyl/oleoyl specific fatty acyl-acyl carrier protein thioesterase from the seeds of *Madhuca longifolia* (*latifolia*). ***Plant Physiol. Biochem.*** 45: 887-897.
10. Sinha S, Jha JK, Maiti MK, Basu A, Mukhopadhyay UK, Sen SK (2007) Metabolic engineering of fatty acid biosynthesis in Indian mustard (*Brassica juncea*) improves nutritional quality of seed oil. ***Plant Biotechnol Rep*** 1: 185-197.
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