

Administrative
(Application No: AGRI/2015/33)

File No. BT/PR16361/NER/95/192/2015
GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY
(NER-BPMC)

Block-2, 7th Floor,
CGO Complex, Lodhi Road
New Delhi-110003
Dated: 18/10/2016

ORDER

Sanction of the President is hereby accorded under Rule 18 of the Delegation of Financial Powers Rules, 1978 for the implementation of the project under 'DBT's Twinning programme for the NE' titled "Integrating Genome scale metabolic analysis of model plant pathogen *Ralstonia solanacearum* with RNAseq and fluxomics" by Dr. Siddhartha Satapathy, Tezpur University, Tezpur and Dr. Shyam Masakapalli, Indian Institute of Technology, Mandi, Himachal Pradesh at a total cost of ₹ 57.40 lakhs (Rupees Fifty Seven lakhs and Forty thousand only) for a period of three years on the terms and conditions detailed as under:

2.0 The Project:

2.1 Project Title: Integrating Genome scale metabolic analysis of model plant pathogen *Ralstonia solanacearum* with RNAseq and fluxomics

2.2 Project Investigators

- 2.2.1 Principal Investigator:
(Parent Institute)** **Dr. Siddhartha Satapathy**
Associate Professor
Department of Computer Science & Engineering
Tezpur University, Napaam- 784028,
Tezpur, Assam
- 2.2.2 Co-PI Name:
(Parent Institute)** **Dr. Suvendra Ray**
Associate Professor
Department of Molecular Biology and
Biotechnology
Tezpur University, Napaam- 784028, Assam
- 2.2.3 Principal Investigator:
(Collaboration Institute)** **Dr. Shyam Masakapalli**
Assistant Professor
School of Basic Sciences
Indian Institute of Technology,
Academic Block, Near Vallabh College Campus,
Mandi- 175001, Himachal Pradesh.



**2.2.4 Co-PI Name:
(Collaboration Institute)**

Dr. Tulika Srivastava
Assistant Professor
School of Basic Sciences
Indian Institute of Technology,
Academic Block, Near Vallabh College Campus,
Mandi- 175001, Himachal Pradesh.

2.3 Objectives:

Tezpur University:

1. To reconstruct and validate genome-scale models of R. solanacearum strains from available draft genome sequences.
2. To use the combination of metabolite profiling, biomass compositional analysis, co-utilisation of different substrates to understand the metabolic potential and limitations of R. solanacearum.
3. Constraint based flux analysis of R. solanacearum.
4. RNAseq transcriptome sequencing under normal and mimicked nutritional regimes.

Indian Institute of Technology, Mandi, HP:

1. To define the precise metabolic flux phenotypes of R. solanacearum under different nutritional regimes.
2. Analysis of RNAseq whole transcriptome data, to map the gene expression profiles under different conditions using advanced tools.
3. Integration of RNAseq, FBA and/or 13C flux analysis data into the genome scale metabolic models as constraints leading to improved modelling studies.

2.4 Time Schedule:

The duration of the project is **three years** from the date of issue of sanction order.

2.5 Equipment Details:

2.5.1 Tezpur University, Napaam, Tezpur

Sl. No.	Description of equipment	Grant Recommended (₹ in lakhs)
1.	HP Color LaserJet Pro MFP M477fdw	41,700.00
2.	DELL Laptop (Latitude E5550)	1,07,500.00
3.	Dell Precision Tower 7810 Workstation	1,45,000.00
4.	HDMI Projector	1,55,000.00
Total		4.49

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2.5.2 Indian Institute of Technology, Mandi, HP

Sl. No.	Description of equipment	Grant Recommended (₹ in lakhs)
1.	JKEM Parallel tube reaction system and accessories	3.83
Total		3.83

2.6 Manpower:

Fellowship Conditions:

A year wise detail of manpower as proposed has been furnished below. HRA will be as per the Govt. Norms, an indication as stated below for the JRF and SRF's emoluments will be provided as a part of sanction order. JRF shall be ₹ 25,000/- + HRA for the 1st two years and ₹ 28,000/- + HRA for the 3rd year for SRF and applicable, (JRF - Post graduate Degree in Basic Science with NET qualification or graduate degree in Professional course with NET qualification or post graduate degree in professional course)

JRF without NET qualification shall be ₹ 12,000/- + HRA for the 1st two years and ₹ 14,000/- + HRA for the 3rd year for SRF

- For JRF/SRF/RA salary is as per the revised DST OM SR/S9/Z-09/2012, dated October 21, 2014.
- For Project Assistant salary is as per the revised DST OM C.30011/1/2007-IFD, dated 21st July 2008.

2.6.1 Tezpur University, Napaam, Tezpur

(₹ in lakhs)						
S. No.	Position (No.)	Emolument	1 st Year	2 nd Year	3 rd Year	Total
1.	JRF/SRF (1)	JRF @ ₹ 25,000/- + 10 % HRA for the 1 st & 2 nd yr SRF @ ₹ 28,000/- + 10 % HRA for 3 rd yr	3.30	3.30	3.69	10.29
Total			3.30	3.30	3.69	10.29

2.6.2 Indian Institute of Technology, Mandi, HP

(₹ in lakhs)						
S. No.	Position (No.)	Emolument	1 st Year	2 nd Year	3 rd Year	Total
1.	JRF/SRF (1)	JRF @ ₹ 25,000/- + 10 % HRA for the 1 st & 2 nd yr SRF @ ₹ 28,000/- + 10 % HRA for 3 rd yr	3.30	3.30	3.69	10.29
Total			3.30	3.30	3.69	10.29

2.7 Budget Estimate:

The total cost of the project is ₹ 57.40 lakhs (Rupees Fifty Seven lakhs and Forty thousand only) as per budget summary given below:

2.7.1 Tezpur University, Napaam, Tezpur

Heads	1 st Year	2 nd Year	3 rd Year	Total
I. Non-Recurring (Equipments and accessories)	4.49	0.00	0.00	4.49
Sub Total- I	4.49	0.00	0.00	4.49
II. Recurring				
1. Manpower	3.30	3.30	3.69	10.29
2. Consumables	4.00	6.00	0.00	10.00
3. Travel	0.50	0.50	0.50	1.50
4. Contingency	0.50	0.50	0.50	1.50
5. Overhead charges	1.00	1.00	1.00	3.00
Sub Total- II (1-5)	9.30	11.30	5.69	26.29
GRAND TOTAL (I+II)	13.79	11.30	5.69	30.78

2.7.2 Indian Institute of Technology, Mandi, HP

Heads	1 st Year	2 nd Year	3 rd Year	Total
I. Non-Recurring (Equipments and accessories)	3.83	0.00	0.00	3.83
Sub Total- I	3.83	0.00	0.00	3.83
II. Recurring				
1. Manpower	3.30	3.30	3.69	10.29
2. Consumables	3.00	3.00	2.00	8.00
3. Travel	0.50	0.50	0.50	1.50
4. Contingency	0.50	0.50	0.50	1.50
5. Overhead charges	0.50	0.50	0.50	1.50
Sub Total- II (1-5)	7.80	7.80	7.19	22.79
GRAND TOTAL (I+II)	11.63	7.80	7.19	26.62

(i) Grand total for 3 years (30.78+ 26.62) = ₹ 57.40 lakhs

(ii) Total for 1st year release (13.79+11.63) = ₹ 25.42 lakhs

2.8 Other Terms & Conditions:

2.8.1 The other terms and conditions governing this sanction are attached at **Annexure-I**.

2.8.2 A Memorandum of Agreement (MoA) will be signed between the Department of Biotechnology and the grantee institute on a ₹ 100/- stamp paper in the format given at **Annexure II** and the subsequent releases will be made only after signing of MoA by the forwarding authority and the acceptance by DBT. All pages need to be signed by the PI and the grantee institute and its acceptance by DBT. All pages need to be signed by the PI and the forwarding authority and the MoA returned to DBT within 30 days of issue of this letter.

2.8.3 The Non-recurring items must be procured and installed within 6 month period from the date of sanction.



(4)

To,
The Pay & Accounts Officer,
Department of Biotechnology,
New Delhi - 110003

Copy to:

1. The Principal Director of Audit (Scientific Department), AGCR Building, New Delhi - 110 002.
2. Cash Section, DBT (For information only).
3. Sanction Folder.
4. IFD, DBT.
5. The Registrar, Tezpur University, Napaam- 784028, Tezpur, Assam.
6. The Vice-Chancellor, Tezpur University, Napaam- 784028, Tezpur, Assam.
7. The Director, Indian Institute of Technology Mandi, Kamand Campus, Kamand, Mandi- 175001, Himachal Pradesh.
8. Dr. Siddhartha Satapathy, Associate Professor, Department of Computer Science & Engineering, Tezpur University, Napaam- 784028, Tezpur, Assam.
9. Dr. Suvendra Ray, Associate Professor, Department of Molecular Biology and Biotechnology, Tezpur University, Napaam- 784028, Assam
10. Dr. Shyam Masakapalli, Assistant Professor, School of Basic Sciences, Indian Institute of Technology, Academic Block, Near Vallabh College Campus, Mandi- 175001, Himachal Pradesh.
11. Dr. Tulika Srivastava, Assistant Professor, School of Basic Sciences, Indian Institute of Technology, Academic Block, Near Vallabh College Campus, Mandi- 175001, Himachal Pradesh.
12. Concern file.
13. The Managing Director, Biotech Consortium India Limited, (NER-BPMC), 5th Floor, Anuvrat Bhawan, 210, Deen Dayal Upadhyay Marg, New Delhi- 110002.



(Dr. T. Madhan Mohan)
Advisor, DBT

BT/PR16361/NER/95/192/2015
Government of India
Ministry of Science & Technology
Department of Biotechnology


Block-2, 7th Floor,
CGO Complex, Lodhi Road
New Delhi-110003.
Dated 07/10/2019

EXTENSION ORDER

In Continuation to the department's sanction order of even number Dated 18/10/2016, Sanction of the President is hereby accorded to the extension of the project entitled "*Integrating Genome scale metabolic analysis of model plant pathogen Ralstonia Solanaceum with RNAseq and fluxomics*" by Dr. Siddhartha Sankar Satapathy, Tezpur University, Tezpur and Dr. Shyam Kumar Masakapalli, Indian Institute of Technology, Mandi for the period of six months within already sanctioned budget i.e upto 17th April, 2020. At the end of this period, please submit the following documents;

- i. Utilization Certificate (UC) for all three years (financial year wise from beginning of the project)
- ii. Consolidated Statement of Expenditure (SoE) in prescribed DBT format
- iii. Details of salary disbursed to the manpower during the financial years and details of manpower engaged vis-à-vis sanctioned, counter signed by competent authority
- iv. Details of assets (list of equipment purchased) as per approved sanction indicating the item cost approved and the actual procurement cost. This needs to be submitted in the DBT format duly signed and attested by Head of the Institute, PI and Finance Officer.
- v. One copy of the final completion report
- vi. Documents regarding patents/ technology transfers, if any
- vii. Interest earned certificate, if any.
- viii. A certificate/photocopy of the stock registers of the Institute showing that all the equipments (procured for this project) have been taken in the stock register.
- ix. If there is a balance in the project, kindly send a DD in favour of DDO, DBT, New Delhi at the earliest for final settlement of accounts.

2. The other terms and conditions of the project are as given in this Department Order No BT/PR16361/NER/95/192/2015 dated 18/10/2016.


(Dr. Vaishali Panjabi)
Scientist 'E'

To,
The Pay & Accounts Officer,
Department of Biotechnology,
New Delhi- 110003

Copy forwarded for information/necessary action to:

1. The Principal Director of Audit (Scientific Department), AGCR Building, New Delhi - 110 002.
2. Cash Section, DBT (2 Copies).
3. Sanction Folder.
4. IPD, DBT
5. The Registrar, Tezpur University, Napaam- 784028, Tezpur, Assam.
6. The Vice-Chancellor, Tezpur University, Napaam- 784028, Tezpur, Assam.