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8/11/18

F. No. 18-16/2017-NFSM  
 Government of India  
 Ministry of Agriculture and Farmers Welfare  
 Department of Agriculture, Cooperation and Farmers Welfare  
 (Crops Division, NFSM-Cell)

6

Krishi Bhawan, New Delhi.  
 Dated: 29.12.2017



To,  
 The Director,  
 IIW&BR, Karnal  
 Haryana

**Subject:** Administrative approval of project entitled "Survey and surveillance for wheat blast caused by Magnaporthe oryzae pathotype Triticum and strategic research to manage it" submitted by IIW&BR, Karnal for funding under NFSM - reg.

Sir,

I am directed to convey that the competent authority of this department has approved the IIW&BR, Karnal Project entitled "Survey and surveillance for wheat blast caused by Magnaporthe oryzae pathotype Triticum and strategic research to manage it" under Centrally Sponsored Scheme of National Food Security Mission (NFSM) in principle with a total outlay of Rs. 127.24 lakhs (one hundred twenty seven lakh and twenty four thousand only) for three years (2017-18 to 2019-20) and is subject to approval of continuation of NFSM programme from 2017-18 to 2019-20 by EFC/CCEA. Funds for the year 2017-18 training, domestic travel and operational cost of the project will be released after concurrence of IFD. However, funds for the years 2018-19 & 2019-20 will only be released after approval of continuation of programme by EFC/CCEA. The approved centres for this project are (i) IIWBR, Karnal (Nodal agency) (ii) UBKV, Coochbehar, West Bengal (iii) BCKVV Kalyani, Nadia and (iv) ICAR-IARI, New Delhi. The year & component-wise budget approved is as under:

Year	Recurring (Rs)						Non-recurring (Rs)	Total (Rs.)
	SRF	Technical help	International travel cost	Training	Domestic travel	Operational cost		
2017-18	1848000	720000	350000	100000	180000	410000	1880000	6488000
2018-19	1848000	720000	350000	100000	180000	420000		3618000
2019-20	1848000	720000	350000	100000	180000	420000		3618000
Total	55.44,000	21.60,000	10.50,000	3,00,000	540000	12.50,000	18.80,000	1,27,24,000

2. The above project is subject to the following conditions:-

- For survey & surveillance for Assam, Bihar, Meghalaya, Tripura support from concerned AICRP centers may be taken.
- Qualifications and remuneration of Senior Research Fellow and other Technical help are admissible as per the norms of ICAR/SAUs.
- Travelling Allowances and Daily Allowances are admissible as per norms of Govt. of India.
- Expenses incurred on trainings shall be as per ICAR norms.
- IIW&BR will submit consolidated progress report to this department on monthly basis.

Yours faithfully,

(Dr. S. S. Tomar)  
 Additional Commissioner (Crops)

Contd...2/-

*J. D (R)*

*HC Dhe*

*ADD (Plg)*

*9.1.18*

*Mrs Pankaj*  
*10.1.18*

41.8.1.2. 11/1  
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 दिनांक / Date: 10/01/2018

- Copy 101
- NEW
- Under Secretary (Finance), DAC&W, Krishi Bhawan, New Delhi
  - Under Secretary (CA-V), DAC&W, Krishi Bhawan, New Delhi
  - PPS to Secretary (AC&FW), DAC&W, Krishi Bhawan, New Delhi
  - PPS to Agriculture Commissioner, DAC&W, Krishi Bhawan, New Delhi
  - PPS to Joint Secretary (Crops), DAC&W, Krishi Bhawan, New Delhi
  - PS to Director (Crops), DAC&W, Krishi Bhawan, New Delhi
  - PS to Additional Commissioner (Crops), DAC&W, Krishi Bhawan, New Delhi
  - PS to Deputy Commissioner (Crops), DAC&W, Krishi Bhawan, New Delhi
  - All consultants, NFSM, DAC&W, Krishi Bhawan, New Delhi
  - Director, Directorate of Wheat Development, Ghaziabad
  - Director, Directorate of Jute Development, Kolkata
  - Guard File
  - Sr. Programmer NFSM, DAC&W, Krishi Bhawan, New Delhi

#### B. ICAR

- PPS to DG, ICAR, Krishi Bhawan, New Delhi
- Assistant Director General (FFC), ICAR, Krishi Bhawan, New Delhi
- Dr. Vaibhav K. Singh, Scientist, Plant Pathology, ICAR-IARI, New Delhi
- ✓ Director, ICAR-IARI, Pusa, New Delhi

#### C. SAUs

- Vice Chancellor, UBKVV, Pundibari, Coochbehar, West Bengal
- Vice Chancellor, BCKVV, Kalyani, Nadia, West Bengal
- Dr. S. Hembram, Plant Pathologist, UBKVV, Pundibari, Coochbehar, West Bengal
- Dr. Dhiman Mukherjee, Agronomist and Incharge Wheat, BCKVV Kalyani, Nadia District West Bengal

#### D. State Govts.

- Principal Secretary (Agriculture)/Director (Agriculture), Govt. of West Bengal, Kolkata.

\*\*\*\*\*

*Handwritten signature and date:*  
29/12/17



**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 entitled "**Integration of plant and parasite omics to decipher the interactions and identify molecular targets for the management of root knot disease of rice**" under Centre of Excellence & Innovation in Biotechnology (CEIB) Programme for a period of 3 Years at a total cost of **Rs.239.535 Lakhs (Rupees Two Crores Thirty Nine Lakhs Fifty Three Thousand Five Hundred Only)** on the terms and conditions detailed here under:-

**2 The Project :**

**2.1 Title :** Integration of plant and parasite omics to decipher the interactions and identify molecular targets for the management of root knot disease of rice

**2.2 Details of the Investigators:**

**Principal Investigators:**

**Dr. Uma Rao**

Principal Scientist & Head

Division of Nematology, Indian Agricultural Research Institute, New Delhi-110012

**Co-Investigators:**

**Dr. Vishal Singh Somvanshi**

Senior Scientist

Division of Nematology, Indian Agricultural Research Institute, Pusa Campus, New Delhi-110012

**Dr. Tushar Kanti Dutta**

Scientist

Division of Nematology, Indian Agricultural Research Institute, Pusa Campus, New Delhi-110012

**Dr. S Gopala Krishnan**

Senior Scientist

Division of Genetics, Indian Agricultural Research Institute, Pusa Campus, New Delhi- 110012

**Dr. Ranjith Kumar Ellur**

Division of Genetics, Indian Agricultural Research Institute, Pusa Campus, New Delhi- 110012

## 2.3 Objectives:

### Overall Objectives:

1. An SNP Chip for root-knot nematode resistance genes
2. Mapping populations of rice
3. Nematode tolerant rice lines
4. QTLs for root-knot nematode resistance
5. Conserved markers for root-knot nematode resistance
6. Candidate genes for root-knot nematode resistance
7. Rice transgenic plants for root-knot nematode resistance
8. Genomic and transcriptomic data for root-knot nematode and rice plant interactions.

### Sub-project-1: Screening of diverse rice germplasm to identify resistant and susceptible genotypes and molecular mapping of QTLs governing resistance to root-knot nematode in rice (Division of Nematology and Division of Genetics, IARI, New Delhi):

- a) Screening of diverse germplasm to identify resistant contrasts for rice.
- b) Development of saturated population from contrasting germplasm varying in reaction under infection with *M. graminicola*.
- c) Mapping QTLs and identification of candidate genes governing the resistance to root-knot nematode in rice.
- d) Development of diagnostic and functional markers for candidate genes governing resistance to root-knot nematode in rice.
- e) Validation of functional markers for candidate genes governing resistance to root-knot nematode in rice.
- f) Designing of SNP chip for root-knot nematode resistance genes in rice.

### Sub-project-2: Identification of candidate genes responsible for rice root-knot nematode resistance using transcriptomic and genomic approaches on nematode-parasites and plant-hosts (Division of Nematology, IARI, New Delhi):

- a) Discovery of plant and nematode genes involved in host-pathogen interactions by comparative transcriptomics approach.
- b) Whole genome sequencing and annotation of *Meloidogyne graminicola*.
- c) Designing of SNP chip for root-knot nematode resistance genes in rice using QTL and omics identified genes.

## 2.4 Time Schedule:

The duration of the project is 3 Year 0 Month from the date of this sanction order.

## 2.5 Project Cost:

The total cost of the project is **Rs.239.535 Lakhs (Rupees Two Crores Thirty Nine Lakhs Fifty Three Thousand Five Hundred Only)** as per details given below:

Budget Head	Year I	Year II	Year III	Total(Rs. in Lakhs )
Equipment	68.715	0.00	0.000	68.715
Manpower	30.096	30.096	31.968	92.160
Contingencies & Travel	3.000	4.000	4.000	11.000
Consumables	13.000	22.000	22.40	57.400
Overhead	2.400	3.900	3.960	10.260
<b>Total (Rs.)</b>	<b>117.211</b>	<b>59.996</b>	<b>62.328</b>	<b>239.535</b>

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To,  
The Pay & Accounts Officer,  
Department of Biotechnology,  
New Delhi - 110 003.

**Copy to:**

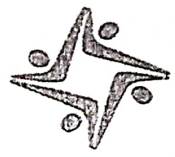
- 1 The Principal Director of Audit (Scientific Departments), DACR Building, New Delhi- 110 002.
- 2 The Director, Indian Agricultural Research Institute, Pusa, New Delhi - 110012
- 3 Dr. Uma Rao (Project Co-ordinator), Head & Principal Scientist, Room No. 329, Division of Nematology, Lal Bahadur Shastri Building, IARI-PUSA Campus, New Delhi 110012
- 4 Dr. Vishal Singh Somvanshi, Senior Scientist, Nematology, Indian Agricultural Research Institute, Pusa Campus, Room No. 314 Division of Nematology IARI, PUSA Campus, New Delhi - 110012.
- 5 Dr. Tushar Kanti Dutta, Scientist, Nematology, Indian Agricultural Research Institute, Pusa Campus, Room No-323, Division of Nematology, IARI, New Delhi - 110012.
- 6 Dr. S Gopala Krishnan, Senior Scientist, Genetics, Indian Agricultural Research Institute, Pusa Campus, Division of Genetics, ICAR-IARI, New Delhi - 110012.
- 7 Dr. Ranjith Kumar Ellur, Scientist, Genetics, Indian Agricultural Research Institute, Pusa Campus, Division of Genetics, ICAR-IARI, New Delhi - 110012.
- 8 Cash Section, DBT (2 copies).
- 9 Sanction Folder.
- 10 File Copy.

*Rajalakshmi*  
(Rajalakshmi Muralidharan)  
Scientist 'F'





भारतीय प्रौद्योगिकी संस्थान कानपुर  
INDIAN INSTITUTE OF TECHNOLOGY KANPUR  
अभिकल्प कार्यक्रम  
Design Programme



July 28 2017

To  
Dr. Indra Mani (Head, Division of Agricultural Engineering)  
Spoke Head, ICAR-IARI  
Pusa Campus, New Delhi-12

**Subject:** Sanction of projects under 'Hub and Spoke Model' of Setting up Design Innovation Centre-an MHRD Funded Project

Dear Dr. Mani

I am pleased to convey the sanction of Rs.88.00 lakh, as per the MOU between IARI New Delhi and IIT Kanpur and by IIT Kanpur, for implementation of scheme national initiative for "Setting up of Design Innovation Centres. The following sub-projects under 'Hub and Spoke Model' have been approved. The approval is for a period of two years from 01 August, 2017 at a total cost of Rs. 88.0 lakh (Rupees Eighty-eight lakh only).

S.no	Title of Sub-project	P I	Duration	Budget (Lakh)
1.	Design and Development of Self Propelled band placement Fertilizer applicator cum weeder	Dr. Roaf Ahmad Parray	2 years	9.95
2.	Design and development of add-on NPK Briquette application system for paddy transplanter	Dr. Tapan Kumar Khura	2 years	9.84
3.	Design and development of Mechanical Accelerator for Ex-situ Paddy Straw Degradation	Dr. Lande Satish Devram	2 years	9.76
4.	Low cost sensor based automatic Irrigation system for fruit plants	Dr.(Ms) Neelam Patel	2 years	10.0
5.	High Grade Space Solar Dryer	Dr P K Sharma	2 years	9.85
6.	Design and Development of Laser guided Check Row Planter	Er. Dilip Kr Kushwaha	2 years	10.0
7.	Development of Small Scale Packing Machine for Pulses in Rural Areas	Er. Aradwad P Pandurang	1 years	9.40
8.	Design and Development of digital meter for custom hiring charges of agricultural operations	Er. Rajeev Kumar	1 years	9.20
9.	Development and standardization of a digital water measuring device for open channel	Dr. Arjamandutta Sarangi	2 years	10.0
Total Budget (Rs. Eighty eight Lakhs only)				88.0

The Head of the spoke centre is responsible for implementation of the project and ensure the output. All the sub-projects will be coordinated and supervised under the main project 'Design Innovation Centre' by him.

The expenditure under different heads must be restricted to the amount sanctioned for the purpose during that period.

(Satyaki Roy)

Coordinator, Hub (DIC) IIT Kanpur

BT/IN/Spain/05/VSR/2016  
Government of India  
Ministry of Science & Technology  
Department of Biotechnology

Per. Sec. (Dy.) (PWS)  
Dy. .... 1557  
17

Block 2, 8<sup>th</sup> Floor  
CGO Complex, Lodhi Road  
New Delhi 110 003  
Dated: 22<sup>nd</sup> June, 2017

**ORDER**

Sanction of the President is hereby accorded under Rule 18 of the Delegation of Financial Power Rules, 1978 for the implementation of the Joint Research Project titled "**Development of a plant protection product based on natural extracts and oils derived from karanjin, capsaicin, sesamin and garlic**" under the Indo-Spanish joint programme for technological co-operation in Biotechnology with Indian investigators Dr. Virendra S. Rana, Sr. Scientist, PI, ICAR-Indian Agricultural Research Institute, New Dehi-110012 for a period of 3 years at a total cost of **Rs. 596.64 lakhs (Five crores ninty six lakhs and sixty four thousand only)** for the Indian component of the project on the terms and conditions as detailed here under:

2.0 The Project :  
2.1 Project Title : Development of a plant protection product based on natural extracts and oils derived from karanjin, capsaicin, sesamin and garlic

2.2: Investigators :  
P. I. & Project Coordinator (Indian side) :  
Dr. Virendra S. Rana, Sr. Scientist, ICAR-Indian Agricultural Research Institute (IARI), New Dehi-110012.

Co-PIs: (i) Dr. N.A. Shakil, Principal Scientist, IARI, New Dehi-110012.  
(ii) Dr. Anirban Dutta, Scientist, IARI, New Dehi-110012.

Project Coordinator (Spian side):  
Dr. Maria del Puig Mora, Quality Control Officer SEIPASA, S.A.C/Ciudda Dario Naves 1-3-5,4250. Alcudi, Vlencia.

2.3 Project Objectives:  
The multi-objective approach will develop three complementary lines of research  
a) Development of a green plant, whose ingredients are eligible for registration under organic rules, thereby ensuring its composition 100% environmentally friendly.  
b) Demonstrate that the use of these products are as effectives as chemical one lave a composition 100% environmentally friendly.  
c) Characterize the product to allow the development of a complete technical dossier to define completely the viability of it and its correct use to the treatment of the selected pests and crops.



2.4 **Time Schedule** : The duration of the project is Three years from the date of this sanction order.

2.5 **Manpower** : The details of the manpower sanctioned for the implementation of the project are given at Annexure I.

2.6 **Project Cost** : The estimated cost for the Indian component of the project for Three years is as under:

**A. Non-Recurring**

(Rs. in lakhs)

S. No.	Item	Year I	Year II	Year III	Total
1.	Equipment's	503.62	00	00	503.62
<b>TOTAL</b>		<b>503.62</b>	<b>--</b>	<b>--</b>	<b>503.62</b>

**B. Recurring**

(Rs.in lakhs)

S. No	Item	Year I	Year II	Year III	Total
1.	<b>Consumables</b>	10.00	12.00	10.00	32.00
2.	<b>Manpower</b>				
2.1	Research Associate III (01) (Rs. 40,000/-+30% HRA) pm	6.24	6.24	6.24	18.72
2.2	Senior Research Fellow (01) (Rs. 28,000/-+30% HRA)pm	4.368	4.368	4.368	13.10
2.3	Technical Assistants (02) (Rs. 10,000/-pm	2.40	2.40	2.40	7.20
<b>Total manpower</b>		<b>13.008</b>	<b>13.008</b>	<b>13.008</b>	<b>39.02</b>
3.	Travel* Domestic International Local Hospitality of visiting scientist	5.00	5.00	5.00	15.00
4.	<b>Contingency</b>	1.50	1.50	1.00	4.00
5.	<b>Overheads</b>	1.00	1.00	1.00	3.00
<b>GRAND TOTAL (1+2+3+4+5)</b>		<b>30.508</b>	<b>32.508</b>	<b>30.008</b>	<b>93.02</b>

Total amount of Recurring head = Rs. 93.02 lakhs

Total Amount of A and B = Rs. 503.62+93.02 = Rs. 596.64 lakhs

**\*Travel budget would include:**

1. The international travel cost of one visit of the PI and the fellow in the project to Spanish partner.
2. The local hospitality towards the two visits from the Spanish side to the Indian laboratory.

**\*\*Payment of emoluments to the research personnel engaged under this project will be made in accordance with the Department of Science and Technology's O.M. No. SR/S9/Z-09/2012 dated October 21, 2014. Enhanced emoluments shall be payable only if laid down educational qualifications and eligibility criteria are met by such research personnel.**



To

The Pay & Accounts Officer  
Department of Biotechnology  
C.G.O. Complex, Lodhi Road  
New Delhi-110 003

Copy to:

1. The Principal Director of Audit (Scientific Departments), IP Estate, AGCR Building, New Delhi-2.
2. Cash Section, DBT (2 copies)
3. Dr. Virendra S. Rana, Sr. Scientist, ICAR-Indian Agricultural Research Institute, Pusa Campus, New Dehi-110012.
4. Dr. N.A. Shakil, Principal Scientist, ICAR-Indian Agricultural Research Institute, Pusa Campus, New Dehi-110012.
5. Dr. Anirban Dutta, Scientist, ICAR-Indian Agricultural Research Institute, Pusa Campus, New Dehi-110012.
6. Director, ICAR-Indian Agricultural Research Institute, Pusa Campus, New Dehi-110012.
7. IFD, DBT.
8. Sanction folder.
9. File.

*Vaishali Panjabi*

**(Dr. Vaishali Panjabi)**  
**Scientist 'D'**

**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 entitled: "**Prospecting microalgae and cyanobacteria for high value biopigments**" for a period of 3 Year 0 Month at a total cost of Rs. **16147800** (Rupees One Crores Sixty One Lakhs Fourty Seven Thousand Eight Hundred Only) on the terms and conditions detailed here under:-

**2. The Project :**

**2.1 Title :** "**Prospecting microalgae and cyanobacteria for high value biopigments**"

**2.2 Details of the Investigators:**

**Project Coordinator**

**Dr. SUNIL PABBI**

Professor

CENTRE FOR CONSERVATION AND UTILISATION OF BGA

Indian Agricultural Research Institute, Pusa Campus, New Delhi

A1 TYPE V IARI PUSA CAMPUS, New Delhi, Delhi, 110012

**Principal Investigators:**

**Dr. SUNIL PABBI**

Professor

CENTRE FOR CONSERVATION AND UTILISATION OF BGA

Indian Agricultural Research Institute, Pusa Campus, New Delhi

Centre for Conservation and Utilisation of Blue Green Algae, IARI PUSA CAMPUS, New Delhi, Delhi, 110012

**Prof. DATTA MADAMWAR**

DEAN

BRD School of Biosciences

Sardar Patel University

Satellite Campus, Vadtal Road, Sardar Patel Univ., Bakrol, Anand, Gujarat, 388315

**Dr. Sanjukta Subudhi**

Fellow and Area Convener

Microbial Biotechnology

The Energy And Resources Institute, New Delhi

The Energy and Resources Institute, Darbari Seth Block, India Habitat Centre, Lodi Road,

New Delhi, Delhi, 110003



CO-PI:

**Dr. Banwari Lal**  
Senior Director

Environmental and Industrial Biotechnology Division  
The Energy and Resources Institute, New Delhi  
The Energy and Resources Inst., Darbari Seth Block, India Habitat Centre, Lodi Road,  
New Delhi - 110003, Delhi

**Prof. Dolly Wattal Dhar**

Principal Scientist  
Division of Microbiology  
Indian Agricultural Research Institute, Pusa Campus, New Delhi  
Centre for Conservation and Utilisation of Blue Green Algae, Division of Microbiology,  
I.A.R.I., New Delhi - 110012, Delhi

**Dr. Ujjval B Trivedi**

Associate Professor  
BRD School of Biosciences  
Sardar Patel University, BRD School of Biosciences, Satellite Campus, Vadtal Road,  
Bakrol, Anand - 388315, Gujarat

## 2.3 Objectives:

### Overall Objectives:

1. Cultivation of selected marine, freshwater microalgae and cyanobacteria for production of biopigments (phycobiliproteins and carotenoids)
2. Purification and characterization of phycobiliproteins and carotenoids
3. Biochemical engineering and process optimization for maximizing phycobiliprotein and carotenoid production and development of an effectual process for their pilot scale production
4. Assessment of therapeutic and pharmaceutical application of microalgal bio-pigments (phycobiliproteins and carotenoids)

### Institute wise Objectives:

#### Indian Agricultural Research Institute, Pusa Campus, New Delhi

1. Production, Purification and characterization of phycobiliproteins from selected cyanobacteria
2. Biochemical engineering and optimization of process parameters for maximizing phycobiliprotein production
3. Development of an effectual process for pilot scale production of phycobiliproteins from selected cyanobacteria

#### Sardar Patel University

1. Biochemical and structural characterization of the phycobiliproteins (PBPs) library (available at SPU)
2. Assessment of therapeutic and pharmaceutical application of algal biopigments

Details of the Equipment sanctioned for the implementation of the project titled "PROSPECTING MICROALGAE AND CYANOBACTERIA FOR HIGH VALUE BIOPIGMENTS":

Annexure I

Indian Agricultural Research Institute, Pusa Campus, New Delhi			
SNo.	Name of Equipment	No.	Cost(Rs.)
1.	Incubator Shaker	1	954000.00
Total			954000.00
Sardar Patel University			
SNo.	Name of Equipment	No.	Cost(Rs.)
1.	Fluorescence Microscope	1	1932000.00
Total			1932000.00
The Energy And Resources Institute, New Delhi			
SNo.	Name of Equipment	No.	Cost(Rs.)
1.	Incubator Shaker	1	954000.00
Total			954000.00

(Dr. A S Ninawe)  
Adviser



Dated: 05-Mar-2018

**ORDER**

Subject: Financial Sanction of the research project titled "**Unravelling rice interactor(s) for XopF-TTSS effector of Xanthomonas oryzae pv. oryzae race 4 that play crucial role during bacterial blight pathogenesis**" under the guidance of Dr. Kalyan K Mondal, Plant Pathology, Indian Agricultural Research Institute, Pusa, New Delhi, DELHI-110012 and by Dr. V Shanmugam, Senior Scientist, Plant Pathology, Indian Agricultural Research Institute and by Dr. Ranjith Kumar Ellur, Scientist, Division Of Genetics, Indian Agricultural Research Institute - Release of 1st grant.

Sanction of Science and Engineering Research Board (SERB) is hereby accorded to the above mentioned project at a total cost of Rs. 5025024/- (Rs. Fifty Lakh Twenty Five Thousand and Twenty Four Only) with break-up of Rs. 568000/- under Capital (Non-recurring) head and Rs. 4457024/- under General (Recurring) head for a duration of 36 months. The items of expenditure for which the total allocation of Rs. 5025024/- has been approved are given below:

The following budget may be considered for Indian Agricultural Research Institute, Pusa, New Delhi

S. No	Head	Total (in Rs.)
A	Non-recurring	
1	Equipment -> Minor equipments costing less than one lakh (electrophoretic unit, rocker, water bath, pipette etc) -> UV transilluminator -> ice flaking machine -> Trans Blot turbo system	568000
A'	Total (Non-Recurring)	568000
B	Recurring Items	
1	Recurring - A : (Manpower) Recurring - B : ( Consumables, Travel, Contingencies)	1684800 2400000
2	Recurring - C : (Overhead Charges)	372224
B'	Total (Recurring)	4457024
C	Total cost of the project (A' + B')	5025024

- Sanction of the SERB is also accorded to the payment of
  - Rs. 568000/- (Rupees Five Lakh Sixty Eight Thousand only) under 'Grants for creation of capital assets' and Rs. 1485674/- (Rupees Fourteen Lakh Eighty Five Thousand Six Hundred and Seventy Four only) under 'Grants-in-aid General' to Director, Indian Agricultural Research Institute, Pusa, New Delhi being the first installment of the grant for the year 2017-2018 for implementation of the said research project.
- The expenditure involved is debitable to Fund for Science & Engineering Research (FSER)  
This release is being made under Core Research Grant. (PAC Plant Sciences)
- The Sanction has been issued to Indian Agricultural Research Institute, Pusa, New Delhi with the approval of the competent authority under delegated powers on 16 February, 2018 and vide Diary No. SERB/F/9591/2017-2018 dated 22 February, 2018
- Sanction of the grant is subject to the conditions as detailed in Terms & Conditions available at website ([www.serb.gov.in](http://www.serb.gov.in)).
- Overhead expenses are meant for the host Institute towards the cost for providing infrastructural facilities and general administrative support etc. including benefits to the staff employed in the project.
- While providing operational flexibility among various subheads under head Recurring-A, it should be ensured that not more than Rs. 1.5 lakh each should be spent for travel and contingency.

8. As per rule 211 of GFR, the accounts of project shall be open to inspection by sanctioning authority/audit whenever the institute is called upon to do so.

9. The sanctioned equipment would be procured as per GFR and its disposal of the same would be done with prior approval of SERB.

10. The release amount of Rs. 2053674/- (Rupees Twenty Lakh Fifty Three Thousand Six Hundred and Seventy Four only) will be drawn by the Under Secretary of the SERB and will be disbursed by means of RTGS transaction as per their Bank details given below:

Account Name	Director, Indian Agricultural Research Institute, New Delhi
Account Number	9029305000040
Bank Name & Branch	Syndicate Bank Pusa Campus, IARI, New Delhi
IFSC/RTGS Code	SYNB 0009029
Email id of A/C Holder	director@iari.res.in
Email id of PI	mondal_kk@rediffmail.com

11. The institute will furnish to the SERB, New Delhi, separate Utilization certificate(UCs) financial year wise to the SERB for Recurring (Grants-in-aid General) & Non-Recurring (Grants for creation of capital assets) and an audited statement of accounts pertaining to the grant immediately after the end of each financial year.

12. The institute will maintain separate audited accounts for the project. A part or whole of the grant must be kept in an interest earning bank account which is to be reported to SERB. The interest thus earned will be treated as credit to the institute to be adjusted towards further installment of the grant.

13. The project File no. EMR/2016/005725 may also be mentioned in all research communications arising from the above project with due acknowledgement of SERB.

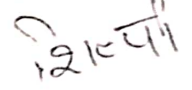
14. The manpower sanctioned in the project, if any is co-terminus with the duration of the project and SERB will have no liability to meet the fellowship and salary of supporting staff if any, beyond the duration of the project

15. As this is the first grant being released for the project, no previous U/C is required.

16. The institute may refund any unspent balance to SERB by means of a Demand Draft favoring "FUND FOR SCIENCE AND ENGINEERING RESEARCH" payable at New Delhi.

17. The organization/institute/university should ensure that the technical support/financial assistance provided to them by the Science & Engineering Research Board, a statutory body of the Department of Science & Technology (DST), Government of India should invariably be highlighted/ acknowledged in their media releases as well as in bold letters in the opening paragraphs of their Annual Report.

18. In addition, the investigator/host institute must also acknowledge the support provided to them in all publications, patents and any other output emanating out of the project/program funded by the Science & Engineering Research Board, a statutory body of Department of Science & Technology (DST), Government of India.

  
(Dr. Shilpi Paul)  
Scientist E  
ms\_ps@serbonline.in

To,  
Under Secretary  
SERB, New Delhi

Copy forwarded for information and necessary action to: -

1.	The Principal Director of Audit, A.G.C.R.Building, IIIrd Floor I.P. Estate, Delhi-110002
2.	Sanction Folder, SERB , New Delhi.
3.	File Copy



Dr. Kalyan K Mondal  
Plant Pathology  
Indian Agricultural Research Institute , Pusa, New Delhi, DELHI-110012  
Email: mondal\_kk@rediffmail.com  
Mobile: 919868153461

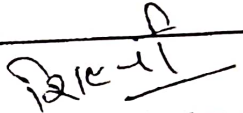
Dr. V Shanmugam  
Plant Pathology  
Indian Agricultural Research Institute

Dr. Ranjith Kumar Ellur  
Division Of Genetics  
Indian Agricultural Research Institute

(Start date of the project may be intimated by name to the undersigned. For guidance, terms & Conditions etc. Please visit [www.serb.gov.in](http://www.serb.gov.in).)

Director,  
Indian Agricultural Research Institute, Pusa, New Delhi

(Receipt of Grant may be intimated by name to the undersigned)

  
(Dr. Shilpi Paul)  
Scientist E  
ms\_ps@serbonline.in



भारतीय कृषि अनुसंधान परिषद्  
INDIAN COUNCIL OF AGRICULTURAL RESEARCH  
कृषि अनुसंधान भवन- II, पूसा, नई दिल्ली 110 012  
Krishi Anusandhan Bhawan-II, Pusa, New Delhi 110012

F. No. Agril. Edu. 27/2/2015-HRD,  
Dated 13.02.2017

✓ To

The Director  
ICAR-Indian Agricultural Research Institute,  
Pusa, New Delhi-110012

Sub: Award of ICAR-National Fellow to Dr. Debashis Chakraborty, Senior Scientist, ICAR-IARI,  
Div. of Agricultural Physics, NRL Building, New Delhi-110012.

Sir,

On the recommendation of search-cum-Selection Committee, the Competent Authority of the Indian Council of Agricultural Research is pleased to approve the award of National fellow to **Dr. Debashis Chakraborty, Senior Scientist, ICAR-IARI, Div. of Agricultural Physics, NRL Building, New Delhi-110012.** for his research project entitled, "*Regional Root Zone Soil Moisture Mapping from Near-Surface Measurements for Supporting Agro-Advisories in Rainfed Agriculture*" for a tenure of five years or until further orders. Accordingly, I am to forward herewith an offer of appointment in his favour, in duplicate, the original of which may be delivered to him and the other copy be retained by you. If he accepts the offer of appointment, he may kindly be advised to take up his assignment as early as possible preferably within six months of the date of issue of this letter after completing all the required formalities.

It is presumed that **Dr. Debashis Chakraborty** has already been examined by a duly constituted Medical Board of a Govt. Hospital and declared fit for service while in employment under the Council/University and his character and antecedents have been verified and found satisfactory. It may be ensured that **Dr. Debashis Chakraborty** is free from vigilance/disciplinary angles and has given necessary declaration about the marital status and taken oath of allegiance and faithfulness to the Constitution of India. The vigilance clearance certificate from the institute may please be enclosed alongwith MOU.

These presumptions may kindly be confirmed while conveying to this office, the acceptance of the offer of his appointment.

Receipt of this letter may please be acknowledged.

Yours faithfully,

Roja Sethumadhavan  
Deputy Secretary (Agril. Edu.)

Handwritten initials and date: 13/2/17

Handwritten initials: OT-0





NATIONAL AGRICULTURAL SCIENCE FUND  
(Indian Council of Agricultural Research)  
Room No. 707, KAB -I, Pusa, New Delhi - 110012

डी.एस.ई. सेल  
334  
दिनांक 4/2/18

F. No. NASF/CRISPR-Cas-7003/2017-18/119

Dated: 31.01.2018

- 75  
06/02/2018  
0,
1. The Director  
Indian Agricultural Research Institute,  
Pusa, New Delhi-110012
  2. The Director  
International Centre for Genetic Engineering and Biotechnology (ICGEB),  
Aruna Asaf Ali Marg, New Delhi-110 067

**Subject:** Sanction letter for the Research project entitled, "Genetic improvement of rice for yield, NUE, WUE, abiotic and biotic stress tolerance through RNA Guided Genome Editing (CRISPR-Cas9/Cpf1)" under the National Agricultural Science Fund (NASF)

Sir,

The Empowered Committee (EC) of the NASF, considered the proposal on "Genetic improvement of rice for yield, NUE, WUE, abiotic and biotic stress tolerance through RNA Guided Genome Editing (CRISPR-Cas9/Cpf1)" in its thirty first meeting held on 27<sup>th</sup> December, 2017 and approved the proposal for implementation under the NASF. The total cost of this project is Rs. 550.29140 Lakh (Rupees Five crore fifty lakhs twenty nine thousand and one hundred forty only) for a period of three years (February 2018 to January 2021). The financial sanction of the competent authority for the project is now being accorded for the period from 1<sup>st</sup> February 2018 to 31<sup>st</sup> March 2020. The sanction for the period from 1<sup>st</sup> April 2020 till the end of the project i.e. 31<sup>st</sup> January 2021 will be conveyed later. The release of fund will be through PFMS/FMS-MIS and the funded centre need to comply accordingly.

This project is sanctioned under the 'Expression of Interest' invited for research on CRISPR/Cas in rice

1. Name of the Lead Centres and address

- i. ICAR-Indian Agricultural Research Institute, Pusa, New Delhi-110012
- ii. International Centre for Genetic Engineering and Biotechnology (ICGEB), Aruna Asaf Ali Marg, New Delhi-110 067

2. Name & Designation of the Principal Investigators

- i. Dr. Viswanathan Chinnusamy, Head & PS, Division of Plant Physiology, IARI, New Delhi-110012
- ii. Dr. M. K. Reddy (Group Leader), Crop Improvement Group, ICGEB, Aruna Asaf Ali Marg, New Delhi-110 067

### 3. Names of Cooperating Centre and addresses

**Lead Centre I: ICAR-Indian Agricultural Research Institute, Pusa, New Delhi-110012**

- a. ICAR-National Research Centre on Plant Biotechnology, Pusa, New Delhi-110012
- b. ICAR-National Rice Research Institute, Cuttack, Odisha 753006
- c. ICAR-Indian Institute of Rice Research, Hyderabad, Telangana 500030

**Lead Centre II: International Centre for Genetic Engineering and Biotechnology, New Delhi-110 067**

- a. Tamil Nadu Agricultural University, Coimbatore-641003, Tamil Nadu

### 4. Name & Designation of the Cooperating Centre Principal Investigators

**Lead Centre I: ICAR-Indian Agricultural Research Institute, Pusa, New Delhi-110012**

- i. Dr. Prasanta K Dash, Senior Scientist, NRC on Plant Biotechnology, Pusa, New Delhi-110012
- ii. Dr. Ngangkham Umakanta, Scientist, Crop Improvement Division, NRRI, Cuttack, Odisha 753006
- iii. Dr. Satendra Kumar Mangrauthia, Biotechnology Unit, Crop Improvement Section, IRR, Hyderabad, Telangana 500030

**Lead Centre II: International Centre for Genetic Engineering and Biotechnology, New Delhi-110 067**

- i. Dr. D. Sudhakar, Professor, Department of Plant Biotechnology, Centre for Plant Molecular Biology & Biotechnology, TNAU, Coimbatore-641003, Tamil Nadu

**Need based involvement of Dr. Amitabh Mohanty, Senior Research Manager (Ag Traits), DuPont Pioneer, Hyderabad will be made after execution of MOU with ICAR.**

**Dr. Viswanathan Chinnusamy will act as coordinator of the project.**

The details of the project are given in the project document in **Annexure I**. The head-wise and year-wise budget (both consolidated and for each partner) are given in the **Annexures II to VII**.

**The Sanction will be subject to the following conditions:**

1. The Coordinator/Principal Investigators (PIs) and the Lead Centre will have the overall responsibility of carrying out the work shown in the project as given in **Annexure I**. Each Cooperating Centre Principal Investigator (CCPI) and the Cooperating Centre will have the responsibility for work assigned to the Centre under the project by the competent authority of NASF and the centre will fully cooperate with the Lead Centre and the NASF authorities.
2. All the Centres and the scientists will follow the rules and regulations of the ICAR set for the operation of the projects sanctioned under NASF.

### 3. Financial and Procurement

- i. Funds will be released by the Secretariat of the NASF directly to the institutions of the PI (Lead Centre) and to the institutions of the CCPIs (Cooperating Centre).
- ii. The Lead Centre and each of the Cooperating Centre will submit to the ADG (NASF) head-wise Utilization Certificate (UC) in the prescribed format duly verified by the concerned



(ix) It will not be incumbent upon the ICAR to protect every Intellectual Property (IP) generated from the Project. On refusal by the ICAR to own the IP, the inventor(s) shall be free to protect it at their own cost provided ICAR has no objection to it in public interest.

6. The PI and the CCPI will not be removed/ transferred from the project without the prior consent of the Empowered Committee of the NASF.
7. The decision of the Empowered Committee of the NASF will be final in all matters of the project.

Receipt of this letter may please be acknowledged. The PI is requested to make copies of the sanction letter along with all the Annexures and distribute the same to the CCPI(s) and the heads of the Lead and Cooperating Centres.

Yours faithfully,



(P.K. Agrawal)  
ADG (NASF)

**Copy for information and necessary action to:**

- (i) PI/CCPIs of the project.
- (ii) Heads of Cooperating Centres
- (iii) F&AO, NASF Secretariat
- (iv) Office copy