

No. DBT/IC-2/Indo-Brazil/2016-19/04
Government of India
Ministry of Science & Technology
Department of Biotechnology

Block-2, 6-8 Floors,
CGO Complex, Lodi Road,
New Delhi - 110003
Dated: 15.06.2016

SANCTION ORDER

Sanction of the President is hereby accorded under Rule 18 of the Delegation of Financial Powers Rules, 1978, for the implementation of a joint Indo-Brazil project entitled as "Integrated Biorefinery Approach towards production of sustainable fuel and chemicals from Algal biobased systems" at a total cost of Rs.244.17751Lakh(Rupees Two Crore Fourty Four Lakh Seventeen Thousand Seven Hundred and Fifty One Only) in favor of three institutions i.e. Registrar, Tezpur University, Tezpur- Assam, India-781014 and Registrar, Guwahati University, Guwahati, Assam, India-781014 and Director, Indian Institute of Technology, Guwahati, Assam, India-781039 for a period of four years on the terms and conditions detailed below:

2. Joint Project Title:

Integrated Biorefinery Approach towards production of sustainable fuel and chemicals from Algal biobased systems

3. Joint Investigators:

Indian side	Brazilian side
Principal Investigators Lead Investigator - Prof. D. Deka , Head, Department of Energy, Tezpur University, Tezpur-781014, Assam, India Tel: 03712 27 5301 (o), +919435380897 (mobile) Fax : 03712267006/5 E-mail: ghanapati@tezu.ernet.in , ddeka1965@gmail.com Prof. M C Kalita , Department of Biotechnology, Gauhati University, Guwahati-781014, Assam, India Phone: 91-0361-2700231(O); Fax: 91-0361- 2700231 E-mail: mckalitagu@gmail.com Dr Vaibhav V Goud , Department of Chemical Engineering, IIT Guwahati, Guwahati- 781039 Phone: +91 9957573605, E-mail: vvgoud@iitg.ac.in	Prof. Donato Aranda , Chemical Engineering Department Federal University of Rio de Janeiro Brazil, +55 (21) 2562-7657 E-mail: donato@eq.ufri.br

<p>Co-investigators</p> <p>Dr. Nayan M Kakoty, Associate Professor, Department of Electronic Communication and Engineering Biomimetic and Cognitive Robotics Lab, Tezpur University, Tezpur-784028, Assam, India, Tel: +919435783446, E-mail: nkakoty@tezu.ernet.in</p> <p>Dr. Manabendra Mandal, Associate Professor, Department of Molecular Biotechnology, Tezpur University, Tezpur-784028, Assam, India, Tel: +919864181445, E-mail: mandal@tezu.ernet.in</p> <p>Prof. L Sahoo, Department of Bioscience and Bioengineering, IIT Guwahati, Guwahati- 781039</p>	
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4. Joint Objectives:

- i. To select and screen the microalgae strains having large growth rate and high bio-molecules productivity from previously collected microalgae species.
- ii. To investigate the morphological characteristics and chemical composition of the selected microalgae species.
- iii. To develop innovative culture technique for the selected microalgae species *in vitro* and *in vivo* mass production.
- iv. To develop innovative harvesting methods for algal biomass production.
- v. To integrate bio-refinery approaches for the production of liquid/gaseous bio-fuel and high added-value compounds from algal mass.
- vi. To utilize waste algal biomass and de-oiled algal mass for production of bio-oil, bio-char and development of bio-based catalyst.

5. Duration of the project (Indian side):

The duration of the project is four years from the date of this sanction order

6. Head of Account:

The expenditure involved is debitable to:

Demand No.79	: Department of Biotechnology
3425	: Other Scientific Research 2016-2017
3425.60	: Others (Sub Major Head)
3425.60.200	: Assistance to other Scientific Bodies (Minor Head)
3425.60.200.29	: Biotechnology Research and Development (Sub Minor Head)
3425.60.200.29.17	: Assistance for Research and Development (Function Head)
3425.60.200.29.17.31	: Grant-in-Aid General (Object Head)
3425.60.200.29.17.35	: Grants for Creation of Capital Assets (Object Head)

7. Project cost (Indian side):

The total cost of the project is **Rs.244.17751Lakh (Rupees Two Crore Forty Four Lakh Seventeen Thousand Seven Hundred and Fifty One Only)** as per the budget summary given below:

(Rs. in Lakhs)

S. No.	Item	2016	2017	2018	2019	Total
A.	Non-recurring					
1.	Equipments as per the break up of three institutions	59.42551	0.00	0.00	0.00	59.42551
B.	Recurring					
2.	Manpower					
	A. JRF [3, @Rs.25000p.m.+10%HRA]	9.90	9.90	0.0	0.0	19.80
	B. SRF [3 for 1 st and 2 nd yr and 6 for 3 rd & 4 th year @Rs.28000p.m.+10%HRA]	11.088	11.088	22.176	22.176	66.528
	C. Research Associate-I [1; @Rs.36000+10%HRA]	4.752	4.752	4.752	4.752	19.008
	D. Project Assistant (1)	1.20	1.20	1.20	1.20	4.80
	E. Project Technician (1)	1.44	1.44	1.44	1.44	5.76
	F. Stipend in Brazil					
	a. SRF (1; for 6month in 2 nd yr and 12 months in 3 rd year)	0.00	2.952	5.904	0.00	8.856
	b. PI or Co-PI (1month)	0.00	2.00	2.00	0.00	4.00
	Manpower total =	28.38	33.332	37.472	29.568	128.752
3.	Consumable	9.00	8.00	5.00	5.00	27.00
4.	Contingency	2.0	2.0	2.0	2.0	8.00
5.	Travel					
	A. Domestic	1.5	1.5	1.5	1.5	6.00
	B. International for					
	i. Trainee (SRF-1)	0.00	2.50	0.00	0.00	2.50
	ii. PI or Co-PI (1)	0.00	2.50	2.50	0.00	5.00
	C. Local Hospitality for visiting Scientists	0.50	0.50	0.50	0.0	1.5
5.	Overhead	1.5	1.5	1.5	1.5	6.00
	Total (B) =	42.88	51.832	50.472	39.568	184.752
	Grand Total (A+B) =	102.30551	51.832	50.472	39.568	244.17751

*Principal Investigator may send SRF of any institution to Brazilian Collaborators Laboratory.

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2.50000

- Non-NET qualified candidates will be paid at JRF (@Rs12000/-pm+HRA) and SRF (@Rs.14000/-pm+HRA)
- As per the joint guidelines if a trainee (JRF/SRF) is availing fellowship then the same has to be deducted from the proposed stipend that is Rs.80,000/- per month e.g. If a trainee is getting Rs.20000/- as JRF/SRF fellowship either in a project or CSIR fellowship then the total stipend Rs. 80000/- will include the fellowship amount the candidate already receiving [i.e.Rs80000=Rs.20000+60000)].
- The Indian investigator is eligible for stipend of Rs. 2.0Lakh per month for stay in Brazil for maximum of 1 month each year for second and third year only. The stipend has to be disbursed to the investigator after deduction of salary amount e.g. if the investigator receiving Rs.80000/- as monthly salary then the stipend to be paid as Rs.120000/-.

8. Account Details:

The amount of **Rs.102.30551Lakhs (Rupees One Crore Two Lakh Thirty Thousand Five Hundred and Fifty one only)** will be drawn by DDO, DBT from PAO, DBT and disbursed to Registrar, Tezpur University, Tezpur- Assam, India-781014 through RTGS on the following account details:

Accounts Holder's Name	: Registrar, Tezpur University
Name of the bank	: Main Branch, Tezpur, Lake Road, Tezpur, Sonitpur, Assam-784001
IFSC Code	: SBIN0000195
MICR Code	: 784002002
Bank Account Number	: 10501585452
Email of beneficiary	: registrar-tu@tezu.ernet.in

Registrar, Tezpur University is authorized to disburse the funds without delay further to Registrar, Guwahati University, Guwahati, Assam, India-781014 and Director, Indian Institute of Technology, Guwahati, Assam, India-781039 as per the Annexure-I each year for executing this bilateral collaborative project. Registrar, Tezpur University will also submit the consolidated Progress report (including the certificate from the Brazilian collaborator stating that 'the Progress report submitted is jointly carried out and true to the best of my knowledge'), Consolidated Utilization Certificate (UC) and Statement of expenditure (SE) [by collecting the UC & SE from the each institutions involved and consolidating them] to Department of Biotechnology each year for further release of funds.

9. Terms and Conditions:

A. General

- a. A Memorandum of Agreement (MoA) will be signed between the Department of Biotechnology and Grantee Institutions on Non-Judicial stamp paper of Rs.100/- in the provided format and the subsequent release will be made only after signing of MoA and its acceptance by DBT. In Case of NGO or Private Institutions, MoA signed is mandatory for the first release.
- b. The progress of the project would be regularly monitored by the Indo-Brazil Steering Committee.
- c. No International travel will be undertaken from the sanctioned project grant unless specified otherwise.

- d. The Institute/Agency will keep the whole of the grant in a Bank Account earning interest and the interest so earned must be reflected in the Utilization Certificate and Statement of Expenditure. The Interest earned will be treated as created to the Institute/Agency and shall be adjusted towards further installment of the grant and or at the time of Final Settlement of Accounts.
- e. The Head of the institution will be responsible for submission of Utilization Certificate (UC), Statement of Expenditure (SE), Manpower Certificate, Assets Certificate, Interest Earned certificate to Department of Biotechnology in respect of Grants released against the sanction orders from time to time.
- f. The facility shall be open to users from other institutions.
- g. University/Institution requires approval of Department of Biotechnology for re-appropriation of funds from one head to another and No- re-appropriation of fund is allowed within subheads.
- h. In case the whole or a part of the amount of the grant-in-aid is being refunded, an interest thereon as per Govt. of India shall be recovered.
- i. The Non-recurring grant should be utilized within 18 months from the date of sanction of the project.
- j. The PI has to follow Govt. of India rule for procurement.

B. Mandatory

- a. Approval of Institutional Biosafety Committee, Certificate from Animal Ethics Committee must be provided, wherever applicable
 - b. It is mandatory to acknowledge financial support provided by DBT via inclusion of Reference/ Grant number, Name of the Department (i.e. DBT) and the duration of the financial support including the dates in acknowledgement section of publications/patents/technology transfer documents vide notification no. DBT/PCAH/Gen/01 dated 7th June 2012.
 - c. It is obligatory to assess/observe the biosafety compliance for rDNA activities to be performed by institutions and investigators for the proposals submitted to DBT for financial support as per the notification vide no. BT/BS/17/459/2011-PID dated 26th September 2012.
 - d. Investigator has to follow 'National Biodiversity Act (2002)'.
 - e. As per Ministry of Finance OM. No. C-13015(34)/MF CGA/PFMS/Misc/2014-15/2095-2127 dated 03.03.2015 all transaction involving cash component has to be made through Public Financial Management System (PFMS) w.e.f. 01.04.2015 to each beneficiary.
10. No Utilization Certificate is pending with the implementing Institute. All the Utilization Certificates due for rendition have been received and accepted by the head of Division/ Competent Authority.
 11. As per rule 211(1), the Accounts of the Grantee institution shall be open to inspection by the sanctioning authority/audit, whenever the institute is called upon to do so by the sanctioning authority.
 12. This issues under the powers delegated to this Department and with the concurrence of IFD, DBT vide their San No. 102/IFD/SAN/1085/2015-2016 dated 15/06/2016.

13. This sanction order has been noted at Serial No. 22 in the Register of Grants.

(डॉ. रजनीश कुमार गौड़/Dr. Rajneesh K. Gaur)

वैज्ञानिक 'ग'/Scientist 'D'

To,

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

Copy to:

1. The Director of Audit (Scientific Departments), AGCR Building, New Delhi - 110002
2. Cash Section, DBT (2 copies)
3. Registrar, Tezpur University, Tezpur- Assam, India-781014
4. Prof. D. Deka, Department of Energy, Tezpur University, Tezpur, Assam, India - 781014
5. Registrar, Guwahati University, Guwahati, Assam, India-781014
6. Prof. M C Kalita, Department of Biotechnology, Gauhati University, Guwahati, Assam, India-781014
7. Director, Indian Institute of Technology, Guwahati, Assam, India-781039
8. Dr Vaibhav V Goud, Department of Chemical Engineering, IIT Guwahati, Guwahati-781039
9. Sanction Folder

(डॉ. रजनीश कुमार गौड़/Dr. Rajneesh K. Gaur)

वैज्ञानिक 'ग'/Scientist 'D'

Annexure-I

SUB: Breakup of the total cost of the project entitled as "Integrated Biorefinery Approach towards production of sustainable fuel and chemicals from Algal biobased systems" to be implemented by three institutions, is given below -

A. Tezpur University, Tezpur, Assam (Coordinating Institution for the project)
(Rs. in Lakh)

S. No.	Item	2016	2017	2018	2019	Total
A.	Non-recurring					
1.	High Pressure Stainless Steel Reactor	12.025	0.00	0.00	0.00	12.025
2.	Under Water Robot	3.474	0.00	0.00	0.00	3.474
3.	Petroleum testing kit for oil analysis	3.2153	0.00	0.00	0.00	3.2153
	Subtotal (A) =	18.7143	0.00	0.00	0.00	18.7143
B.	Recurring					
2.	Manpower					
A.	JRF [2, @Rs.25000p.m.+10%H RA]	6.60	6.60	0.0	0.0	13.20
B.	SRF [1 for 1& 2 nd yr and 3 for 3 rd & 4 th year @Rs.28000p.m.+10%H RA]	3.696	3.696	11.088	11.088	29.568
C.	Stipend in Brazil					
a.	SRF (1; for 6 months in 2 nd yr and 12 months in 3 rd year)	0.00	2.952	5.904	0.00	8.856
b.	PI or Co-PI (1month)	0.00	2.00	2.00	0.00	4.00
3.	Consumable	4.00	3.00	2.00	2.00	11.00
4.	Contingency	1.0	1.0	1.0	1.0	4.00
5.	Travel					
A.	Domestic	0.50	0.50	0.50	0.50	2.00
B.	International for					
i.	Trainee (SRF-1)	0.00	2.50	0.00	0.00	2.50
ii.	PI or Co-PI (1)	0.00	2.50	2.50	0.00	5.00
iii.	Local Hospitality for visiting Scientists	0.50	0.50	0.50	0.0	1.5
5.	Overhead	0.50	0.50	0.50	0.50	2.00
	Subtotal (B)	17.796	25.748	25.992	15.088	84.624
	Total	33.58495	25.748	25.992	15.088	100.41295

16.796
35.5103

B. Indian Institute of technology, Guwahati, Assam

		(Rs. in Lakh)				
S. No.	Item	2016	2017	2018	2019	Total
A.	Non-recurring					
1.	Hydrodynamic Cavitations set up	14.50	0.00	0.00	0.00	14.50
2.	Rotary Evaporator	6.36121	0.00	0.00	0.00	6.36121
	Subtotal (A) =	20.86121	0.00	0.00	0.00	20.86121
B.	Recurring					
1.	Manpower					
	C. SRF [1; @Rs.28000p.m.+10% HRA]	3.696	3.696	3.696	3.696	14.784
	D. RA-I [1 @Rs.36000p.m.+10% HRA]	4.752	4.752	4.752	4.752	19.008
	E. Project Technician [1; @Rs.12000pm]	1.44	1.44	1.44	1.44	5.760
2.	Consumable	3.00	3.00	2.00	2.00	10.00
3.	Contingency	0.50	0.50	0.50	0.50	2.00
4.	Travel					
	Domestic	0.50	0.50	0.50	0.50	2.00
5.	Overhead	0.50	0.50	0.50	0.50	2.00
	Subtotal (B) =	14.388	14.388	13.388	13.388	55.552
	Total=	35.24921	14.388	13.388	13.388	76.41321

C. Guwahati University, Guwahati, Assam

		(Rs. in Lakh)				
S. No.	Item	2016	2017	2018	2019	Total
A.	Non-recurring					
1.	Microscope including Photography attachment	6.80	0.00	0.00	0.00	6.80
2.	Oil expeller	4.75	0.00	0.00	0.00	4.75
3.	Up gradation of existing raceway open micro-alga pond system	8.30				8.30
	Subtotal (A) =	19.85	0.00	0.00	0.00	19.85
B.	Recurring					
1.	Manpower					
	D. JRF [1, @Rs.25000p.m.+10% HRA]	3.30	3.30	0.00	0.00	6.60
	E. SRF [1 for 1& 2 nd yr	3.696	3.696	7.392	7.392	22.176

	and 2 for 3 rd & 4 th year @Rs.28000p.m.+10%H RA] F. Project Assistant [1; @Rs.10000pm]	1.20	1.20	1.20	1.20	4.80
2.	Consumable	2.00	2.00	1.00	1.00	6.00
3.	Contingency	0.50	0.50	0.50	0.50	2.00
4.	Travel Domestic	0.50	0.50	0.50	0.50	2.00
5.	Overhead	0.50	0.50	0.50	0.50	2.00
	Subtotal (B) =	11.696	11.696	11.092	11.092	45.576
	Total=	31.546	11.696	11.092	11.092	65.426

(डॉ.रजनीश कुमार गौड़/Rajneesh K. Gaur)

वैज्ञानिक 'ग' /Scientist 'D'