

DST/NM/NT/2020/307-1(G) MAHE  
Government of India  
Ministry of Science & Technology  
Department of Science & Technology  
(Nano Mission)

Technology Bhavan  
New Mehrauli Road  
New Delhi -110016  
Dated: 22.03.2022

**ORDER**

<b>Subject:</b>	Financial assistance for the technology project entitled "Point of use sensors for rapid detection and differentiation of bacteria and virus in water and clinical samples" by Prof. Soumyo Mukherji, Professor, Dept. of Biosciences and Bioengineering, IIT-Bombay, Powai, Mumbai, Maharashtra- 400076 and Dr. Chiranjay Mukhopadhyay, Professor and Associate Dean, Department of Microbiology, Kasturba Medical College, Manipal, Udupi, Karnataka- 576104 - regarding release of 1st installment of the grant.
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In continuation of this Department's sanction order of even number dated 22.03.2022, sanction of the President is hereby accorded to the above-mentioned project at a total cost of Rs.53,97,198/- (Rupees Fifty-three Lakh Ninety-Seven Thousand One Hundred Ninety Eight Only) for a duration of 3 years. The detailed break-up of the grant is given below.

S. N	Head	Year-1	Year-2	Year-3	Total
<b>A</b>	<b>Non-Recurring</b>				
1.	Potentiostat with FRA analyzer and accessories.	11,00,000	Nil	Nil	11,00,000
2.	Small Equipment like Vacuum Pump Sonicator Bath Probe Sonicator Hydrothermal setup soldering workstation Precision Digital multimeter.	8,17,478	Nil	Nil	8,17,478
<b>(A) year-wise Total</b>		<b>19,17,478</b>	<b>Nil</b>	<b>Nil</b>	<b>19,17,478</b>
<b>B</b>	<b>Recurring</b>				
1.	Manpower-One JRF/SRF and One Technician for 3 years	6,60,960	6,60,960	7,12,800	20,34,720
2.	Consumables	3,75,000	3,82,500	3,82,500	11,40,000
3.	Travel (Domestic Only)		25,000	25,000	50,000
4.	Contingency	10,000	10,000	10,000	30,000
5.	Other Head-Characterization charges	25,000	25,000	25,000	75,000
6.	Overhead				
<b>(B) year-wise Total</b>		<b>11,20,960</b>	<b>11,53,460</b>	<b>12,05,300</b>	<b>1,50,000</b>
<b>Grand Total (A+B)</b>		<b>30,38,438</b>	<b>11,53,460</b>	<b>12,05,300</b>	<b>53,97,198</b>

2. Sanction of the President is also accorded for payment of Rs.50,000/- (Rupees Fifty Thousand Only) under 'Grand-in-aid General' to "The Registrar, Manipal Academy of Higher Education, Udupi" as initial release of 1<sup>st</sup> installment for starting the project.
3. This sanction is subject to the condition that the grantee organization will furnish to the Department of Science & Technology, financial year wise Utilization Certificate (UC) in the proforma prescribed as per GFR 2017 and audited statement of expenditure (SE) along with up to date progress report at the end of each financial year duly reflecting the interest earned / accrued on the grants received under the project. This is also subject to the condition of submission of the final statement of expenditure, utilization certificate and project completion report within one year from the scheduled date of completion of the project.
4. The grantee organization will have to enter & upload the Utilization Certificate in the PFMS portal besides sending it in physical form to this Division. The subsequent/final instalment will be released only after confirmation of the acceptance of the UC by the Division and entry of previous Utilization Certificate in the PFMS.
5. If the grant has been released under capital head through separate sanction order under the same project for purchase of equipment(s), separate SE/UC has to be furnished for the released capital head grants.
6. The grant-in-aid being released is subject to the condition that:
  - a. A transparent procurement procedure in line with the Provisions of General Financial Rules 2017 will be followed by the Institute/Organization under the appropriate rules of the grantee organization while procuring capital assets sanctioned for the above mentioned project and a certificate to this effect will be submitted by the Grantee organization on receipt of the grant.
  - b. While submitting Utilization Certificate/Statement of Expenditure, the organization has to ensure submission of supporting documentary evidences with regard to purchase of equipment/capital assets as per the provisions of GFR 2017. Subsequent release of grants under the project shall be considered only on receipt of the said documents.
7. The grantee organization will maintain separate audited account for the project and the entire amount of grant will be kept in an interest bearing bank account. For grants released during F.Y. 2017-18 and onwards, all interests and other earnings, against released grant shall be remitted to Consolidated Fund of India (through Non-Tax Receipt Portal (NTRP), i.e., www.Bharatkosh.gov.in), immediately after finalization to accounts, as it shall not be adjusted towards future release of grant. A certificate to this effect shall have to be submitted along with statement of expenditure / utilization certificate for considering subsequent release of grant/ closure of project accounts.

8. DST reserves sole rights on the assets created out of grants. Assets acquired wholly or substantially out of government grants (except those declared as obsolete and unserviceable or condemned in accordance with the procedure laid down in GFR 2017), shall not be disposed of without obtaining the prior approval of DST.
9. *If the goods (consumables/equipment) needed for the project is available in GeM portal, then it must be procured mandatorily via online GeM portal only. PI also instructed to follow DoE's guidelines for incurring expenditure under the different sub-head.*
10. This project does not provide any payment as honorarium/remuneration/fellowship/scholarship to the PI, also the Project Staff supported from this project should not draw emoluments/salary/fellowship from other project/s either supported by DST or by any other funding agency at particular time.
11. The account of the grantee organization shall be open to inspection by the sanctioning authority and audit (both by C&AG of India and Internal Audit by the Principal Accounts Office of the DST), whenever the organization is called upon to do so, as laid down under Rule 236(1) of General Financial Rules 2017.
12. Due acknowledgement of technical support / financial assistance resulting from this project grant should mandatorily be highlighted by the grantee organization in bold letters in all publications / media releases as well as in the opening paragraphs of their Annual Reports during and after the completion of the project.
13. **Failure to comply with the terms and conditions of the Order will entail full refund with interest in terms of Rule 231 (2) of GFR 2017.**
14. The expenditure involved is debitable to: Demand No.88, Department of Science & Technology for the year 2021-22:

3425	Other Scientific Research (Major Head)
60	Others
200	Assistance to Other Scientific Bodies (Minor Head)
71	Research and Development
03	Other Programmes
71.03.31	Grants-in-aid General for the year 2021-22
Previously (Nano Mission 3425.60.200.36.00.31)	

15. The amount of Rs.50,000/- (Rupees Fifty Thousand Only) will be drawn by the Drawing and Disbursing Officer, DST and will be disbursed to "The Registrar, Manipal Academy of Higher Education, Udupi". The bank details for electronic transfer of funds through RTGS are given below:

Account Name	Manipal Academy of Higher Education (DST)
Savings Bank Account Number	38713985758
Name of the bank and branch	STATE BANK OF INDIA, MANIPAL BRANCH
RTGS/IFSC Code	SBIN0004426
MICR Code	576002006

16. It is certified that the Institute is on board EAT Module for grants received from DST. Next subsequent release will be based on the achievements of targeted deliverables mentioned in the General sanction Annexure-I.
17. As per Rule 234 of GFR 2017, this sanction has been entered at S. No.140-NMD in the register of grants maintained in the Division for the scheme Research and Development (National Mission on Nano Science & Nano Technology).
18. This issues with the concurrence of IFD Vide their Concurrence Dy. No. C/4989/IFD 2021-22 dated: 21.03.2022.

(Dr. Nagaboopathy Mohan)  
Scientist-C

To,  
The Pay & Accounts Officer, DST, New Delhi.

Copy forwarded for information and necessary action to:

1. Drawing and Disbursing Officer, DST, Cash Section. (Copy with two spare copies)
2. Integrated Finance Division, DST

3. Prof. Soumyo Mukherji, Biosciences and Bioengineering, Indian Institute of Technology-Bombay, Powai, Mumbai, Maharashtra- 400076	4. Dr. Chiranjay Mukhopadhyay Professor and Associate Dean, Department of Microbiology Kasturba Medical College, Manipal, Udupi, Karnataka- 576104	5. The Registrar Manipal Academy of Higher Education, Udupi, Karnataka-576104
6. Dr. Piya Paul Mudgal Manipal Institute of Virology, Manipal Academy of Higher Education, Udupi Karnataka-576104	7. Dr. Kapil Sadani Dept. of Instrumentation and Control Manipal Institute of Technology, Udupi Karnataka- 576104	8. Dr. Pooja Nag Dept. of Mechatronics Manipal Institute of Technology, Udupi Karnataka- 576104

9. The Principal Director of Audit, Environment and Scientific Departments, III<sup>rd</sup> floor, AGCR Building, I.P. Estate, New Delhi- 110002
10. Sanction folder & file copy (Nano Mission)

(Dr. Nagaboopathy Mohan)  
Scientist-C

Cont....3/-

Timeline vs deliverables chart

Time Schedule of Activities through BAR Diagram (IIT-Bombay)

Activities	0-4M	5-8M	9-12M	13-16M	17-20M	21-24M	25-28M	29-32M	33-36M
Fabrication of interdigitated electrode (IDE)	█	█	█						
Integration of the IDE and microfluidic channel followed by testing of the device			█	█					
Synthesis of antimicrobial polysaccharide/ polyphenol stabilized silver and copper nanoparticles	█	█							
Study of the action of the nanoparticles on microorganisms by electron microscopy and DLS			█	█					
Evaluation of electrochemical impedance spectroscopic responses of the fabricated sensor towards model non-pathogenic microorganisms (using benchtop FRA)				█	█	█			
Integration of blue/UV light and testing of the device for possible sensitivity enhancement					█	█	█		
Development of handheld device for impedance spectroscopic measurements				█	█			█	█
Testing of the handheld device						█	█	█	█

Time Schedule of Activities through BAR Diagram (MAHE-Udupi)

Milestone	0-4M	5-8M	9-12M	13-16M	17-20M	21-24M	25-28M	29-32M	33-36M
Fabrication of microfluidic channel	█	█	█						
Integration of the IDE and microfluidic channel followed by testing of the device			█	█					
Synthesis of antimicrobial polysaccharide/ polyphenol stabilized silver and copper nanoparticles	█	█							
Study of the action of the nanoparticles on microorganisms by PCR			█	█					
Evaluation of electrochemical impedance spectroscopic responses of the fabricated sensor towards model pathogenic microorganisms (using benchtop FRA)						█	█	█	
Integration of blue/UV light and testing of the device for possible sensitivity enhancement					█	█		█	
Optimization of handheld device for impedance spectroscopic measurements (in consultation with IIT-B)				█	█			█	█
Testing of the handheld device						█	█	█	█

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