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New Delhi - 110 011

6 Jan 15

The Registrar
Assam University, Silchar
Silchar, Assam - 788011

SANCTION OF PROJECT UNDER NAVAL RESEARCH BOARD (NRB)

1. Under the powers vested in the NRB vide Government of India, Ministry of Defence, letter No.DNRD/0100/NRB/4179/D (R&D) dated 20 Aug 96, amended from time to time and in terms of powers delegated vide SI. No. 3.1 of GOI, MOD letter no. DRDO/DEF/AT/MS3226/M/01/2031/D (R&D) dated 30 July 2010, I am directed to convey the sanction of the Board for the following project:-

Title "DNA-Decorated liquid crystalline nano-composite materials for efficient chemical sensing"

Project No NRB-342/MAT/14-15

PI Dr. Sudip Choudhary, Assistant Professor
Dept. of Chemistry
Assam University, Silchar
Silchar, Assam - 788011

2. Cost and duration of the project: - Total budget for the project is ₹.35,43,800/- (Rupees Thirty five lakh forty three thousand eight hundred only) for 03 years duration. The breakup of fund for various activities of the project is as given below: -

(Cost in ₹. Lakhs)

<u>Head</u>	<u>1st Year</u>	<u>2nd Year</u>	<u>3rd Year</u>	<u>Total</u>
Research Staff	1,84,800/-	1,84,800/-	2,11,200/-	5,80,800/-
Specific Equipment	20,63,000/-	NIL	NIL	20,63,000/-
Consumable Store	1,25,000/-	1,00,000/-	75,000/-	3,00,000/-
Contingencies	25,000/-	25,000/-	25,000/-	75,000/-
Travel (TA/DA)	50,000/-	50,000/-	50,000/-	1,50,000/-
Sub Total	24,47,800/-	3,59,800/-	3,61,200/-	31,68,800/-
Institute Overhead	1,25,000/-	1,25,000/-	1,25,000/-	3,75,000/-
Grand Total	25,72,800/-	4,84,800/-	4,86,200/-	35,43,800/-

Contd....2/-

3. Aim of the Project The specific aim of the project is to Synthesis and amplification of DNA Oligomers containing 6-30 base pairs, Synthesis of DNA Oligomers containing fluorophoric and/or fluorescent quenching moieties, study of Mesogenic properties of the materials synthesized, blending of the synthesised DNA oligomers on Single Walled Carbon Nano tube (SWCNT) Gold nanoparticles, Carbon Quantum Dots Conducting polymers and Study of the sensing properties of the synthesised materials towards selected chemicals.

Release of Funds and Accounting

4. Contingent bill, duly completed, stamped and signed by the competent/ Executive Authority of the institution will be forwarded to Member Secy. NRB, for countersignature and onward transmission to PCDA (R&D), New Delhi for fund release. Duly filled in ECS proforma for direct crediting of amount through the CDA (R&D) may also be forwarded to NRB, if not already submitted.

5. Six monthly progress will be submitted by the PI to NRB. Audited Statement of Accounts and Utilization Certificate duly certified by the executive financial authority of the institute for each financial year are required to be submitted by 30 Jun of the ensuing financial year. Excess expenditure, beyond the yearly sanction, unless authorized by NRB in writing, shall be the responsibility of the grantee institution.

6. The date of receipt of the first installment of the grant would be reckoned as the date of commencement of the project (unless otherwise specified), which has to be intimated to the Member Secy. NRB, without any ambiguity.

7. A separate account for the grant would be maintained and interest earned thereon would be accrued in the project account by the Institute. On completion of the project, the grantee institution should send the unspent money & interest accrued if any to Member Secy. NRB through a Cheque/Draft in favour of PCDA(R&D), New Delhi. A list of inventory of equipment purchased out of NRB grant shall be intimated year-wise, along with its cost and source of procurement, to Member Secy. NRB. On completion of the project, the grantee institution would forward the consolidated list with request, if any, for retention of any equipment for another project or for in-house R&D.

Review of the Project

8. The progress review of the project will be carried out periodically by the Material Panel (minimum once in a year) during the panel meetings chaired by the Panel Head and/or as deemed fit by NRB.

9. Ownership of Intellectual Properties. As far as intellectual properties generated by this project are concerned, following conditions will apply: -

(a) The ownership of any intellectual properties generated by research performed under this grant, whether or not legally protected, shall vest in the grantee institution. The grantee institution shall promptly report to DRDO its intention to protect legally any such intellectual properties.

(b) DRDO shall be deemed to have an irrevocable and royalty-free license to use such intellectual properties, whether or not legally protected, for such purposes as DRDO may decide, keeping the grantee institution informed.



(c) The grantee institution shall consult DRDO prior to contracting any agreement that envisages the use of such intellectual properties, whether or not legally protected, during or after the closure of the activities conducted through this project. In any such agreement, the grantee institution shall declare that its ownership over the intellectual properties is encumbered to the extent of Para 'b' above.

(d) Neither DRDO nor the Government of India accept any liability for infringement, innocent or otherwise, by the grantee institution, or by the investigators, of the intellectual or other property rights of third parties.

10. Publication of Technical Papers. The PI will seek prior clearance from DRDO for the publication of technical papers, if any, related to the project work, in Indian as well as foreign journals. The PI should also consider submitting one or two papers, out of the research work carried out under the project, to the Defence Science Journal (DSJ) being published by Defence Scientific Information & Documentation Centre (DSIDOC/DRDO, Metcalfe House, Delhi - 110054). The PIs will accordingly forward advance copy of the papers to the NRB. NRB will accord necessary clearance/issue further directions within 07 days on receipt of the request from the PI.

11. Workshop. Towards the end of the project, a workshop may be organised by the PI in consultation with the Panel Head and the Member Secy. NRB for dissemination of work done in the project. Proforma for workshop proposal is on NRB Website.

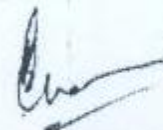
12. Closure Report. A Closure Report, alongwith soft & hard copies of detailed technical report, a certificate that objectives of the project have been achieved, executive summary, unspent amount & interest accrued if any, will be submitted by the PI within 03 months of completion of the project.

13. PCDA (R&D) New Delhi will make disbursement of money as sanctioned.

14. The expenditure is debitable to Defence Services Estimate Major Head 2080-Defence Services-R&D, Minor Head 004-Research/Research & Development, Code Head 852/03(Technical Activities).

15. The sanction Code for the project is CCTM/TM/NRB/GIA/14-15/0193 dated 24.12.2014.

16. This sanction has the concurrence of IFA (R&D) New Delhi vide their UO No. IFA/R&D/1940/1077 dated 30.12.2014.



(Brij Mohan)
Scientist 'G' &
Member Secretary, NRB