### FILE NO, ECR/2016/000532 SCIENCE & ENGINEERING RESEARCH BOARD(SERB)

(a statutory body of the Department of Science & Technology, government of India)

5 & 5A, Lower Ground Floor Vasant Square Mall Plot No. A, Community Centre Sector-B, Pocket-5, Vasant Kunj New Delhi-110070

Dated: 05-Dec-2016

#### ORDER

Subject: Financial Sanction of the research project titled "Solid-state NMR and computational study to probe the structural, defects and ion conduction mechanistic features in anti-perovskite based electrolyte materials" under the guidance of Dr. Bholanath Pahari, Physics, Goa University , Taleigao, North Goa, Goa-403208 - 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. 2827240/- (Rs. Twenty Eight Lakh Twenty Seven Thousand Two Hundred and Forty Only) with break-up of Rs. 1184240/- under Capital (Non-recurring) head and Rs.1643000/- under General (Recurring) head for a duration of Three years. The items of expenditure for which the total allocation of Rs. 2827240/- has been approved are given below:

The following budget may be considered for Goa University, Taleigao

S. No	Head	Total (in Rs.)
A	Non-recurring	
1	Equipment -> Glove box -> Micro balance -> Turbo pump	1184240
Α'	Total (Non-Recurring)	1184240
B	Recurring Items	
1	Recurring - A : ( Manpower, Consumables, Travel, Contingencies)	1386000
2	Recurring - B : (Overhead Charges)	257000
B'	Total (Recurring)	1643000
C	Total cost of the project (A' + B')	2827240

2. Sanction of the SERB is also accorded to the payment of

Rs. 1184240/- (Rupees Eleven Lakh Eighty Four Thousand Two Hundred and Forty only) under 'Grants for creation of capital assets' and Rs, 547670/- (Rupees Five Lakh Forty Seven Thousand Six Hundred and Seventy only) under 'Grants-in-aid General' to The Registrar, Goa University, Taleigao

being the first installment of the grant for the year 2016-2017 for implementation of the said research project.

3. The expenditure involved is debitable to Fund for Science & Engineering Research (FSER) This release is being made under Early Career Research Award. (EC Physical & Mathematical Sciences)

4. The Sanction has been issued to Goa University, Taleigao with the approval of the competent authority under delegated powers on 28 November, 2016 and vide Diary No. SERB/F/6232/2016-17 dated 30 November, 2016

5. Sanction of the grant is subject to the conditions as detailed in Terms & Conditions available at website (www.serb.gov.in).

6. 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.

UC for Non-Recurring Grants

## UTILISATION CERTIFICATE FOR THE FINANCIAL YEAR-(ENDING 31 ST MARCH) Year- 2019-2020 (To be given separately for each financial year ending on 31<sup>st</sup> March)

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L	Release	Release	Release	Release	Release
Is the UC provisional			: YES/NO		
1. Title of the Project/	Scheme		: Solid state	NMR and	computational
		study to prob	e the structural	, defects and i	on conduction
		mechanistic	features in	anti-perov	skite based
2. Name of Principal In	ivestigator	electrolyte ma	aterials : Dr. Bholanat	h Pahari	
3. Implementing Institu	ition		: Physics Depa		niversity
4. SERB sanction order	r No & date		: ECR/2016/00		
5. Amount brought for financial year quotin and date in which the said amount was give	g SERB letter e authority to f en	number orward the	: Amount : Letter/Order N : Date	Rs. 38,709.	04/-
6.a. Amount received d (Please give SERB I date for the amount)	Letter/order no	and	: Amount : Letter/Order N : Date	NIL 70.	
6.b. Interest earned, if a			: Nil		
<ol> <li>Total Amount that way For expenditure Rs.</li> <li>Commitments) incur the financial year (up</li> </ol>	(Excluding red during		: Rs. 38,709.04/- 、		
8. Actual Expenditure ( Incurred during the fi	excluding com nancial year (u	mitments) : pto 31 <sup>st</sup> Mar)	Rs. 38,000		
9. Balance amount avail Financial year (8-9): ( (If expenditure incurred is	OR/Negative b	alance	Rs. 709.04/-		
10. Unspent Balance, If (Give details of Cheq			Rs. 709.04/-		, ·
11. Amount to be carried Financial year (If any		e next :	nil		

# UTILIZATION CERTIFICATE

Certified that out of Rs. NIL of Non-Recurring grants-in-aid sanctioned during the year 2019-2020 and Rs 38,709.04/- on account of unspent balance of the previous year, a sum of Rs 38,000/- has been utilized for the purpose for which it was sanctioned and that the balance of Rs 709.04/remaining unutilized at the end of the year will be sent back

Certified that we have satisfied ourselves that the conditions on which the grants-in-aid was sanctioned have been fulfilled/are being fulfilled and that we have exercised the following checks to see that the money was actually utilized for the purpose for which it was sanctioned.

Kinds of checks exercised 1. 2.

Signature of PI Date 19/06/200

Signature of Registrar/Account officer

Signature of Head of Institution Date Registrar

Goa University

Taleigao Plateau,

Date

Guidelines for preparation of U.C.

1. U.C. should be only for the grants released by the SERB. Please do not account for Security deposits/other matching grants/account opening charges and miscellaneous items. 2. SERB sanction No. and Dt should be accurately shown in the U.C.

3. Even if the grants is utilized in the financial year in which the grants was released by SERB a NIL U.C. needs to be forwarded to SERB along with a request for carrying forward the grant to the next financial year. Such grants which are carried forwarded must be shown in the subsequent U.C. as carried forward grant and not amount received in the subsequent year (ref S1 No.5 on pre-

Science and Engineering Research Board

UC has been accepted by

Signature Name of the SERB Officer Designation\_

UC for Recurring Grants

## UTILISATION CERTIFICATE FOR THE FINANCIAL YEAR-(ENDING 31 ST MARCH) Year- 2019-2020 (To be given separately for each financial year ending on 31<sup>st</sup> March)

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	U.C. Pertains to	√ First Release	√ Second Release	√ Third Release	√Fourth Release	Final Release
	Is the UC provisional			: YES/NO		
a.	1. Title of the Project	/ Scheme	study to prob mechanistic electrolyte ma	e the structura features in	l, defects and	computational l ion conduction ovskite based
	2. Name of Principal	Investigator	electi olyte ma	: Dr. Bholana	th Pahari	
	3. Implementing Insti			: Physics Depa	artment, Goa	University
	4. SERB sanction ord			: ECR/2016/0	00532, 05-De	c-2016
	5. Amount brought for financial year quot and date in which said amount was g	orward from the ing SERB lette the authority to	r number	: Amount : Letter/Order : Date	Rs. 78,771 No ECR/201 05-03-20	6/000532
	<ul> <li>6.a. Amount received</li> <li>(Please give SERI)</li> <li>date for the amount</li> <li>6.b. Interest earned, and and an another set earned, and an an</li></ul>	l during the fina B Letter/order n et)	ancial year o and	: Amount : Letter/Order : Date : NIL	No. ECR	,50,000/- /2016/000532 /-2019
	7. Total Amount that For expenditure R Commitments) in the financial year	was available s. (Excluding curred during		; Rs. 5,28,771	<b>/-</b>	
2	8. Actual Expenditur Incurred during the	e (excluding co	mmitments)	: Rs. 5,26,421	/-	
	9. Balance amount av Financial year (8-9 (If expenditure incurr	9): OR/Negative	e balance	: Rs. 2350/-		
	10. Unspent Balance (Give details of C	heque/DD No.	etc.)	: Rs. 2350/-		
	11. Amount to be can Financial year (I		the next	: nil		

# UTILIZATION CERTIFICATE

Certified that out of Rs. 4,50,000/- of Recurring grants-in-aid sanctioned during the year 2019-2020 in favour of The Registrar, Goa University under SERB letter/order No ECR/2016/000532 dated 02/07/2019 and Rs 78,771/- on account of unspent balance of the previous year, a sum of Rs 5,26,421/- has been utilized for the purpose for which it was sanctioned and that the balance of Rs 2350/- remaining unutilized at the end of the year will be sent back.

Certified that we have satisfied ourselves that the conditions on which the grants-in-aid was sanctioned have been fulfilled/are being fulfilled and that we have exercised the following checks to see that the money was actually utilized for the purpose for which it was sanctioned.

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Signature of PI

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Date 19/06/2020

Signature of Registrar/Account officer Date

Signature of Head of Institution Date Registrar

1. U.C. should be only for the grants released by the SERB. Please do not account for Security deposits/other matching grants/account opening charges and miscellaneous items. 2. SERB sanction No. and Dt should be accurately shown in the U.C. 3. Even if the grants is utilized in the financial year in which the grants was released by SERB a

NIL U.C. needs to be forwarded to SERB along with a request for carrying forward the grant to the next financial year. Such grants which are carried forwarded must be shown in the subsequent U.C. as carried forward grant and not amount received in the subsequent year (ref S1 No.5 on pre-

5)

UC has been accepted by	Science and Engineer
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ting Research Board Signature Name of the SERB Officer Designation