

DST/ICPS/QuST/Theme-3/2019/General
 Government of India
 Ministry of Science & Technology
 Department of Science & Technology
 (ICPS Division)

Technology Bhawan
 New Delhi - 110016
 Dated: 24.02.2020

ORDER

Sub: Financial assistance for the Cluster proposals under the “Quantum Information Technologies with ion-trap and optical-lattice devices” of Interdisciplinary Cyber Physical Systems (ICPS) Division of Department of Science & Technology, Govt of India, New Delhi.

Theme-3 Group Co-ordinator, Dr Umakant Damodar Rapol, Indian Institute of Science Education and Research (IISER), Pune, Maharashtra
Theme-3 Co-Coordinator, Dr Arun Lakshminarayan, IIT Madras

Sanction of the President is hereby accorded to the approval of Theme-3 cluster proposal under the “**Quantum Information Technologies with ion-trap and optical-lattice devices**” one of the themes under Quantum Enabled Science & Technology (QuEST) at a total cost of Rs. 4569.30 Lakhs for a duration of three years (36 months). The details of theme-3 projects, PIs, co-PIs and their affiliations are at Annexure-1. The detailed breakup of the grant for A. Non-Recurring (Capital Component) and B. Recurring (General component) are as given below:

A. Non-Recurring (Capital Component) : Rs. 3443.80 Lakhs
B. Recurring (General Component) : Rs.1125.50 Lakhs

Theme	Budget Head	Ist Year	2 nd Year	3 rd Year	Total in Rs Lakhs
Theme-3	Recurring	431.09	356.19	338.22	1125.50
	Non Recurring	3443.80	0	0	3443.80
	Total Rs Lakhs	3874.89	356.19	338.22	4569.30

S No	PI & Affiliation	Budget Head	1 st Yr	2 nd Yr	3 rd Yr	Total	Present Release
1.	Dr Subhadeep De, IUCAA Pune(Q1)	Recurring	68.42	65.42	65.60	199.44	5.00
		Non Recurring	795.00	0	0	795.00	0
		Total	863.42	65.42	65.60	994.44	5.00
2.	Dr Ajay Wasan, IIT Roorkee (Q27)	Recurring	58.28	25.28	26.46	110.02	5.00
		Non Recurring	338.50	0	0	338.50	0
		Total	396.78	25.28	26.46	448.52	5.00
3.	Dr Kanhaiya Pandey, IIT Guwahati (Q31)	Recurring	34.28	22.78	23.96	81.02	5.00
		Non Recurring	209.80	0	0	209.80	0
		Total	244.08	22.78	23.96	290.82	5.00
4.	Dr Prabha Mandayam, IIT Madras (Q59)	Recurring	16.44	14.24	15.42	46.10	5.00
		Non Recurring	5.00	0	0	5.00	0
		Total	21.44	14.24	15.42	51.10	5.00

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5.	Dr Anu Venugopalan, GGSU University, Delhi (Q63)	Recurring	19.66	14.66	15.25	49.57	5.00
		Non Recurring	8.00	0	0	8.00	0
		Total	27.66	14.66	15.25	57.57	5.00
6.	Dr Arul Lakshminarayan, IIT Madras (Q69)	Recurring	15.49	15.49	16.67	47.65	5.00
		Non Recurring	16.00	0	0	16.00	0
		Total	31.49	15.49	16.67	63.65	5.00
7.	Dr Radhika Vathsan, BITS-Pilani, Goa Campus (Q109)	Recurring	14.64	14.44	15.62	44.70	5.00
		Non Recurring	3.70	0	0	3.70	0
		Total	18.34	14.44	15.62	48.40	5.00
8.	a) Dr Umakant Damodar Rapol, IISER Pune (Q110)	Recurring	60.32	42.32	43.50	146.14	5.00
		Non Recurring	2020.00	0	0	2020.00	0
		Total	2080.32	42.32	43.50	2166.14	5.00
	b) Group Coordination	Recurring	109.78	109.78	82.78	302.34	5.00
		Non Recurring	0	0	0	0	0
		Total	109.78	109.78	82.78	302.34	5.00
9.	Dr Ujjwal Sen, HRI Allahabad (Q120)	Recurring	33.78	31.78	32.96	98.52	5.00
		Non Recurring	47.80	0	0	47.80	0
		Total	81.58	31.78	32.96	146.32	5.00
Total Recurring Rs in Lakhs			431.09	356.19	338.22	1125.50	50.00
Total Non Recurring Rs in Lakhs			3443.80	0	0	3443.80	0
Grand Total in Rs lakhs			3874.89	356.19	338.22	4569.30	50.00

A.Non Recurring (Capital Items)

S. No.	PI & Affiliation	Details of Capital Items	Budget(Rs lakhs)			
			Yr1	Yr2	Yr3	Total
1.	Project-1 (Q1) Dr.Subhadeep De, IUCAA, Pune	Equipment: PC (x3) & Workstation (x1),Software (COMSOL or similar, Office),Multichannel switch for wavelength meter and Optical fibres (single mode, multimode fibres at different wavelengths), Ultra high vacuum system including mechanically stabilized vibration isolation platform, turbo pump, ion pump, viewports, Clock laser + ULE cavity system with accessories, Photon counting system including required electronic hardware, Phase stabilization system for optical heterodyne including optics, opto-mechanics, frequency counter and other accessories, Femto second frequency comb and microwave cavity, Optical spectrum analyser for	795.00	0	0	795.00

		Visible band and Near Infrared band, Optical beam profilometer, Fast photodiode (x3), Oscilloscope (Approx. 2 GHz bandwidth), EOMs and AOMs including their source, drivers and amplifiers, RF synthesizer, power supply and other Nominal and small equipment				
2.	Project-2 (Q27) Dr Ajay Wasan, IIT Roorkee	Equipment: High-power 1064nm (42W) (with isolator) for dipole trap, Three diode laser (795 nm, 780 nm) systems with cosy and all accessories, CCD Camera (2 nos.), Optical table (1 no.) with active isolators, Modulators (AOM/EOM) with drivers, MCP, SPCM, PMTs, APDs, Photon detection and counters, Optics mirrors, waveplates, polarizers, mounts, Vacuum system and hardware, High current power supply, Data acquisition hardware with all accessories, Desktop Computers (2 nos.), Laptop (1 no.) with softwares	338.50	0	0	338.50
3.	Project-3 (Q31) Dr Kanhaiya Pandey, IIT Guwahati	Equipment: 399 nm approx 1W with all accessories, Wavemeter with all accessories, Mirrors & mounts, Lenses, PBS's, Photodetector, Power supply, Two optical tables, Optics 2 (Waveplates, fiber and coupler, optical isolator), AOMs, EOM and drivers, Ion pumps and controller, Residual gas analyser, Vacuum systems and parts, PC, database	209.80	0	0	209.80
4.	Project-4 (Q59) Dr Prabha Mandayam, IIT Madras	Equipment : PC and Server	5.00	0	0	5.00
5.	Project-5 (Q63) Prof. Anu Venugopalan, GGS Indraprastha University, Delhi	Equipment : PC/ laptop/ work station and printer, software	8.00	0	0	8.00
6.	Project-6 (Q69) Prof. Arul	Equipment: Software, Workstations + Computing (12)	16.00	0	0	16.00

	Lakshminarayan, IITMadras					
7.	Project-7 (Q109) Dr. Radhika Vathsan, BITS-Pilani, Goa Campus	Equipment: PC, Software, Printer and Backup	3.70	0	0	3.70
8.	Project-8 (Q110) Dr. Umakant D. Rapol, IISER Pune	Equipment : Laser Systems, Optics & Opto mech, Camera & detect, Vac systems, FIB ## 1 , Op profilometer ## 1nos, NSOM ## 1nos, Clean Rm ## 1nos, Test & Mmnt, CNC mill ## 1no, CNC lathe ## 2nos, EDM ## 1no	2020.0 0	0	0	2020.0 0
9.	Project-9 (Q120) Dr. Ujjwal Sen, HRI Allahabad	Equipment: PC (Laptop) - (approx. 14 in total over the years), Software, Printers- (approx. 2 in total over the years), High Performance Computing Machines	47.80	0	0	47.80
Total: 3443.80						

B. RECURRING (GENERAL)

1. Project-1 (Q1): Dr. Subhadeep De, IUCAA, Pune

S. No.	Budget Head	Budget in Rs. Lakh			
		Yr 1	Yr 2	Yr 3	Total
1	PROJECT STAFF				
	i. JRF- 2	9.24	9.24	10.42	28.90
	ii. RA III- 2	16.08	16.08	16.08	48.24
2	TRAVEL (Domestic)				
	Fabrication of the CIT will be done from other labs, which will require frequent domestic travel)	2.50	2.00	2.00	6.50
3	CONSUMABLES	30.00	30.00	30.00	90.00
4	CONTINGENCY	1.60	1.60	1.60	4.80
5	FAB AND OTHER SERVICES	7.00	5.00	4.00	16.00
6	INSTITUTIONAL OVERHEADS	2.00	1.50	1.50	5.00
Total (Recurring)		68.42	65.42	65.60	199.44
Total Project Cost (Recurring + Non-Recurring)		863.42	65.42	65.60	994.44

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2. Project-2(27) Dr. Ajay Wasan, Indian Institute of Technology (IIT) Roorkee

S. No.	Budget Head	Budget in Rs. Lakh			
		Yr 1	Yr 2	Yr 3	Total
1	Project Staff				
	i. JRF- 2	9.24	9.24	10.42	28.90
	ii. RA III- 1	8.04	8.04	8.04	24.12
2	Consumables				
	Optics, opto-mechanics, electronics, minicircuit rf components, UHV Spares, machining, chemical, nuts, bolts	30.00	0.00	0.00	30.00
3	Contingencies	7.00	4.00	4.00	15.00
4	Travel (Domestic)	1.00	1.00	1.00	3.00
5	Institutional Overheads	3.00	3.00	3.00	9.00
Total (Recurring)		58.28	25.28	26.46	110.02
Total Project Cost (Recurring + Non-Recurring)		396.78	25.28	26.46	448.52

3. Project-3(Q31): Dr. Kanhaiya Pandey, Indian Institute of Technology (IIT) Guwahati

S. No.	Budget Head	Budget in Rs. Lakh			
		Yr 1	Yr 2	Yr 3	Total
1	Project Staff				
	i. JRF- 2	9.24	9.24	10.42	28.90
	ii. RA III- 1	8.04	8.04	8.04	24.12
2	Travel (Domestic)	1.00	1.00	1.00	3.00
3	Consumable	10.00	0.00	0.00	10.00
4	Contingency	4.00	3.00	3.00	10.00
5	Institute Overheads	2.00	1.50	1.50	5.00
Total (Recurring)		34.28	22.78	23.96	81.02
Total Project Cost (Recurring + Non-Recurring)		244.08	22.78	23.96	290.82

4. Project-4(Q59) Dr. Prabha Mandayam, Indian Institute of Technology (IIT) Madras

S. No.	Budget Head	Budget in Rs. Lakh			
		Yr 1	Yr 2	Yr 3	Total
1	Project Staff				
	i. JRF -2	9.24	9.24	10.42	28.90
2	Travel (Domestic)	1.00	1.00	1.00	3.00



3	Consumables	1.00	1.00	1.00	3.00
4	Contingencies	1.00	1.00	1.00	3.00
5	Institutional overheads	4.20	2.00	2.00	8.20
Total (Recurring)		16.44	14.24	15.42	46.10
Total Project Cost (Recurring + Non-Recurring)		21.44	14.24	15.42	51.10

5.Project-5(Q63): Prof. Anu Venugopalan, GGS Indraprastha University, Delhi

S.No.	Budget Head	Budget in Rs. Lakh			
		Yr 1	Yr 2	Yr 3	Total
1	Project Staff				
	i. JRF- 1	4.62	4.62	5.21	14.45
	ii. RA III- 1	8.04	8.04	8.04	24.12
2	Travel (Domestic)	0.50	0.50	0.50	1.50
3	Consumables	1.00	1.00	1.00	3.00
4	Contingencies	0.50	0.50	0.50	1.50
5	Institutional overheads	5.00	0.00	0.00	5.00
Total (Recurring)		19.66	14.66	15.25	49.57
Total Project Cost (Recurring + Non-Recurring)		27.66	14.66	15.25	57.57

6.Project-6 (Q69): Prof. Arul Lakshminarayan, Indian Institute of Technology (IIT) Madras

S.No.	Budget Head	Budget in Rs. Lakh			
		Yr 1	Yr 2	Yr 3	Total
1	Project Staff				
	i. JRF- 2	9.24	9.24	10.42	28.90
2	Travel (Domestic)	2.00	2.00	2.00	6.00
3	Consumables	0.50	0.50	0.50	1.50
4	Contingencies	1.25	1.25	1.25	3.75
5	Institutional overheads	2.50	2.50	2.50	7.50
Total (Recurring)		15.49	15.49	16.67	47.65
Total Project Cost (Recurring + Non-Recurring)		31.49	15.49	16.67	63.65

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7. Project-7(Q109): Dr. Radhika Vathsan, BITS-Pilani, Goa Campus

S.No.	Budget Head	Budget in Rs. Lakh			
		Yr 1	Yr 2	Yr 3	Total
1	Project Staff				
	i. JRF- 2	9.24	9.24	10.42	28.90
2	Travel (Domestic)	1.00	1.00	1.00	3.00
3	Consumables	0.60	0.60	0.60	1.80
4	Contingencies	2.00	2.00	2.00	6.00
5	Institutional overheads	1.80	1.60	1.60	5.00
Total (Recurring)		14.64	14.44	15.62	44.70
Total Project Cost (Recurring + Non-Recurring)		18.34	14.44	15.62	48.40

8. Project-8(A) R&D Project (Q110): Dr. Umakant D. Rapol, Indian Institute of Science, Education & Research (IISER) Pune

S.No.	Budget Head	Budget in Rs. Lakh			
		Yr 1	Yr 2	Yr 3	Total
1	Project Staff				
	i. JRF- 2	9.24	9.24	10.42	28.90
	ii. RA III- 2	16.08	16.08	16.08	48.24
2	Consumables	18.00	0.00	0.00	18.00
3	Travel (Domestic)	2.00	2.00	2.00	6.00
4	Contingency	10.00	10.00	10.00	30.00
5	Institutional Overheads	5.00	5.00	5.00	15.00
Total (Recurring)		60.32	42.32	43.50	146.14
Total Project Cost (Recurring + Non-Recurring)		2080.32	42.32	43.50	2166.14

B. Theme-3 Group Co-ordination Project: Dr. Umakant D. Rapol, Indian Institute of Science, Education & Research (IISER) Pune

S.No.	Budget Head	1st Year	2nd Year	3rd Year	Total
1	Project Staff				
	Project Assistant/Scientific/Administrative Assistant etc. -2 Nos @ Rs. 18,000/- P.M. + HRA.	5,28,000	5,28,000	5,28,000	15,84,000
2	Travel	1,00,000	1,00,000	1,00,000	3,00,000
3	Consumable	2,50,000	2,50,000	2,50,000	7,50,000
4	Contingency	2,00,000	2,00,000	1,00,000	5,00,000

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5.	Conducting of Group Monitoring Workshops	10,00,000	10,00,000	10,00,000	30,00,000
6.	Travel for International Invited Experts and Travel for participation of Theme-3 PIs, Co-PIs and Project staff in National and International Quantum Research conferences/ Events of repute.	75,00,000	75,00,000	50,00,000	2,00,00,000
7.	Attending PIC Meetings	10,00,000	10,00,000	10,00,000	30,00,000
8.	Miscellaneous	2,00,000	2,00,000	2,00,000	6,00,000
	Total	1,07,78,000	1,07,78,000	81,78,000	2,97,34,000
9.	Overhead	2,00,000	2,00,000	1,00,000	5,00,000
	Grand Total in Rs Lakhs	1,09,78,000	1,09,78,000	82,78,000	3,02,34,000

9. Project-9(Q120): Dr. Ujjwal Sen, HRI Allahabad

S.No.	Budget Head	Budget in Rs. Lakh			
		Yr 1	Yr 2	Yr 3	Total
1	Project Staff				
	i. JRF- 2	9.24	9.24	10.42	28.90
	ii. RA III- 1	8.04	8.04	8.04	24.12
2	Travel (Domestic)	2.00	2.00	2.00	6.00
3	Consumables	1.00	1.00	1.00	3.00
4	Contingencies	3.00	3.00	3.00	9.00
5	Miscellaneous	5.50	3.50	3.50	12.50
6	Institutional overheads	5.00	5.00	5.00	15.00
Total (Recurring)		33.78	31.78	32.96	98.52
Total Project Cost (Recurring + Non-Recurring)		81.58	31.78	32.96	146.32

Project Staff Salaries: As per Annexure-2

Institutional Overheads: 8% of the total project cost for R&D projects, 8% or Rs 5.00 lakh whichever is minimum for non- R&D projects.

2. The sanction of the President is also accorded to the release of **Rs.50,00,000/- (Rupees Fifty Lakhs only)** being the first installment of grant under "General Component" for implementation of the above mentioned project. The item of expenditure for which the total allocation of **Rs. 4569.30 Lakhs** has been approved for a period of **36 months**. **IISER Pune**, in turn shall release the 1st installment of **Rs. 5,00,000/- (Rupees five Lakh only)** to each project to

the component institutes as mentioned against each project and as per details given within seven days from the date of receipt of funds from DST as per the bank details for electronic transfer of funds through RTGS given in **Annexure-B**.

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. **IISER Pune** (the grantee organization) will have to enter & upload the Utilization Certificate in the PFMS portal besides sending it in physical form to this Division after closure of every financial year i.e. 31st of March every year, till completion of the project. The subsequent/final installment will be released only after confirmation of the acceptance of the UC by the Division and entry of previous Utilization Certificate in the PFMS. The sanction of the above amount is subject to terms and conditions as contained in the **Annexure-A**.

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 grant.

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 immediately 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 (IISER Pune) will maintain separate audited account for the project and the entire amount of grant will be kept in an interest bearing 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 finalisation of 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 / Utilisation Certificate for considering subsequent release of Grant/ Closure of Project accounts”.**

8. **IISER, Pune will update all financial information related to this cluster project in PFMS portal and implement EAT module of PFMS and periodically update the transactions/ facilitate further grantees to periodically update EAT module.**

9. "Grantee Institute should also follow Rule 230 (17) of GFR, 2017 concerning reservation of SC/ST/OBC, if applicable."

10. 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.

11. In case the scheme provides for payment of honorarium / remuneration / fellowship / scholarship to the PI, a para may suitably be incorporated in the SoE to the effect that "PI is not drawing any emoluments/ salary/fellowship from any other project either supported by DST or by any other funding agency.

12. 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.

13. 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.

14. Failure to comply with the terms and conditions of the Bond will entail full refund with interest in terms of Rule 231 (2) of GFR 2017.

15. The expenditure involved is debit to Demand No.86, Department of Science & Technology for the year 2019-20:

3425	:	Other Scientific Research (Major Head)
60	:	Others
60.200	:	Assistance to Other Scientific Bodies (Minor Head)
69	:	Research & Development (S&T).2019-20
69.00.31	:	Grants-in-Aid General for the year 2019-20 (Plan)

(Previous:3425.60.200.63.01.31-Super Computing Facility & Capacity Building)(ICPS)

16. The amount of **Rs. 50,00,000/- (Rupees Fifty Lakhs only)** will be drawn by the Drawing and Disbursing Officer, DST and will be disbursed to Registrar, Dr Umakant Damodar Rapol, Indian Institute of Science Education and Research, Pune (IISER) Pune, Dr. Homi Bhabha Road, Ward No. 8, NCL Colony, Pashan, Pune, Maharashtra - 411 008, through RTGS in Account No: **31125298801**, State Bank of India, IFSC Code: **SBIN0003552**, MICR Code **411002012**.

17. IISER, Pune to release Rs 5.00 Lakhs to each theme-3 cluster projects institutes (as per para 2 above) within 7 seven working days from the date of receipt of funds from DST

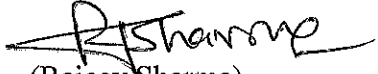
18. **Goods (consumables/equipment) available in GeM portal are to be procured mandatorily online through Gem only as per the provisions of Rule 149 of GFR, 2017.**

19. As per Rule 234 of GFR 2017, this sanction has been entered at S.No.10 in the register of grants maintained in the Division.



20. This issues with the concurrence of IFD vide their concurrence diary No.C/5727/IFD/2019-2020.dated 21.02.2020.

21. It is certified that all the Utilization Certificate in regard of all schemes/programmes/projects, present and previous pertaining to the institute have been received and no UC is pending against the organization as per the details in the PFMS also.


(Rajeev Sharma)
Scientist – E
011-26590310

To

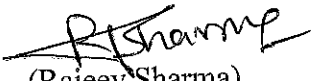
The Pay and Accounts Officer,
Department of Science & Technology,
New Delhi.

Copy for information and necessary action to:-

1. Cash Section (2 copies) for preparing the bill & remitting the amount to the above grantee.
2. Account Section, DST, New Delhi
3. The Director of Audit (CW&M-II), AGCR Building, IP Estate, New Delhi – 110 002.
4. IFD, DST, New Delhi.
5. Subhadeep De, Associate Professor (Scientist F) Office – 217 Inter University Center for Astronomy and Astrophysics (IUCAA), Post Bag 4, Ganeshkhind, Pune, Maharashtra-411007,
6. Director, Indian Institute of Technology (IIT) Roorkee, Haridwar, Roorkee – 247 667,Uttarakhand.
7. Prof. Ajay Wasan, Associate Professor, Department of Physics, Indian Institute of Technology (IIT) Roorkee, Haridwar, Roorkee – 247 667,Uttarakhand.
8. Registrar, Indian Institute of Technology(IIT), Guwahati, Guwahati - 781 039, Assam.
9. Dr. Kanhaiya Pandey, Assistant Professor,Department of Physics, Indian Institute of Technology(IIT), Guwahati, Guwahati - 781 039, Assam.
10. Registrar, Indian Institute of Technology Madras, HSB 309, Chennai – 600 036,Tamilnadu.
11. Dr. Prabha Mandayam, Assistant Professor, Department of Physics, Indian Institute of Technology Madras, HSB 309, Chennai – 600 036,Tamilnadu.
12. Registrar, University School of Basic and Applied Sciences,Guru Gobind Singh Indraprastha University, Sector-16C, Dwarka, New Delhi – 110 078, Delhi.
13. Prof. Anu Venugopalan, Professor, University School of Basic and Applied Sciences,Guru Gobind Singh Indraprastha University, Sector-16C, Dwarka, New Delhi – 110 078, Delhi.
14. Registrar, Indian Institute of Technology(IIT) Madras,HSB 215, Chennai – 600 036, Tamilnadu.
15. Prof. Arul Lakshminarayan, Professor, Department of Physics, Indian Institute of Technology(IIT) Madras,HSB 215, Chennai – 600 036, Tamilnadu.



16. Registrar, Birla Institute Of Technology And Science(BITS) Pilani, K K BIRLA GOA CAMPUS, NH17 B, Zuarinagar, South Goa – 403 726, Goa.
17. Dr. Radhika Vathsan, Associate Professor, Department of Physics, Birla Institute Of Technology And Science(BITS) Pilani, K K BIRLA GOA CAMPUS, NH17 B, Zuarinagar, South Goa – 403 726, Goa.
18. Registrar, Indian Institute of Science Education and Research(IISER) Pune, 100, Dr. Homi Bhabha Road, Pashan, Pune – 411 008, Maharashtra.
19. Dr. Umakant Damodar Rapol, Associate Professor, Department of Physics, Indian Institute of Science Education and Research(IISER) Pune, 100, Dr. Homi Bhabha Road, Pashan, Pune – 411 008, Maharashtra.
20. Director, Harish Chandra Research Institute, Chhatnag Road, Jhusi, Allahabad – 211 019, Uttar Pradesh.
21. Dr. Ujjwal Sen, Associate Professor G, Department of Physics, Harish Chandra Research Institute, Chhatnag Road, Jhusi, Allahabad – 211 019, Uttar Pradesh.
22. Sanction Folder.
23. Head, ICPS, DST, New Delhi


(Rajeev Sharma)
Scientist – E
011-26590310

Department of Science & Technology Terms & Conditions of the Grant

1. Approval of the research proposal and the grant being released is for the specific project sanctioned and should be exclusively spent on the project within the stipulated time. The Institute is not permitted to seek or utilise funds from any other organisation (Government, Semi-Government, Autonomous and Private Bodies) for this research project. Any **un-spent balance out of the amount sanctioned must be surrendered to the Government of India through a crossed Cheque/ Demand Draft drawn in favour of Drawing & Disbursing Officer, DST.**
2. For permanent, semi-permanent assets acquired solely or mainly out of the project grants, an audited record in the form of a register in the prescribed format (attached) shall be maintained by the Institute. The term "Assets" include (a) the immovable property acquired out of the grant; and (b) movable property of capital nature where the value exceeds Rs 1000/-. The Institute is required to send to the Department of Science & Technology a list of assets acquired from the grant. The grant shall not be utilised for construction of any building unless specific provision is made for that purpose. Full infrastructural facilities by way of accommodation, water, electricity, communication etc. for smooth implementation of the project shall be given by the Institute.
3. All the assets acquired from the grant will be the property of Government of India and should not be disposed off or encumbered or utilised for purpose other than those for which the grant had been sanctioned, without the prior sanction of this Department.
4. At the conclusion/ termination of the project, the Government of India will be free to sell or otherwise dispose off the assets which are the property of the Government. The Institute shall render to the Government necessary facilities for arranging the sale of these assets. The Government of India has the discretion to gift the assets to the Institute or transfer them to any other Institute if it is considered appropriate.
5. The Institute/ PI will furnish Annual Progress Report of the work on the project on an yearly basis ((ie. if the date of start of a project is 12.09.97 the first Annual Technical Progress report shall be for the period 12.09.97 to 30.09.98, the next will be from 01.10.98 to 30.09.99 and so on). In addition, the DST may designate Scientist/ Specialist or an Expert Panel to visit the Institute periodically to review the progress of the work being carried out and to suggest suitable measures to ensure realisation of the objectives of the project. During the implementation of the project the Institute will provide all facilities to the visiting scientist/ specialist or the Expert Panel by way of accommodation etc. at the time of their visit. On completion of the project 5 copies of a final consolidated Project Completion Report on the work done on the project should be sent to the DST.
6. At the time of seeking further instalment of grant, The Institute/ PI has to furnish the following documents:



- a) Utilisation Certificate (UC) and Statement of Expenditure (SE) for the previous financial year (in original or copy if sent earlier);
 - b) Latest authenticated Statement of Expenditure including Committed Expenditure, for expenditure since 1st April of that financial year till the previous month; and
 - c) Technical Annual Progress Report, if not sent earlier.
7. Request for specific approval of the Department to **carry forward** the unutilised grant to the next financial year for utilisation for the same project, should be sent along with SE & UC, after completion of the financial year.
 8. The Comptroller & Auditor General of India, at his discretion, shall have the right of access to the books and accounts of the Institute maintained in respect of the grant received from the Government of India.
 9. The institute will maintain separate audited accounts for the project. If it is found expedient to keep a part or whole of the grant in a bank account earning interest, the interest thus earned should be reported to the DST and should be reflected in the Statement of Expenditure. The interest thus earned will be treated as a credit to the Institute to be adjusted towards further instalment of grant.
 10. The institute will not entrust the implementation of the work for which the grant is being sanctioned to another institution nor will it divert the grant receipts to other institute as assistance. In case the Institute is not in a position to implement or complete the project, it should, forthwith, refund to this Department the entire grant received by it or the balance grant with it.
 11. All the personnel including Research personnel appointed under the project, for the full/ part duration of the project, are to be treated as temporary employees and will be governed by the Administrative rules/ service conditions (for leave, TA/DA etc) of the implementing Institute. They are not to be treated as employees of the Government of India and the DST will have no liability, whatsoever, for the project staff after completion of the project duration.
 12. For the expeditious implementation of the research project, the PI will take the assistance of the Institute in the process of selection and appointment of staff and payment to them. Scale and emoluments for the posts not covered under DST's OM are governed by norms prevalent in the implementing Institution or as may be decided in consultation with DST.
 13. The DST reserves the right to terminate the project at any stage if it is convinced that the grant has not been properly utilised or appropriate progress is not being made.
 14. **The project becomes operative with effect from the date on which the Draft/ Cheque is received by the implementing Institution.** This date should be intimated by the Institution authorities/ Principal Investigator to this Department. *It will, in no case be later than one month after the receipt of the draft/ cheque by the Institute.*
 15. If the PI to whom a grant for a project has been sanctioned wishes to leave the Institution where the project is based, the Institute/ PI will inform the same to the DST and in consultation with DST, evolve steps to ensure successful completion of the project, before relieving the PI.



16. Investigators wishing to publish technical/ scientific papers based on the research work done under the project, should acknowledge the assistance received from DST, indicating the scheme. Investigators are also requested to publish some of the research papers emerging out of the project work in leading Indian Journals.
17. If the results of research are to be legally protected, the results should not be published without action being taken to secure legal protection for the research results.
18. For projects identified to have a distinct potential for generating know-how, in the form of product/ process, that could be protected through patenting, copyrights etc., the PI should carefully follow the "**Guidelines/ Instructions for Technology Transfer and Intellectual Property Rights**" provided in the **Guidelines for Implementing Research Projects** booklet issued by the DST. For further information/ clarification on this subject, please contact:

Advisor - Patent Facilitating Cell, Department of Science & Technology, Technology Bhavan, New Mehrauli Road, New Delhi - 110 016.

Tel : 91-11-42525808 and 2696 7458; Fax: 2686 3866; email : tifac@nda.vsnl.net.in

R. Sharma

Annexure-B:

The bank details for electronic transfer of funds through RTGS are given below:-

S. No	Beneficiary	Account Number	Bank Name	IFSC Code	MICR Code	Recurring	Total
1	Dr. Subhadeep De, IUCAA Pune	98060100000188	Bank of Baroda	BARB0EXTPOO		5.00	5.00
2	Dr Ajay Wasan, IIT Roorkee	33012172097	State Bank of India	SBIN0001069	247002094	5.00	5.00
3	Dr Kanhaiya Pandey, IIT Guwahati	30247450489	State Bank Of India	SBIN0014262	781002053	5.00	5.00
4	Dr Prabha Mandayam, IIT Madras	2722101016150	Canara Bank	CNRB0002722	600015085	5.00	5.00
5	Prof. Anu Venugopalan, GGS Indraprastha University, Delhi	927860555	Indian Bank	IDIB000G082	110019071	5.00	5.00
6	Prof. Arul Lakshminarayanan, IIT Madras	2722101016150	Canara Bank	CNRB0002722	600015085	5.00	5.00
7	Dr. Radhika Vathsan, BITS-Pilani, Goa Campus		State Bank of India	SBIN0010720	403002055	5.00	5.00
8	Dr. Umakant D. Rapol, IISER Pune	31125298801	State Bank of India	SBIN0003552	411002012	5.00	5.00
	Group Coordination- Dr. Umakant D. Rapol, IISER Pune	31125298801	State Bank of India	SBIN0003552	411002012	5.00	5.00
9	Dr. Ujjwal Sen, HRI Allahabad	30070100011078	Bank of Baroda	BARB0HRIALL	211012016	5.00	5.00
						Total	50.00

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Annexure-1

1	Group Coordinator	Dr. Umakant Damodar Rapol	Indian Institute of Science Education and Research (IISER), Pune
	Co-Coordinator	Dr Arun Lakshminarayan	IIT Madras
2	Project Tittle(Q1)	Optical clock based accurate time stamping in quantum communication	
	PI	Dr. Subhadeep De	IUCAA, Pune
	Co-PI	Dr. Suresh Doravari	IUCAA , Pune
3	Project Tittle(Q27)	Quantum computing with trapped Rubidium atoms	
	PI	Prof. Ajay Wasan	IIT ROORKEE
	Co-PI	Prof. Rajesh Srivastava	IIT ROORKEE
4	Project Tittle(Q31)	Towards scalable quantum computer using Yb atoms in an optical lattice	
	PI	Dr. Kanhaiya Pandey	Indian Institute of Technology, Guwahati
	Co-PI	Dr. Tapan Mishra	Indian Institute of Technology, Guwahati
5	Project Tittle(Q59)	Network Planning of Secured Quantum Key Distribution Network	
	PI	Dr. Prabha Mandayam	Indian Institute of Technology, Madras
	Co-PI	Dr. Pradeep Kiran Sarvepalli	Indian Institute of Technology, Madras
6	Project Tittle(Q63)	A study of the dynamics of interacting qubits in pure and mixed states in the context of entanglement generation and in quantum measurement	
	PI	Prof. Anu Venugopalan	Guru Gobind Singh Indraprastha University
7	Project Tittle(Q69)	Nonclassical resources From Quantum simulations to Incompatibility	
	PI	Prof. Arul Lakshminarayan	Indian Institute of Technology Madras
	Co-PI	Dr. Prabha Mandayam	Indian Institute of Technology Madras
	Co-PI	Dr. Pradeep Kiran Sarvepalli	Indian Institute of Technology Madras
	Co-PI	Dr. Vaibhav Madhok	Indian Institute of Technology Madras
8	Project Tittle(Q109)	Geometric aspects of Quantum Correlations in Dynamics	
	PI	Dr. Radhika Vathsan	Birla Institute of technology and science Pilani, K K Birla Goa campus
9	Project Tittle(Q110)	A novel Atom Plasmon based platform for distributed and scalable Quantum Computer	
	PI	Dr. Umakant Damodar Rapol	IISER, Pune
	Co-PI	Dr. G V Pavankumar	IISER, Pune
	Co-PI	Dr. M S Santhanam	IISER, Pune
	Co-PI	Dr. Rejish Nath	IISER, Pune
10	Project Tittle(Q120)	Noise analysis and entanglement characterization of quantum information protocols in ion traps, optical lattices, solid state, and magnetic resonance systems	
	PI	Dr. Ujjwal Sen	Harish Chandra Research Institute , Jhusi, Allahabad
	Co-PI	Dr. Aditi Sen De	Harish Chandra Research Institute , Jhusi, Allahabad
	Co-PI	Prof. Arun Kumar Pati	Haris Chandra Research Institute , Jhusi, Allahabad

Rishanme

SR/S9/Z-05/2019
Government of India .
Ministry of Science & Technology
Department of Science & Technology

Technology Bhavan
New Mehrauli Road
New Delhi-110016

Dated: August 21, 2019

OFFICE MEMORANDUM

Subject: Scientific / Technical Manpower other than JRF/SRF/RA in R&D programmes of Central Government Departments / Agencies: Guidelines and emoluments


Several Departments and Agencies under various Ministries of the Government are sponsoring many extramural and intramural R&D projects every year. These projects have been sanctioned with well-defined objectives for a specific duration. A large number of scientific / technical personnel, other than Junior Research Fellow (JRF) / Senior Research Fellow (SRF) / Research Associate (RA) are inducted into these projects.

2. In order to identify the type of scientific / technical manpower, other than JRF/SRF/RA suitable for R&D projects and to formulate guidelines for their management including recruitment and remuneration etc., an Inter-Departmental Committee has been constituted. Based on the recommendations of the Inter-Departmental Committee, the Department has approved specific manpower positions suitable for inducting in R&D projects. The remuneration, essential qualification and upper age-limit are given against each manpower position as detailed in *Annexure*.

3. The guidelines help the Principal Investigators (PIs) / Institutes to choose appropriate manpower positions with required qualifications for successful implementation of projects. All Manpower positions in projects will co-terminus with the project.

4. These norms become effective from 1st April 2019 for all categories of Scientific / Technical Manpower positions in R&D projects.

5. This issues with the approval of Secretary, DST vide Dy. No. EF 23171 dated 21.08.2019 and concurrence of IFD, DST vide Dy. No. C/2301 dated 21.08.2019.


(Dr Praveenkumar S)
Scientist E / SERC
Tele: 011 - 26963695


To

1. All Scientific Ministries / Departments
2. All Heads of DST
3. Senior PPS to Secretary, DST
4. Heads of AIs of DST / Secretary, SERB
5. IFD, DST
6. CAO / PAO, DST

Annexure

A. Scientific / Technical Manpower positions with remuneration, essential qualification and upper age-limit

Sl. No.	Manpower Position	Essential Qualification	Upper Age limit (years)	Monthly Emoluments (Rs.)
1.	Scientific Administrative Assistant / Field Worker	Graduate degree in any discipline	50	18,000/- + HRA
2.	Laboratory Assistant/Technician / Project Assistant / Technical Assistant / Field Assistant	B.Sc./ 3 years Diploma in Engineering & Technology	50	20,000/- + HRA Increment of 15% for 3 years of experience with maximum ceiling of 4 such revisions i.e. upto 12 years of experience.
3.	A. Project Associate-I	Master's Degree in Natural or Agricultural Sciences / MVSc or bachelor's degree in Engineering or Technology or Medicine from a recognized University or equivalent	35	31,000/- + HRA
	B. Project Associate-II	(i) Master's Degree in Natural or Agricultural Sciences / MVSc or bachelor's degree in Engineering or Technology or Medicine from a recognized University or equivalent; and (ii) 2 years' experience in Research and Development in Industrial and Academic Institutions or Science and Technology Organisations and Scientific activities and services	35	35,000/- + HRA
4.	Senior Project Associate	(i) Master's Degree in Natural or Agricultural Sciences / MVSc or bachelor's degree in Engineering or Technology or Medicine from a recognized University or equivalent; and (ii) Four years' experience in Research and Development	40	42,000/- + HRA



		<p>in Industrial and Academic Institutions or Science and Technology Organisations and Scientific activities and services</p> <p>OR</p> <p>Doctoral Degree in Science / Engineering / Technology / Pharma / MD / MS from a recognized University or equivalent</p>		
5.	Principal Project Associate	<p>(i) Master's Degree in Natural or Agricultural Sciences or Bachelor's Degree in Engineering or Technology or Medicine from a recognised University or equivalent; and</p> <p>(ii) Eight years' experience in Research and Development in Industrial and Academic Institutions or Science and Technology Organisations and Scientific activities and services</p> <p>OR</p> <p>(i) Doctoral Degree in Science / Engineering / Technology / Pharma / MD / MS from a recognized University or equivalent; and</p> <p>(ii) Four years' experience in Research and Development in Industrial and Academic Institutions or Science and Technology Organisations and Scientific activities and services</p>	40	49,000/- + HRA
6.	Project Scientist I	<p>Doctoral Degree in Science or Master's Degree in Engineering or Technology from a recognized University or equivalent</p>	35	56,000/- + HRA
7.	Project Scientist II	<p>(i) Doctoral Degree in Science or Master's Degree in Engineering or Technology</p>	40	67,000/- + HRA

		<p>from a recognized University or equivalent; and</p> <p>(ii) Three years' experience in Research and Development in Industrial and Academic Institutions or Science and Technology Organisations and Scientific activities and services</p>		
8.	Project Scientist III	<p>(i) Doctoral Degree in Science or Master's Degree in Engineering or Technology from a recognized University or equivalent; and</p> <p>(ii) Six years' experience in Research and Development in Industrial and Academic Institutions or Science and Technology Organisations and Scientific activities and services</p>	42	78,000/- + HRA
9.	*Project Scientist B	<p>Master's Degree in Science or Bachelor's Degree in Engineering or Technology with minimum 60% marks from a recognized University or equivalent</p>	35	56,000/- + HRA Increment of 5% for every 2 years of experience subject to performance review.
10.	*Project Scientist C	<p>(i) Master's Degree in Science or Bachelor's Degree in Engineering or Technology with minimum 60% marks from a recognized University or equivalent; and</p> <p>(ii) Three years' experience in Research and Development in the relevant field.</p>	40	67,000/- + HRA Increment of 5% for every 2 years of experience subject to performance review.
11.	*Project Scientist D	<p>(i) Master's Degree in Science or Bachelor's Degree in Engineering or Technology with minimum 60% marks from a recognized University or equivalent; and</p> <p>(ii) Seven years' experience in Research and Development in the relevant field.</p>	45	78,000/- + HRA Increment of 5% for every 2 years of experience subject to performance review.

12.	PI/Project Coordinator – I (For Non-Governmental / Voluntary Organizations)	Doctoral Degree in Engineering / Sciences / Medicine / Pharma / Social Sciences / MD	As per the scheme	60,000/- (Consolidated)
13.	PI/Project Coordinator – II (For Non-Governmental / Voluntary Organizations)	Master's Degree in Engineering / Sciences / Social Sciences	As per the scheme	30,000/- (Consolidated)
14.	#Project Manager	Doctoral Degree in Science or Master's Degree in Engineering or Technology from a recognized University or equivalent with 20 years of experience in relevant field.	Minimum age of 45 years	1,25,000/- (Consolidated)

* These positions are meant for undertaking the R&D work of the Science Ministries and their institutions and which have been approved through the SFC/EFC/Cabinet notes and by the competent authority.

This position is meant for big-ticket projects (costing more than Rs. 10.0 crore) or for a Center which manages Central Facilities of the Institute.

B. Service conditions of Scientific / Technical manpower

- (i) **DA & CCA:** Scientific / Technical Manpower in projects are not entitled to DA & CCA.
- (ii) **House Rent Allowance (HRA):** HRA is allowed to all categories, except for Project Investigator (PI) / Project Coordinators in Non-Governmental / Voluntary Organizations (NGO/VO) / Project Manager as per Central Government norms applicable in the city/location where they are working. The percentage required for calculating HRA will be based on the remuneration.
- (iii) **Medical Benefits:** The Scientific / Technical manpower will be entitled for medical benefits as applicable in the implementing institution.
- (iv) **Leave and other entitlements:** The Scientific / Technical manpower are entitled to leave as per rules of the host institution. Maternity leave as per the Govt. of India instructions issued from time to time would be available to all categories. The travel entitlement is as per Institute norms.
- (v) **Bonus, Gratuity & Leave Travel Concession:** The Scientific / Technical manpower will not be entitled to these allowances.

Sl. No.	Designation & Qualification	Revised Emoluments per month (Rs.)
1.	<p>Junior Research Fellow (JRF)</p> <p>Post Graduate Degree in Basic Science OR Graduate / Post Graduate Degree in Professional Course selected through a process described through any one of the following:</p> <p>a. Scholars who are selected through National Eligibility Tests - CSIR-UGC NET including lectureship (Assistant Professorship) and GATE.</p> <p>b. The selection process through National level examinations conducted by Central Government Departments and their Agencies and Institutions such as DST, DBT, DAE, DOS, DRDO, MHRD, ICAR, ICMR, IIT, IISc, IISER etc.</p>	31,000
2.	<p>Senior Research Fellow (SRF)</p> <p>Qualification prescribed for JRF with two years of research experience</p>	35,000
3.	Research Associate – I	47,000
4.	Research Associate – II	49,000
5.	Research Associate – III	54,000

2. After completion of two years, an external assessment by the Institution where the student is enrolled for Ph.D. is mandatory for upgradation from JRF to SRF. The fellow may be awarded SRF after successful assessment. Annual Satisfactory Assessment is mandatory to continue the benefit of fellowship during SRF period.

3. Research associates may be fixed at a consolidated amount at one of the 3 levels as given depending upon the qualification and experience. The Institute/Organization concerned may decide the level in which a particular associate should be placed based on the experience. The Essential Qualification (EQ) for RA is as follows:

Ph.D/MD/MS/MDS or equivalent degree or having 3 years of research, teaching and design and development experience after MVSc/M.Pharm/ME/M.Tech with at least one research paper in Science Citation Indexed (SCI) journal.

4. The revised emoluments will take effect from **01.01.2019**.

5. The grantee institutions / Principal Investigators are advised to pay the arrears and enhanced emoluments from the grant available, and send the details of additional funds required due to revision in fellowship along with a certificate that the research fellow working in the project satisfy the eligibility conditions as prescribed by this Office Memorandum to the Programme Officer concerned.

6. Service conditions of the JRF/SRF/RA will remain as the same as given in the DST OM No. SR/S9/Z-08/2018 dated 30.01.2019.

7. This issues with the approval of Board taken in its meeting held on 2nd February 2019 and subsequent concurrence by Secretary, SERB vide Dy. No. 2039 dated 23.04.2019.



(Dr Praveenkumar S) **

Scientist E / Tel No. 4000 0357

Copy to:

1. Programme Coordinators / Member Secretaries
2. PS to Secretary, SERB
3. PPS to Secretary, DST.
4. PS to AS & FA, DST.
5. Director, SERB
6. All other concerned
7. Notice Board / SERB Web portal