

# **FORMAT FOR SUBMISSION OF PROPOSALS.**

Proposal in word or PDF Format must be sent to  
[proposals.nsm@iisc.ac.in](mailto:proposals.nsm@iisc.ac.in)

(To be submitted along with an Institute Endorsement Certificate)

## FORMATS FOR SUBMISSION OF PROJECTS

(To be filled by applicant)

(To be submitted along with an Institute Endorsement Certificate)

1. Project Title

2. Broad Subject: (Please Tick One)

1. HPC Applications
2. Scalable Algorithms and Libraries
3. HPC System Software and Data Management
4. Hardware System Architecture
5. Enabling Technologies
6. Data Centre Infrastructure
7. Cross-cutting issues spanning across the above.

3. Duration in months (**up to a maximum of 24 months**)

4. Total cost

5. FE Component

6. Principal Inv.

7. Designation

8. Department

9. Institute Name

10. Address

11. Date of Birth: Sex (M/F)

12. Telephone Fax Gram e-mail

13. Co-Investigator

14. Designation

15. Department

16. Institute Name

17. Address

18. Date of Birth: Sex (M/F)

19. Telephone Fax Gram e-mail

(Repeat 13 to 19 for additional Co-Investigators, if any, as 13.1-19.1, 13.2-19.2,.)

20. Project summary (maximum 150 words)

21. Key words (maximum 6)

22. Technical details (maximum: 1200 words)

22.1. Introduction (under the following heads) (maximum 300 words)

22.1.1. Origin of the proposal

22.1.2. Definition of the problem

22.1.3. Objective

22.2. Review of status of Research and Development in the subject (maximum 900 words)

22.2.1. International status

22.2.2. National status

22.2.3. Novelty Importance of the proposed project in the context of current status

22.2.4. If the project is location specific, basis for selection of location.

22.2.5. National and International Experts able to provide assessment of the proposal. **Note: Please check the [DST policy on Conflict of Interest](#) when proposing experts. Also note, this is only for indicative purposes. The choice of the reviewers of the proposal is under the discretion of the committee.**

23. Target beneficiaries of the proposed work

24. Review of expertise available with the PI, the proposed investigating group/institution in the subject of the project

25. Patent details (domestic and international), if applicable

26. Environmental impact assessment and risk analysis

27. Proposed impact assessment

- a. Scientific and Technological challenges addressed
- b. Development of new methodologies and algorithms
- c. Development of new applications

- d. Development of HPC software products
- e. Training in emerging areas (specify)
- f. Economic impact

## 28. Work plan

28.1. Methodology (maximum 500 words)

28.2. Organization of work elements

28.3. Time schedule of activities giving milestones (also append to bar diagram and mark it as Section 410). **Note that the duration of the project can be a maximum of 24 months.**

28.4. Suggested plan of action for utilization of research outcome expected from the project. (maximum 300 words)

28.5. For Application software development and SW under exascale initiatives and general SW as Deliverable please provide the following Details: ( It should be an engineered and fully packaged product to be freely distributed to all the NSM members either as an executable file or as source code)

1. Brief SRS (Software Requirement Specification)
2. Language used
3. Does it use OSS (Open Source Software) and if yes, conditions for OSS
4. Does it use any other licensed Software
5. Is it an import substitution product and if yes, the equivalent commercial product)
6. Does it match or exceed in performance any of the commercially available product?  
If yes please give details
7. Expected performance metrics
- 8 Benchmark suites

29. The Development "Outcomes" and "Outputs" of the project. **Note: The project should have tangible deliverables.**

30. Economic implications of the proposed work, if any.

### (31.) BUDGET ESTIMATES: SUMMARY

**Note: No assets including computing hardware or software can be created under this project. However, you can add the budget needed, if any, for hiring computational resources from one of existing or planned NSM facilities. Refer to Appendix-A for the list of these facilities. Refer to Section 340 for the computational charges.**

	Item	BUDGET		(in Rupees)
		1st Year	2nd Year	Total
A.	Recurring			
	1.Salaries/wages (JRF/SRF/RA)			
	2. Consumables			
	3. Travel			
	4. Other costs			
B.	Supercomputer Usage Charges			
	Grand total (A+B)			

N.B. Entries here should match with those given in section 310 to 340; justification for each item is to be given in Section following it that is section 311, 321 and 331.

#### 310. BUDGET FOR SALARIES/WAGES

		BUDGET		(in Rupees)
		1st Year (m.m.*)	2nd Year (m.m.)	Total (m.m.)
Designation & number of persons	Monthly Emoluments			
Total				

\*m.m.: man months to be given within brackets before the budget amount

311. Justification for the manpower requirement.

320. BUDGET FOR TRAVEL

		BUDGET		(in Rupees)
		1st Year	2nd Year	Total
	Travel (Only inland travel)			

321. Justification for intensive travel, if any.

330. BUDGET FOR OTHER COSTS/CONTINGENCIES

		BUDGET		(in Rupees)
		1st Year	2nd Year	Total
	Other costs/Contingency costs			

331. Justification for specific costs under other costs, if any.

340. BUDGET FOR Supercomputer Usage Charges

Sl. No.	System that will be used- Broad Specs	Location	Estimated No of CPU Hours	Cost Year wise

The suggested Charges for the use of facilities and its operations are below.

1. Rs. 1.50 per CPU core hour and Rs. 100 per GPU hour.
  2. NSM facilities can consider providing higher priority to the usage corresponding to the NSM projects than for the other usage.
  3. For sites where NSM facilities may not be ready for execution of the projects, the existing facilities at the sites can be used for the projects at the above charges.
  4. Higher charges than those projected in 1 should be cleared by the committee when proper justifications are offered.
  5. Lower charges than those projected in 1 will be allowed subject to the host institution agreeing to it.
-

32. List of facilities being extended by parent institution(s) for the project implementation.

A) Infrastructural Facilities:

Sr. No.	Infrastructural Facility	Yes/No/ Not required Full or sharing basis
1.	Workshop Facility	
2.	Water & Electricity	
3.	Laboratory Space/ Furniture	
4.	Power Generator	
5.	AC Room or AC	
6.	Telecommunication including e-mail & fax	
7.	Transportation	
8.	Administrative/ Secretarial support	
9.	Information facilities like Internet/ Library	
10.	Computational facilities	
11.	Animal/ Glass House	
12.	Any other special facility being provided	

B. Equipment available with the Institute/ Group/ Department/ Other Institutes for the project:

Equipment available with	Generic Name of Equipment	Model, Make & year of purchase	Remarks including accessories available and current usage of equipment
PI & his group			
PI's Department			
Other Inst In the region			

33. Detailed Bio-data of the Investigator(s)/Co-Investigator(s) including Name, Address, Date of Birth, Institution's Address etc.  
 Academic Qualifications (University/College from where attained, year of passing, class, Thesis title etc.)  
 Publications list (Title of paper, authors, Journal details, pages, year etc.)

Patent list, if any  
List of Projects implemented

34. Details of Research Projects being implemented/ completed/ submitted by the Investigator(s)/Co-Investigators including Investigator(s) Name & Institute

Project Title

Project Status:

Completed-duration, period (from.... to ....), funding agency and total cost  
On-going-duration, date of start, funding agency and total cost  
proposed-duration, funding agency where submitted and total cost

Summary of the project

Major Results/ Highlights of the project including achievement (publications, patents etc.), for completed projects

Up-to date Technical progress report for on-going projects.

35. Any other relevant matter.



File No\*\* \_\_\_\_\_

1. Title :
2. Proposed Budget for the duration of the project :
  - 2.1 Total :
  - 2.2 Computer Usage Charges
  - 2.3 Staff (proposed research staff) :
  - 2.4 Other Recurring costs :
    - Consumable :
    - Travel :
    - Contingency :
    - Any other expenses :
3. Date of receipt\*\* :
4. PI Name, Designation & Address :
5. Date of Birth :
6. Co-Investigator(s) details :
7. Date of Birth(s) :
8. Other projects with the PI/Co-PI(s) :

Sr.No.	Title	Cost (in rupees)	Duration	Agency

## Annexure-A

### HPC Systems under NSM

#### Existing HPC Systems:

SNo	Institution	NSM HPC System
1	IIT-BHU	PARAM Shivay (650 TFlops)
2	IISER-Pune	PARAM Brahma (650 TFlops)
3	IIT-Kharagpur	PARAM Shakti (1.3 PFlops)
4	JNCASR	PARAM Yukti (650 TFlops)
5	IIT Kanpur	1.3 PFlop system
6	IIT Hyderabad	650 TFlop system

#### Systems to be Installed in the next 6-8 months:

SNo	Institution	NSM HPC System
1	IISc, Bangalore	2.6 PFlop system
2	IIT Roorkee	1.3 PFlop system
3	NABI, Mohali	650 TFlop system
4	IIT Guwahati	650 TFlop system
5	IIT Mandi	650 TFlop system
6	NIT Trichy	650 TFlop system
7	C-DAC, Bangalore	650 TFlop system
8	IIT Gandhinagar	650 TFlop system