

NATIONAL SCIENCE FOUNDATION

COMPETITIVE RESEARCH GRANT APPLICATION - 2017

The NSF supports R & D activities of Sri Lankan scientists in all fields of Science & Technology, the outputs and outcomes of which will ultimately benefit the Sri Lankan Society. Accordingly, the Competitive Research Grant Scheme facilitates and encourages scientists to carry out research of high standard, to strengthen the research base and promote R & D activities directed towards the socio-economic development of the country.

This scheme provides assistance to supplement the resources in universities and S & T Institutes by supporting basic and applied scientific research, while promoting capacity building of S & T personnel.

CHECK LIST		
<input type="checkbox"/>	Completed application form	<input type="checkbox"/>
<input type="checkbox"/>	Curriculum vitae of all Investigators	<input type="checkbox"/>
<input type="checkbox"/>	Research grants record (Annex I)	<input type="checkbox"/>
<input type="checkbox"/>	Information of Collaborator/s; if any (Annex III)	<input type="checkbox"/>
<input type="checkbox"/>	Concurrence of the institution/s which facilitates the research	<input type="checkbox"/>
<input type="checkbox"/>	Gantt chart	<input type="checkbox"/>

Please indicate whether the application is:

New Proposal

Revised and Resubmitted

47/5, Maitland Place
Colombo 07
Sri Lanka
Tel: +94 112694170
Fax: +94112694754
www.nsf.ac.lk

INCOMPLETE APPLICATIONS WILL NOT BE PROCESSED

SECTION A

<p>1. Project Title <i>The title of the project should be brief, reflect concisely and accurately the proposed project and intelligible to a scientifically or technically literate reader. Applicants are advised to avoid titles which convey a distant or potential application of the proposed work, or a greater aspiration or goal than is to be expected from the proposed work.</i></p>	
<p>2. Research disciplines <i>Please select only the most relevant research disciplines</i></p>	
<input type="checkbox"/> Agriculture and Food Sciences <input type="checkbox"/> Basic Science <input type="checkbox"/> Biotechnology <input type="checkbox"/> Engineering Sciences, Architecture & Information Communication Technology <input type="checkbox"/> Environment & Biodiversity <input type="checkbox"/> Health Sciences	<input type="checkbox"/> Indigenous Knowledge <input type="checkbox"/> Library & Information Science <input type="checkbox"/> Oceanography & Marine Resources <input type="checkbox"/> Science Education <input type="checkbox"/> Social Sciences <input type="checkbox"/> Science & Technology Policy Studies
<p>3. Category of research</p> <p>Applied research <input type="checkbox"/> Fundamental research <input type="checkbox"/></p>	
<p>4. Project Period</p> <input type="checkbox"/> 1 Year <input type="checkbox"/> 1 Year 6 months <input type="checkbox"/> 2 Years <input type="checkbox"/> 2 Years 6 months <input type="checkbox"/> 3 Years	
<p>5. Total Budget <i>For Principal Investigators who have not received any Research Grants before (NSF or other funding agency), the <u>total</u> budget should not exceed <u>Rs. 1.5 Million</u> excluding allocations for Research Personnel. (Please refer guidelines)</i></p>	
<p> </p>	

6. Investigators

Annex CVs' and list of publications of all Investigators during the last 10 years.

Principal Investigator

Principal Investigator should have a postgraduate research degree (PhD, MPhil) and publications/patents in the relevant area. Applicants with MSc, MD or MS qualifications should have minimum of one year research component in the course and publications in the relevant area.

Name and Designation:	Mailing address :
Institution:	Telephone Office : Mobile :
Area of expertise related to the proposed project:	Fax : E-mail : STMIS Reg. No :

Planned leave abroad (Study Leave, Sabbatical Leave, etc.) / Retirement during the project period :

If the PI is planning to take leave (> 2 weeks) during the project period, state the responsible person for the project:

Co-Investigator/s

Co-Investigators should have postgraduate qualifications and research experience supported with publications/patents. Any other member of the research group who does not meet these criteria and expatriates/foreign scientists could be listed only as Collaborators. Those who wish to read for postgraduate degrees under the proposed project are not eligible to be Co-Investigators

Co-Investigator – 1

(a) Name and Designation:	Mailing address :
Institution:	Telephone Office : Mobile :
Area of expertise related to the proposed project:	Fax : E-mail : STMIS Reg. No :

Planned leave abroad (Study Leave, Sabbatical Leave, etc.) / Retirement during the project period :

Co-Investigator – 2

(b) Name and Designation:	Mailing address :
Institution:	Telephone Office : Mobile :
Area of expertise related to the proposed project:	Fax : E-mail : STMIS Reg. No :

Planned leave abroad (Study Leave, Sabbatical Leave, etc.) / Retirement during the project period :

Co-Investigator – 3	
(c) Name and Designation:	Mailing address :
Institution:	Telephone Office : Mobile :
Area of expertise related to the proposed project:	Fax : E-mail : STMIS Reg. No :

Planned leave abroad (Study Leave, Sabbatical Leave, etc.) / Retirement during the project period :

Collaborator/s

Letters of Consent should be provided – Annex III

Collaborator – 1	
(a) Name and Designation:	Mailing address :
Institution:	Telephone : Fax : E-mail : STMIS Reg. No :
The contribution expected to be provided for the research project:	

Collaborator – 2	
(b) Name and Designation:	Mailing address :
Institution:	Telephone : Fax : E-mail : STMIS Reg. No :
The contribution expected to be provided for the research project:	

7. Institution/s where research is to be performed

Principal Institution

Other Institution/s

SECTION B

* Names and affiliations ***should not be mentioned*** in section B.

Title of the project :

Duration :

1. Summary

- (a) Explain briefly the research problem, research approach and expected outputs.
Not exceeding one A4 page, font type Times New Roman, size 11, single space.

(b) Give 3 – 5 keywords for the proposed project:

2. Research Problem

2.1 Research problem/s, analysis of the problem/s & rationale for the research question

**3. Comprehensive literature review (local and international including recent literature)
AND the complete list of references in the relevant area.**
(Attach additional sheets if necessary)

3.1 International

3.2 Local

4. Originality & innovativeness of the proposed work**5. Overall aim and specific objectives of the proposed work**

5.1 Overall aim

5.2 Specific Objective/s

6. Methodology
6.1 Describe the Methodology <i>(Attach additional sheets if necessary)</i>
6.2 Experimental design where applicable <i>Please complete relevant sections</i>
6.2.1 Data/sample collection
6.2.2 Study site
6.2.3 Describe the study group and controls
6.2.4 Validation and quality control of methods
6.2.5 Cost effectiveness of proposed methodology
6.3 Describe the method of data analysis

7. Feasibility**7.1 Human resource requirement****7.1.1 Principal Investigator**

*Names and affiliations **should not be mentioned.***

Describe knowledge and research experience in the area related to the project work (*Please do not include publications; word limit -100 words*)

7.1.2 Co-Investigator - 1

*Names and affiliations **should not be mentioned.***

Describe knowledge and research experience in the area related to the project work (*Please do not include publications; word limit -100 words*)

7.1.3 Co-Investigator - 2

*Names and affiliations **should not be mentioned.***

Describe knowledge and research experience in the area related to the project work (*Please do not include publications;; word limit -100 words*)

7.1.4 Co-Investigator - 3

*Names and affiliations **should not be mentioned.***

Describe knowledge and research experience in the area related to the project work (*Please do not include publications; word limit -100 words*)

7.2 Work plan

Please attach the quarterly Gantt Chart to cover the proposed study, as per the format below.

No	Activities	Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1													
2													
3													
4													
5													

7.3 Indicators & milestones of progress

Please list the milestones and indicators that will be used to measure the progress of the proposed Study

8. Ethical consideration

(Ethical clearance should be submitted within one month of the deadline for submission of application)

Relevance to the project	Relevant <input type="checkbox"/> Not relevant <input type="checkbox"/>
If relevant, Ethical clearance obtained?	Yes <input type="checkbox"/> No <input type="checkbox"/> <i>If Yes, attach copy to the application</i>
If No, applied for Ethical clearance?	Yes <input type="checkbox"/> No <input type="checkbox"/>

9. Indicate the human & environmental safety issues related to the project and how they are being addressed
10. Budget
10.1 Financial support

Have you applied/planning to apply for funding from any other source for the proposed research?

Yes No

If Yes, please state when a decision is expected.

Is the proposed project currently being funded by any other source? Yes No

If Yes to above question/s, please give details and justify the request for co-funding from the NSF.

10.2 Summary of Budget

(1) Personnel	1st Year	2nd Year	3rd Year	Total
(i) NSF Research Scientist*				
(ii) Research Student**				
(iii) Technical Assistant				
(iv) Labour/Other				
Sub Total (Personnel)				
(2) Equipment				
(3) Consumables				
(4) Sample analysis (if outsourced)				
(5) Statistical analysis				
(6) Calibration of instruments				
(7) Postgraduate registration fees				
(8) Travel & Subsistence				
(9) Miscellaneous				
GRAND TOTAL ****				

* NSF Research Scientist should have a postgraduate degree (MSc/MPhil/PhD) and work full time with the Principal Investigator. NSF Research Scientist can be allocated only for Principal Investigators with adequate research experience as determined by the NSF.

** Full-time Research Students registering for a Postgraduate Degree, can be allocated only for Principal Investigators with two years of postdoctoral research experience.

*** For full time Research Students, not registering for postgraduate degree funds will be provided only up to two years

**** For Principal Investigators who have not received any Research Grants before (NSF or other funding sources), the total budget should not exceed Rs 1.5 Million, excluding allocations for Research Personnel.

Applicants from the Non-State Sector, please refer the NSF guidelines for the management of funds for the Non-State Sector.

11. Budget justification

11.1 Personnel

Requests for personnel for the proposed project should not be made unless they are absolutely necessary. The Investigators should indicate and justify the type of personnel required. Refer Annex IV for rates of payment.

(i) NSF Research Scientist*

a. Full time foryears ORmonths

b. Description of work to be carried out by the NSF Research Scientist:-

(ii) Research Student**

a. Full time for years OR months

b. Description of work to be carried out by the Research Student:-

c. Research Student will be registering for a postgraduate degree – Yes No

If Yes, PhD MPhil

(iii) Technical Assistant

a. Full time/part time for years OR months

b. Description of work to be carried out by the Technical Assistant:-

(iv) Labourers

a. No. of labourers required.....

b. Time period days/months per labourer

c. Description of work to be performed:-

11.2 Laboratory Equipment

A complete description of equipment required and a full justification must be given. Indicate the make, type, model No., supplier, quantity etc. Also attach brochures.

Prices should be given in rupee equivalent (calculated at current exchange rate + 20%).

Cost of equipment should not exceed 50% of the total budget. Equipment costing more than Rs 750,000 should be requested under the Research Equipment Grants Scheme of the NSF.

Type/Model/Supplier	Qty	Estimated Cost (Rs.)	Availability of the Equipment at the Faculty/Institution
TOTAL			

Justification for each Equipment for the project:

11.3 Consumables

Attach the list and give a complete description of type (e.g. Chemicals, glassware etc), quantity (justify the quantity and type) and estimated cost. Avoid over- estimation and include only the necessary consumables for this project.

11.4 Sample analysis (if outsourced) <i>Institution/department, type of analysis, no. of samples, estimated cost</i>
1 st Year
2 nd Year
3 rd Year
11.5 Statistical analysis
Justification for requesting funds
1 st Year
2 nd Year
3 rd Year
11.6 Calibration of instruments (<i>give description of items</i>)
1 st Year
2 nd Year
3 rd Year
11.7 Postgraduate registration fees (<i>Refundable deposits will not be reimbursed</i>)
1 st Year
2 nd Year
3 rd Year

11.8 Travel & Subsistence

As far as possible the Investigator should combine field work under the project with his/her work in the Institution. What should be requested for is additional travelling that cannot be carried out in the course of the Investigator's other duties.

Give a detailed breakdown for each year with justifications of the cost figures given in summary budget. Indicate no. of field visits, places to be visited and any other relevant details. Refer rates of payment. (Annex IV)

1st Year

Travel			
Places to be visited	Distance (Km)	No. of visits	Total cost for transport

Subsistence for above field visits (please give calculation):

2nd Year

Travel			
Places to be visited	Distance (Km)	No. of visits	Total cost for transport

Subsistence for above field visits (please give calculation):

3rd Year

Travel			
Places to be visited	Distance (Km)	No. of visits	Total cost for transport

Subsistence for above field visits (please give calculation):

11.9 Miscellaneous

Give complete breakdown with estimated cost.

The funds for miscellaneous, should not exceed 10% of the total cost of the project. Funds for contingencies/unforeseen expenses cannot be considered.

Items	Estimated Cost			
	1 st Year	2 nd Year	3 rd Year	Total

11.10 Facilities available at the Institutions of the Investigators for the research project	
Major equipment and other facilities available at the institution	
12. Expected Research Outputs	
<i>Deliverables at the end of the project <u>in point form</u></i>	
13. Research Outcomes	
Significance of research outcomes and the impact on national/socio-economic development of Sri Lanka. <i>Please write <u>in point form</u>.</i>	
14. How do you propose to protect and exploit Intellectual Property (IP)? <i>(Indicate if applicable)</i>	
15. Signature of Investigators	
<p>(a) (Principal Investigator)</p> <p>(b) (Co-Investigator -1)</p> <p>(c) (Co-Investigator -2)</p> <p>(d) (Co-Investigator -3)</p>	<p>..... Date</p>

16. Recommendations

When forwarding applications the Signatories are expected to consider the following aspects:

- *no duplication in funding*
- *the applicant will be able to devote sufficient time to carry-out the project.*

(If the applicants are from different Institutions, recommendations from each Institution should be submitted)

16.1 For Principal Investigators from Universities

I confirm that I have read the application and that the facilities will be made available for this project (Refer Item 11.10). The application is recommended.

.....
Name and Signature of Head of the Department

.....
Date

I recommend and forward the application.

.....
Signature of Dean of the Faculty

.....
Date

I recommend and forward the application.

.....
Signature of the Vice Chancellor

.....
Date

16.2 For Principal Investigators from Institutions/Organizations (Other than Universities)
When forwarding applications the Signatories are expected to consider the following aspects:

- *no duplication in funding*
- *the applicant will be able to devote sufficient time to carry-out the project.*

(If the applicants are from different Institutions, recommendations from each Institution should be submitted)

I confirm that I have read the application and that the facilities will be made available for this project (Refer Item 11.10). The application is recommended and forwarded.

.....
 Signature of Head of Institution/Organization
Date

For Co-Investigators (from universities/other institutions)

16.3 For Co-Investigator I

I confirm that I have read the application and that the facilities will be made available for this project (Refer Item 11.10). The application is recommended.

.....
 Signature of Head of Department/Institution
Date

For Co-Investigator II

I confirm that I have read the application and that the facilities will be made available for this project (Refer Item 11.10). The application is recommended.

.....
 Signature of Head of Department/Institution
Date

For Co-Investigator III

I confirm that I have read the application and that the facilities will be made available for this project (Refer Item 11.10). The application is recommended.

.....
 Signature of Head of Department/Institution
Date

**Research Grants Record (ongoing and completed) of the Principal Investigator during the last 05 years (2012-2016)
(NSF and other funding sources)**

Grant No	Duration of the Grant (Dates)	Title of the Project	Source of support	Total allocation	Status [Ongoing/Completed/ Terminated/Cancelled]	Postgraduate degrees/No. of Publications/ No. of Communications

For Industry/s Collaborating with this Project

(To be filled by the Industry Partner)

<p>Name of the Company/s</p> <p>Address</p> <p>Contact researcher/person (Please attach a CV)</p>																	
<p>Contribution towards the project</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center; padding: 5px;">By kind</td> <td style="width: 50%; text-align: center; padding: 5px;">By cash</td> </tr> <tr> <td style="height: 80px;"></td> <td style="height: 80px;"></td> </tr> </table>		By kind	By cash														
By kind	By cash																
<p>Facilities that can be made available for the research project</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%; text-align: center;">Office</td> <td style="width: 50%;"></td> <td style="width: 50%; text-align: center;">Laboratory/hrs per week</td> </tr> <tr> <td style="padding: 5px;">Space:</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">Equipment: (Type)</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">Other (Please specify)</td> <td></td> <td></td> <td></td> </tr> </table>			Office		Laboratory/hrs per week	Space:				Equipment: (Type)				Other (Please specify)			
	Office		Laboratory/hrs per week														
Space:																	
Equipment: (Type)																	
Other (Please specify)																	
<p>Any other comments</p>																	

.....
Date

.....
Name and Signature of the Industry Partner

Consent to be a Collaborator of a Research Project

(To be signed by the Collaborator/s)

**Director General
National Science Foundation**

Research Project on -

This is to convey my willingness to work as a collaborator of the research project referred to above, supporting and contributing to the realization of the project objectives stated in the grant application.

I understand the support and assistance to be extended to the research team by providing necessary facilities and/or expert opinion and guidance to carry-out the project successfully.

Yours sincerely,

.....
(Signature)

Name of the Collaborator :

Prevailing Rates of Payments for Estimation of the Budget

1. Monthly allowance of NSF Research Scientists will be according to applicants' qualifications as follows.

PhD	-	75,000/= p.m.
MPhil	-	55,000/= p.m.
MSc	-	50,000/= p.m.

2. Monthly allowance of Research Students

Registered for a PhD or MPhil	-	Rs. 40,000/= p.m.
Not registered for a postgraduate research degree	-	Rs. 35,000/= p.m.

3. Monthly allowance of Technical Assistants

With G.C.E. (A/L) in 03 subjects	-	Rs. 18,000/= p.m.
With G.C.E. (O/L)	-	Rs. 15,000/= p.m.

4. Subsistence rates – Have to be paid according to Government Circulars –
Management Service Circular No. 34

Grantee - Maximum	-	Rs. 500/= (according to the salary)
Research Students allowance	-	Rs. 500/=
Technical Assistants allowance	-	Rs. 400/=

5. Travel – Rs. 25 per Km (NSF rate)

6. Labourers - Rs. 568.60 + C.O.L Rs. 260.00 per day + Interim Allowance Rs. 247.06 - As per DMS 02/2016 Circular

Guidelines for Applicants – NSF Competitive Research Grants

1. The proposed research project should necessarily be an original investigation.
2. The problem to be tackled or new knowledge to be generated should be clearly identified.
3. A comprehensive literature review should be done and all details should be provided together with the list of references.
4. Maximum project period should not exceed 03 (three) years.
5. The period of investigation should be justified.
6. The budget should be calculated correctly and justified in detail.
7. A detailed time-based work plan (Gantt chart) should be included stating the proposed activities and time frames clearly.
8. Research proposals which address inter-disciplinary work, require to have expertise from each of the different relevant disciplines, and be supported with letters of consent from such collaborators, if any (Annex III).
9. Proposals for research projects between industry and university/state sector research organizations will be considered based on the degree to which the proposal addresses problems of the industry. The industry concerned should contribute at least 25% of the total cost of the project by cash or kind with a lower limit of Rs. 250,000/=.
10. The projects that require ethical clearance, should submit the certificate within one month from the deadline for submission of the application to the NSF. The fee for ethical clearance, if any, will be reimbursed if the application is approved for funding.
11. A scientist is eligible to hold only 02 ongoing grants as the Principal Investigator and Co-Investigator. Applicants who have 02 ongoing grants should not apply for a new grant, until the Final Report of the previous grant is submitted.
12. Only one grant will be awarded to an Investigator as the Principal Investigator at this call for applications.
13. If the Principal Investigator is not from a University and the Research Student is registering for a postgraduate degree, a Co-Investigator from the University where the Research Student is registering should be included to the Research Team.
14. Applicants may indicate persons, that they think should not review the project for reasons of conflict, for consideration by NSF.
15. Softcopy of the application should be sent as a document format (.doc) AND as a PDF format also. Contradictory information in the hard and soft copies will be a cause for disqualification.
16. Funding will be decided on the merits of the proposal and competitively through the peer-review procedures in use at the NSF.
17. Incomplete applications **WILL NOT** be considered.
18. Please note that the decision of the NSF is final.

Management of funds for Non-State Sector

- (a) The NSF will bear 50% - 70% of funds under each vote of the project, whereas the balance 30% - 50% to be borne by the applicants.
- (b) The grantee/s should provide a bank guarantee of 10% of the total project cost, effective for the entire grant period before NSF release funds required for the project.
- (c) Funds for the projects will be released as stipulated below:
In all cases,
- The funds will be released in installment basis (two installments per year if the conditions satisfy).
 - Grantee shall open a Current Account at the Bank of Ceylon (BoC).
 - Grantee shall produce monthly bank statements (original with a copy) to the NSF.
- (d) At the end of each six month period Progress Reports and Financial Statements for the relevant period should be submitted to the NSF until the completion of the project to the satisfaction of the NSF. Balance funds for the next 06 months will be released if the progress is satisfactory. Recommendation of the relevant NSF personnel will be required for release of next installments.
- (e) Two quarterly progress reports are to be submitted for review at the end of the first and the third quarter.
- (f) Financial Statements should be signed by all team members and certified by an accountant. Bills should be provided for all capital & consumables items and for other items as far as possible. Three quotations also should be provided with the financial statements for purchasing of capital and consumables items over Rs. 20,000/-, certifying that action was taken to ensure the economy of the purchases along with statements/recommendation as to the selection.
- (g) 10% of the NSF allocation will be held back and released as stated below:
- After the completion of the project and the submission of the final report according to the NSF format along with the final certified Financial Statement, 50% of the 10% held will be released.
 - After the acceptance of the final report and if NSF is satisfied with the project output, the balance 50% of the 10% held will be released.
- (h) Where the project has been completed utilizing less than the funds allocated, the grantee should return the balance funds, if any, within 30 days of completion of the grant period.
- (i) If the grant has been cancelled/terminated based on unsatisfactory progress the grantee/institute should refund the funds invested by NSF as decided by the Board of Management of NSF within 30 days of receiving the notice to terminate the Contract.

Three hard copies of the completed application form should be sent to:

**Director General
National Science Foundation
47/5, Maitland Place
Colombo 07**

An electronic version (document format (doc) AND PDF) should also be e-mailed to grants2017@nsf.gov.lk, on or before the deadline.

For more details on the Competitive Research Grant Scheme please refer NSF website (www.nsf.ac.lk)