



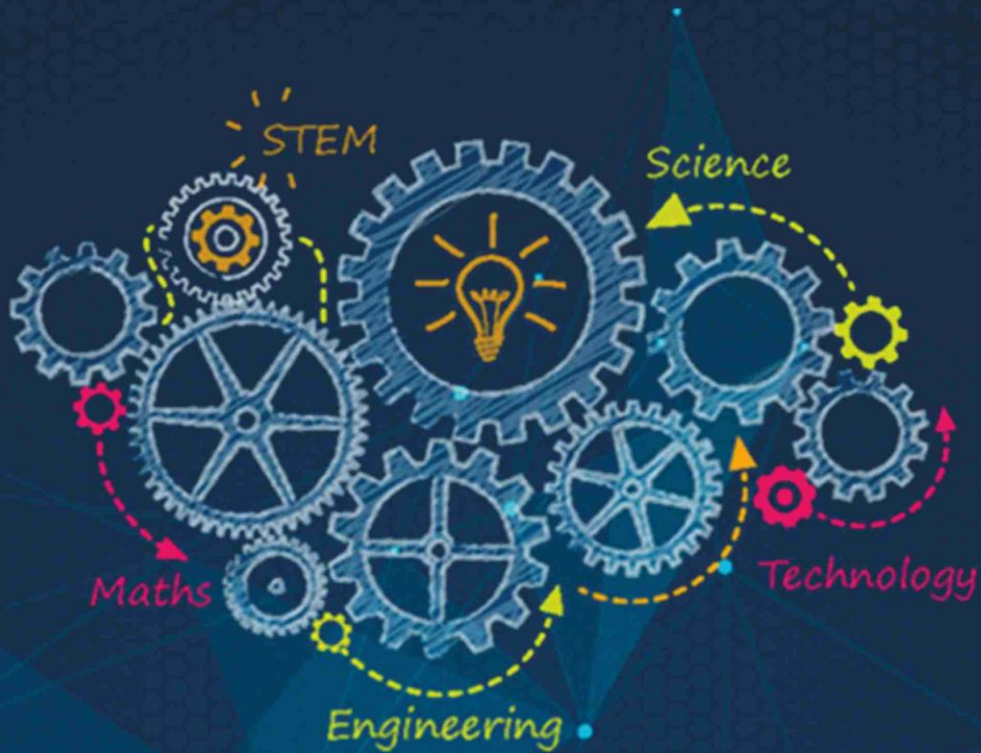
Centre for Science & Technology of the
Non-Aligned & Other Developing Countries
(NAM S&T Centre), New Delhi, India



Ministry of Higher Education,
Technology and Innovation, Sri Lanka



National Science Foundation (NSF),
Colombo, Sri Lanka






**INTERNATIONAL WORKSHOP
ON
'POLICY MAKING FOR
TRANSFORMING SILO-BASED
EDUCATION TO STEM EDUCATION'**

**COLOMBO, SRI LANKA
10-12 JUNE 2020**

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ORGANISED BY

	<p>CENTRE FOR SCIENCE & TECHNOLOGY OF THE NON-ALIGNED AND OTHER DEVELOPING COUNTRIES (NAM S&T CENTRE) NEW DELHI, INDIA</p>
	<p>MINISTRY OF HIGHER EDUCATION, TECHNOLOGY AND INNOVATION SRI LANKA</p>
	<p>NATIONAL SCIENCE FOUNDATION (NSF) COLOMBO, SRI LANKA</p>

INTRODUCTION

Science, Technology, Engineering and Mathematics (STEM) related subjects are taught in silos at schools and it requires modern methods of integrated learning to change the mindset of learners. The real-life solutions are seen possible and arise due to the integrated thinking habits. The curricular of Science, Technology and Mathematics carry many opportunities that could delve deep into the STEM integrated learning process and requires developing pedagogies for teaching.

Therefore, STEM approach to education is aimed at revolutionizing transformation of silo-based education of science and mathematics by incorporating technology and engineering into regular curriculum and creating a “meta-discipline system”. STEM Education attempts to transform the typical teacher-centered classroom by encouraging a curriculum that is driven by problem-solving, discovery, exploratory learning, and requires students to actively engage in a situation to find its solutions to the problems. The major impact of STEM education on country economy will be the production of a workforce ready for the future challenges that arise globally on Science and Technology sector.

In order to address the above mentioned issues in the education system, the **Centre for Science & Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre); Ministry of Higher Education, Technology and Innovation, Sri Lanka** and the **National Science Foundation (NSF), Sri Lanka** jointly announce the organization of an International Workshop on “*Policy making for transforming silo-based education to STEM Education*” in Colombo, Sri Lanka during **10-12 June 2020**.

OBJECTIVES

The Workshop aims to –

1. Assess the current status of STEM education in developing countries and the global scenarios pertaining to STEM education.
2. Identify relevant education policies and special needs of policy interventions in the implementation of STEM education in developing countries.
3. Promote international cooperation in policy making for STEM education.
4. Ascertain gaps in knowledge and identify and develop a research agenda to address relevant gaps in syllabuses, implementation programmes, etc. relevant to STEM education in developing countries.

TOPICS TO BE COVERED

1. The current status and shortcomings of STEM (or Science) education in developing countries.
2. Need for transforming Silo-based education to STEM education.
3. Strategies and policy changes to implement STEM education
4. Concerns and analytical frameworks relating to STEM education

EXPECTED OUTCOME

1. An evaluation will be carried out on the current situation and shortcomings of the curricula education system in developing countries.
2. Pros and cons of current approaches and how to assess these problems.
3. Future fundamental approaches and how the use of STEM-based education will help students to achieve better future.
4. A set of recommendations will be made on the policy changes required for transforming silo-based education to STEM education system.

PROGRAMME

A tentative programme of the event is given below:

Date	Programme		
	09.00-10.30	11.00-13.00	14.00-17:30
09 June 2020	Arrival of Delegates in Colombo		
10 June 2020	Inauguration	Technical Sessions	
11 June 2020	Technical Session	Technical Sessions	
12 June 2020	Discussion and adoption of Resolution Concluding Session - Feedback and Distribution of Certificates		Visit
13 June 2020	Departure of Delegates		

A detailed Session-wise Programme with names of speakers and titles of the papers will be made available before the event.

VENUE

The Workshop would be organized in Colombo, Sri Lanka

ABOUT THE ORGANISERS

NAM S&T Centre

The Centre for Science and Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre; www.namstct.org) is an inter-governmental organisation with a membership of 47 countries spread over Asia, Africa, Middle East and Latin America. The Centre was set up in 1989 in New Delhi, India to undertake a variety of programmes, including organisation of workshops, symposiums and training courses and implementation of collaborative projects. It also offers short-term *Research Fellowships* to scientists from developing countries in association with the *Centres of Excellence* in various countries. The Centre also brings out technical books and other scientific publications in different subjects of interest to developing countries. The Centre's activities provide opportunity for scientist-to-scientist contact and interactions; familiarizing participants on the latest developments and techniques in the subject areas; identification of the requirements of training and expert assistance; locating technologies for transfer between the members and other developing countries, and dissemination of S&T information etc. In addition, the Centre encourages Academic-R&D-Industry interactions in the developing countries through its NAM S&T-Industry Network.

National Science Foundation (NSF), Sri Lanka

The National Science Foundation (NSF) was established in 1998 by Act No. 11 of 1994 as the successor to the Natural Resources Energy & Science Authority of Sri Lanka (NARESA). NARESA was established in 1981 as the successor to the National Science Council set up in 1968. The National Science Foundation (NSF) is a state funded institution under the Ministry of Higher Education, Technology and Innovation.

The NSF is mandated to functions as specified to initiate, facilitate and support basic and applied scientific research by universities, science and technology institutions and scientists, with a view to:

- Strengthening scientific research potential, including research in the social science, scientific education programmes
- Developing the natural resources of Sri Lanka
- Promoting the welfare of the people of Sri Lanka
- Training research personal in science and technology
- To foster the interchange of scientific information among scientists in Sri Lanka and abroad.
- To award scholarships and fellowships for scientific study or scientific work at recognized science and technology institutions
- To maintain a current register of scientific and technical personal, and in other ways to provide a central clearing house for the collection, interpretation and analysis of data, on the availability of, and the current and projected need for, scientific and technical resources in Sri Lanka, and to provide a source of information for policy formulation on science, technology and other fields;
- To popularize science amongst the people

PARTICIPANTS

Senior scientists, engineers, researchers, government officials, academicians, stakeholders and policy makers on education are welcome to apply. The combination of participants from various developing countries will allow for exchange of knowledge, ideas and experiences as well as opportunities for networking and collaboration.

The selection of participants will be strictly based on merit and relevance of their current responsibilities to the subject of the Workshop as well as the quality of the extended abstract of the paper submitted by them along with the completed nomination form.

A pre-condition for participation in the Workshop is that the participants must submit the full manuscript of their papers, in MS-Word format, at least 14 days before the commencement of the programme.

RESOURCE PERSONS

The resource persons for the Workshop will comprise eminent experts and professionals in the relevant field from Sri Lanka and other countries.

SUBMISSION OF APPLICATION

Experts and scientists desirous of participating in the Workshop, **excepting those from Sri**

Lanka, may submit their filled-in application form **electronically** directly to the NAM S&T Centre (namstcentre@gmail.com) as early as possible, latest by **Monday, 20th April 2020**.

Applicants from Sri Lanka should, however, submit their requests directly to the NSF, Colombo.

The Nomination Form should be completed in all respects, typewritten or in clear handwriting in capital letters, and no column should be left blank. The following documents must be submitted as e-mail attachments:

- a. Filled in Nomination Form (Blank form **enclosed**)
- b. An extended (**about 2 pages**) abstract (**in MS Word format**) of the paper that would be presented at the workshop
- c. A short CV (**maximum two pages; in MS-Word format**) [Format **Enclosed**]
- d. Copy of the relevant pages of passport

The documents at (ii) and (iii) above must compulsorily be in MS-Word Format; PDF or image files will not be accepted. Hard copies of the Nomination Form and the above attachments are NOT REQUIRED to be submitted.

PRESENTATION OF PAPERS

Each participant will be required to present a country status report and/or a research/scientific paper relevant to STEM Education (or Science Education) of their country on the following aspects:

1. Background on Science or STEM education in the country
2. STEM policy (if any) of the country and how was it successfully implemented (or education policy in the absence of STEM Policy and status of science education)
3. Challenges, constraints, facilitating factors etc. encountered in the process of STEM/Science education
4. How was public engagement created? Language often used in communication in Science Education
5. Steps taken to overcome the problems
6. Any socio- economic development as a result of STEM implementation

Note: Science education includes Science, Mathematics, Technology, Agriculture or other subjects under S&T.

PUBLICATION

A publication edited by one or more international experts and based on the papers presented by the resource persons and participants during the Workshop and also containing papers contributed by other experts in the field - will be brought out in the form of a book as follow up of this programme. Therefore, all the participants must submit the manuscripts of their full papers in **MS-word** format well in advance, but at least 14 days before the commencement of the Workshop.

LOCAL HOSPITALITY AND TRAVEL

Local hospitality in Colombo, Sri Lanka including accommodation, meals and local transport / airport transfers for the foreign participants sponsored by the NAM S&T Centre will be provided by the hosts, NSF from **9th June (noon)** to **13th June 2020 (noon)** (i.e. from one day before to one day after the completion of the Programme). The participants are requested to book their flights accordingly; otherwise, they will have to make their own arrangements of stay beyond these dates.

FINANCIAL ARRANGEMENTS FOR TRAVEL

The financial terms and arrangements for international travel of the foreign participants will be conveyed to individual applicants on receipt of the nomination form and other documents.

ENTRY FORMALITIES AND IMMIGRATION

Participants of the Workshop must be in possession of a current passport or any other internationally recognised travel document, which must have a period of validity of at least six months beyond the period of stay in Sri Lanka and must be endorsed for travel to Sri Lanka.

Participants should have a valid visa for entry into Sri Lanka. The Sri Lankan diplomatic mission located in the country of the participant should be approached for obtaining an entry visa. There is a counter at Bandaranaike International Airport for people who arrive without a visa. If required, the organisers will facilitate the issuance of visa by providing the participants with an official letter of invitation.

OTHER USEFUL INFORMATION

- a. The weather in Colombo during the workshop period is likely to be warm. Average temperature: 28°C, Highest temperature: 30°C, Lowest temperature: 26°C.
- b. Sri Lanka Standard Time is 5.5 hours ahead of Greenwich Mean Time (GMT+5.5).
- c. The International dialing code for Sri Lanka is (+94).
- d. The Currency used in Sri Lanka is Sri Lankan Rupee and the current exchange rate of US \$ 1 is approximately 181 Sri Lankan Rupees (LKR).

NOTE

- ***The Governments/ Institutions of the selected participants will be required to bear the following costs:***
 - *All expenses in the home country incidental to travel abroad, including expenditure for passports, required medical examinations, vaccinations and miscellaneous expenses such as internal travel to the airport of departure in the home country.*
 - *Salary and other related allowances for the participants during the period of the workshop.*
 - *Cost of medical insurance to cover the period of participation in the workshop.*
- ***The organisers of this workshop will not assume responsibility for the following expenditure in connection with the participant's attendance in the workshop:***
 - *Expenses incurred with respect to any insurance, medical bills or hospitalisation fees.*

- *Compensation in the event of death, disability or illness of participants.*
- *Loss of personal belongings or compensation for damage caused to them by climatic or other conditions.*
- *Other costs, including airport tax and excess baggage.*

Contact Details

NAM S&T CENTRE

Dr. Amitava Bandopadhyay

Director General

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Tel: +91-11-24645134, 24644974; **Fax:** +91-11-24644973

E-mail: namstcentre@gmail.com, namstct@bol.net.in

Website: <http://www.namstct.org>

NATIONAL SCIENCE FOUNDATION (NSF)

Dr. P. R. M. P. Dilrukshi

Principal Scientific Officer (PSO)

Head

Science Popularization Division (SPD)

National Science Foundation

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Website: www.nsf.ac.lk

**CENTRE FOR SCIENCE AND TECHNOLOGY
OF THE NON-ALIGNED AND OTHER DEVELOPING COUNTRIES
(NAM S&T CENTRE)**

International Workshop

on

**Policy Making for Transforming Silo-based Education
to STEM Education**

Colombo, Sri Lanka

10-12 June, 2020

APPLICATION FORM

Please affix your
scanned
photograph

*PLEASE TYPE OR USE BLOCK CAPITALS;
NO COLUMN SHOULD BE LEFT BLANK)*

SECTION –A

(To be filled in by the nominee)

- 1 First Name (Prof/Dr/Mr/Mrs/Ms): Last Name.....
(As in Passport)
2. Father's/Spouse Name:
- 3 Designation (Position held):
4. Nationality:
- 5 Date of Birth: Place of Birth (City) (Country).....
- 6 Passport No:Place of issue:
Date of Issue: Valid up to:
(Please attach copies of the relevant pages of your Passport)
- 7 Name of the Parent Institution (Employer):
Full Address (Office):
.....
Phone: Fax:
E-mail:
- 8 Full Address (Home):
.....
Phone: Mobile:
Fax: E-mail:

- 9 Educational Qualifications: Highest Degree.
 Year of Award: University:
 Field of Study:
- 10 Brief Bio data (CV):
(Maximum two pages, in MS Word; to be attached on separate sheet as per attached format)
- 11 Abstract of your paper to be published subsequently.
(About 1-2 pages, in MS Word; to be attached on separate sheet)
- 12 What in your opinion qualifies you for participation in this training programme?
 (To be attached on separate sheet)

Date:

Signature:

SECTION –B

ENDORSEMENT BY NOMINATING AUTHORITY

(The Applicant in a member country of the NAM S&T Centre must get the Application Form endorsed by the Focal Point of the Centre in his/her country, *if he/she wishes to take advantages extended to the official nominee of the country*. For the list of member countries and names/addresses of the Focal Points please visit the Centre’s website www.namstct.org.)

Signature:

Name (in full):

Designation:

Date:

SEAL

Enclosures;

1. Scanned copies of the relevant pages of the Passport
2. Brief CV (maximum two pages, as per **attached** format; **in MS Word**)
3. Abstract of Paper to be presented (about 1-2 pages, **in MS Word**)
4. A statement on what qualifies you for participation in this training programme.

**Centre for Science and Technology of the Non-Aligned and Other
Developing Countries (NAM S&T Centre)**

**India Habitat Centre, Lodhi Road
New Delhi, India**

Curriculum Vitae

Font Name: Times New Roman Font Size: 12

1. Personal Details:

Name : (Prof./Dr./Mr./Mrs./Ms.)

Designation: Position Title

Present Employer: Full Address (Office)

City/State/Province:

Country:

Nationality:

Date of Birth: DD/MM/YYYY

Proficiency in English Language:

Permanent Address: Full Address (Home)

Gender:

Marital Status:

Contact: Mobile:

Telephone Office:

Fax:

E-mail:

Alternative e-mail:

2. Academic Qualifications: In chronological order

Qualification Awarded Degree/Diploma/Certificate	Major Subject	University/Institution	Year (From-To)
1.			
2.			
3.			
4.			
5.			

3. **Professional Experience:** In chronological order

Organisation/Institution	Position Title	Year (From-To)	Nature of duties
1.			
2.			
3.			
4.			
5.			

Total number of years of relevant experience –

4. **Research Experience:** In chronological order

Research Title	Duration	Status
1.		
2.		
3.		
4.		
5.		

5. **Administrative Experience:** Not more than 100 words

6. **Experience with respect to the title of the programme:**

7. **Details of Awards/Recognitions (if any) :**

8. **Any other information:** Not more than 50 words

9. **Recent Publications:** Only five recent publications to be mentioned

10. **Recent Photograph:** A recent passport size colour photo to be **attached**