



Project Submission Form

Any individual or group can submit a project, with or without current affiliation with an FACS body. Projects can be submitted at any time. This form should be completed with a word processor and submitted as a doc by e-mail to <secretariat general, chemistrytu@gmail.com>. Please do not remove section headers and answer all questions; indicate *NA* when a question does not apply to the proposal.

or administrative use only - Submitted*draft*.....; #*draft*.....

Date

.....13 August 2026.....

Project Title

Capacity Building of Teachers on Chemistry Teaching with Hands-on Small-Scale Experiments in High Schools in Asia: Sri Lanka

Series Title (if applicable)

1. Small-Scale Chemistry Workshop in Sri Lanka
2. Selection of Leading Sri Lankan Chemistry Teachers
3. Training the Trainers Program in Thailand
4. Networking of Chemistry Educators in Asia

Task Group Chair (include address and e-mail)

Prof. Janitha A Liyanage, Senior Professor, Department of Chemistry, University of Kelaniya, Sri Lanka. E mail: janitha@kel.ac.lk

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Task Group Members (include address and e-mail)

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2. Prof. Janitha A Liyanage, Senior Professor, Department of Chemistry, University of Kelaniya, Sri Lanka. E mail: janitha@kel.ac.lk

3. Assistant Professor Duangruthai Sridang Department of Chemistry, Rangsit University Pathum Thani, Thailand E-mail: daosr@hotmail.com

5. Dr. Alvin Lim Teik Zheng, Institute of Ecoscience Borneo, Universiti Putra Malaysia Sarawak, 97008 Bintulu, Sarawak, Malaysia, alvinltz@upm.edu.my

6. Dr. Paramasivam Shanmugam, Smart Material Laboratory, Periyar University, India, shanmugachem@gmail.com

Name of the person submitting this form *if not the Task Group Chair* (include address and email)

Objectives and Rationale (This should summarize the principal objectives and rationale, and the intended outcomes; see *Guidelines*) (<100 words)

This project aims to strengthen chemistry education in Sri Lanka through hands-on small-scale chemistry training for secondary school teachers. The workshop will promote safe, low-cost, environmentally friendly experiments aligned with green chemistry principles and Sustainable Development Goals (SDGs). The project will build regional collaboration among chemistry educators in Asia, improve practical chemistry teaching skills, and establish a sustainable network of trained teachers who can further disseminate small-scale chemistry practices in Sri Lanka and neighboring countries.

Description (approx. 250 words, including relevance to FACS)

Practical chemistry education is essential for developing scientific understanding and experimental skills among students. However, many schools in developing countries face limitations related to laboratory safety, chemical waste management, equipment costs, and access to laboratory resources. Small-scale chemistry provides an innovative solution by reducing the quantity of chemicals used while maintaining effective hands-on learning experiences.

The Chemical Society of Thailand with collaborating academic institutions have successfully implemented small-scale chemistry educational workshops in several Asian countries under regional educational initiatives and international collaborations. Building upon these successful experiences, this project proposes to organize a small-scale chemistry teacher training workshop in Sri Lanka under the collaboration of the Federation of Asian Chemical Societies (FACS), the Chemical Society of Thailand, and partner institutions International of Chemistry Ceylon. The project will train approximately 80–100 secondary school chemistry teachers (both onsite and online) in Sri Lanka through intensive hands-on activities emphasizing chemical safety, green chemistry, sustainability, and active learning approaches. Participants will learn to design and conduct low-cost experiments suitable for school environments with limited laboratory resources.

Following the workshop, selected leading teachers will participate in advanced networking and training activities in Thailand to strengthen regional cooperation among chemistry educators in Asia. The project supports the mission of FACS by promoting chemistry education, sustainable development, and international collaboration within the Asian scientific community.

Intended Publications [*Any website/webpage intended to be on the FACS platform is required to be in WordPress and for branding, hosting, and compatibility*]

Workshop handbook for small-scale chemistry experiments

- Online educational resources and instructional videos
- Workshop report submitted to FACS EXCO members
- Educational dissemination through the Chemical Society of Thailand and collaborating institutions
- Social media and webpage dissemination of workshop outcomes

Other: A report published to the EXCO members

Intended Stakeholders (Give details of the intended stakeholders and interest groups, and how they will benefit from your Project Objectives. See *Guidelines*)

1. Secondary school chemistry teachers in Sri Lanka (approximately 80–100 teachers): Teachers will gain practical experience in implementing safe and sustainable chemistry experiments suitable for school laboratories with limited resources.
2. Secondary school students in Sri Lanka: Students will benefit from increased opportunities for hands-on chemistry learning, improved laboratory safety, and greater engagement in science education.
3. Educational institutions and ministries in Sri Lanka: The project supports national educational development through innovative and sustainable chemistry teaching approaches.
4. Chemistry educators and professional societies in Asia: The project will strengthen regional networking and collaborative educational activities among Asian chemistry educators.
5. Federation of Asian Chemical Societies (FACS): The project aligns with the FACS mission of advancing chemistry education, sustainability, and international scientific cooperation in Asia.

Dissemination Plan

(Indicate how the results of this Project will be communicated to target stakeholders and, if relevant (*e.g.* for FACS Recommendations))

1. Development of educational materials and workshop manuals for participating teachers.
2. Creation of online educational content and dissemination through university websites, the Chemical Society of Thailand, and FACS communication channels.
3. Establishment of a regional teacher network for continued collaboration and exchange of small-scale chemistry teaching practices.
4. Presentation of project outcomes at regional chemistry education conferences and symposiums.
5. Follow-up evaluation and feedback collection from participating teachers to improve future workshop activities.
6. Promotion of green chemistry and sustainable laboratory practices through educational outreach activities.

Time Frame

Planned start date: ...12th January 2026- 12th October 2026.....

Duration of project: ...12 October 2026.....

Milestones

(Indicate the location, duration and approximate date of Task Group meetings, workshops, conference presentations, etc. and the target dates for circulation of drafts and submission of final report. See *Guidelines*)

No.	Activity	Month/Year
1	Project planning and online coordination meetings Zoom meetings among organizing committee	January–March 2026
2	Teacher application and workshop announcement Nationwide dissemination in Sri Lanka	April–August 2026
3	Preparation of workshop materials and experimental kits Coordination between Thailand and Sri Lanka	June–August 2026
4	Small-scale chemistry workshop in Sri Lanka workshop for chemistry teachers	12 th October 2026
5	Evaluation and selection of leading teachers Assessment through teaching activities and reports	12 th – 14 th October 2026
6	Advanced training and networking activities in Thailand Participation in regional chemistry education activities	12 th November 2026
7	Dissemination of educational materials and project report Submission to FACS and collaborating organizations	12 th December 2026

Budget

Expected Expenses

Item	Unit Cost	Quantity	Total (USD)	
		Unit Cost (USD)	Quantity	Total (USD)
International travel for working team		300	2	600
Accommodation and local transportation		100	2	200
Workshop materials and experimental kits		70	20	1400
Chemicals and consumables		50	20	1000
Printing and workshop manuals		15	30	300
Meals and refreshments during workshop		30	50	1500
Administrative and coordination expenses		100	1	100
Transportation of materials and equipment		100	1	100
Total Expected Expenses				5,200 USD
Total Expected Expenses			5,200	USD
Request support from FACS			1,000	USD
(for seeding project money and international travel of speaker)				

Relevant FACS Bodies

(please tick the applicable boxes)

Tick (√)	Physical and Biophysical
	Inorganic
	Organic and Biomolecular
	Polymer
	Analytical
	Environmental
	Human Health
	Nomenclature
	Green Chemistry for Sustainable Development
	Cheminformatic
	Chemistry Education
	Chemistry and Industry
	Others(indicate)...all field related chemistry....

Suggested Referees external to FACS

(at least 3 names, including e-mail and postal addresses and their expertise related to this project)

1. Prof. Jennifer B. Nielson Department of Chemistry and Biochemistry Brigham Young University, USA E-mail: jennifer_nielson@byu.edu
Expertise: Chemistry education and science literacy
2. Dr. Amy Cannon Beyond Benign, USA E-mail: Amy_Cannon@beyondbenign.org
Expertise: Green chemistry education and sustainability
3. Prof. Syeda Sultana Razia Bangladesh University of Engineering and Technology Bangladesh E-mail: syedasrazia@che.buet.ac.bd
Expertise: Chemical safety and chemistry education

Additional Notes

- Proposed workshop location: Sri Lanka
- Expected participants: 80–100 chemistry teachers (onsite and online)
- Workshop duration: 2 days
- Organizers: Federation of Asian Chemical Societies (FACS), Chemical Society of Thailand, Thammasat University, and collaborating Sri Lankan institutions
- Educational focus areas: small-scale chemistry, green chemistry, sustainability, laboratory safety, and active learning
- PR poster and workshop announcement materials will be attached separately

Please attach the PR file

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