

th



7 - 10 MARCH 2022

INFORMATION BOOKLET



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IMPORTANT DATES

DATE	ACTION
2021	
15 November 2021	Deadline for submission of: 1. Abstract (via email or via online link) (* <u>SHOULD STRICTLY</u> follow format given in <u>Appendix 3</u>) 2. 12 th Regional Congress SSYS Forms (via online link): ➤ Form 1: Registration Form (for Students & Teachers) ➤ Form 2: Students' Confirmation Form
by 22 November 2021	Acknowledgement of receipt (abstracts and forms) (via email)
by 30 November 2021	Notification of successful teams (via email)
2022	
20 January 2022	Deadline for submission of full written report of research project and pre-recorded video of the project exhibit (via email or via online link) (* <u>SHOULD STRICTLY</u> follow format given in <u>Appendix 4 or 5</u>)
30 January 2022	Acknowledgement of receipt (full reports) (via email)
15 February 2022	Registration closed
7-10 March 2022	12 th Regional Congress SSYS

**(please ensure email ids provided in SSYS Form 1 are correct and valid)*

1. RATIONALE AND BACKGROUND

The Search for SEAMEO Young Scientists (SSYS) was a platform for youths from the SEAMEO member countries to gather and share information of their scientific and mathematical research projects. It was initiated in 1997, and since then, had been held once in every two years with a specific theme.

The 12th Regional Congress SSYS aims to develop young scientists who are competent in handling community problems for sustainable development. It encourages youths to fully utilise their potential of being inquisitive and creative when dealing with challenges in real life. Specifically, its main targets include (a) generating strong interest in science and mathematics learning, (b) increasing awareness about the relationship between science, mathematics, technology, and engineering, and (c) fostering camaraderie and networking among these youths through science and mathematics congresses, exhibitions and competitions. Hence, the 12th Regional Congress SSYS seeks to provide opportunities for youths to optimise their vast potentials in conceptualising scientific and mathematical ideas through intellectual teamwork into more tangible research projects and innovative products which will benefit the environment, society and economy.

SEAMEO RECSAM as the leading Centre in Science and Mathematics education has been championing promotion of related activities through teacher education and capacity building programmes. We believe that education is essential in attaining sustainability, and the present generation of youths, regarded as the hope of future, should play a crucial role to achieve this mission. Hence, the Centre welcomes submission of science and mathematics for young researcher project (YRP) that showcase empowerment of young mind's innovation within the context of sustainable development, to participate in the 12th Regional Congress SSYS to be held from 7 to 10 March 2022.

2. OBJECTIVES

The 12th Regional Congress SSYS is envisioned as a worthy intellectual venture and an effective medium to promote lifelong learning, scientific and mathematical values, interests, skills, attitudes and motivation among the youths. It is hoped that through the 12th Regional Congress SSYS, the societal well-being will be enhanced through developing better quality of science and mathematics education interspersed with technology, environmental, economic and societal awareness.

Specifically, SSYS aims to:

- 2.1 encourage research and innovation in science and mathematics among youths;
- 2.2 provide a platform for sharing ideas and experiences among youths;
- 2.3 provide a platform for intellectual interactions among youths and educators, and
- 2.4 recognise outstanding young scientists in SEAMEO member countries.

3. THEME

The theme of the 12th Regional Congress SSYS is ***Empowering Innovative Young Minds for Sustainable Future***. The focus is to encourage participants to explore science and mathematics and demonstrate how the digital era has potentially changed their thinking behavior due to vast quantities of multi-disciplinary knowledge being easily and readily accessible. Through their YRP, it will be reflected how the digital era has equipped the new generation of youths who are not only able to innovate using skills and knowledge from science and mathematics, but are also comfortable integrating concepts from all areas when solving problems.

4. PARTICIPATION

The 12th Regional Congress SSYS will be conducted via online among youths with common interests from SEAMEO member countries.

- 4.1 Participation is open to all secondary students (excluding pre-university and matriculation levels) from public and private schools recognised by the Ministry of Education.
- 4.2 Participants may work on the project alone or in a team (up to 4 students) and must be guided by at least one teacher advisor.
- 4.3 Cash prize and e-certificates will be given only to students and teacher advisors registered in the participating team.
- 4.4 All participating **students** and **teachers** must fill in **SSYS Forms** and submit to the organiser **15 November 2021**

5. YOUNG RESEARCHER PROJECT (YRP)

5.1 General Guidelines

Each participating team is required to submit a full written report and a pre-recorded video presentation of their project exhibit prior to the congress. They are required to showcase their research project through an exhibition at their own premise. In addition, during the congress, participants are required to present their research project orally to the judges via online (LIVE). Each research project will be judged based on the quality of the research project exhibit, oral presentation, written report, and significance of the project.

5.2 Research Project

- 5.2.1 The presentation of the project must be in **English** language.
- 5.2.2 The research project must be the **original work of the students**. Teacher advisors are strictly restricted to play the advisory role only.
- 5.2.3 All research projects should focus on the given theme, be an original work, a result of a current continuing or parallel scientific/mathematical research, and **not a duplication** of any previous research.
- 5.2.4 There are two categories of research project: (a) Science, and (b) Mathematics which must be aligned with the theme.

- 5.2.5 For the category of science project, the areas of research should be related to (a) the application of science in daily lives, or (b) the integration of knowledge in Science (Biology/Chemistry/Physics), Mathematics, Technology (including ICT), Engineering, and Environment.
- 5.2.6 For the category of mathematics project, the area of research should be related to (a) the application of mathematics in solving real-world problems and must be related to one of the following domains: Arithmetic, Algebra, Geometry, Calculus, Probability and Statistics, as well as Discrete Mathematics, or (b) investigation of certain well-known mathematical objects to extend to new ideas, postulations or theorems with certain special properties. The idea of STEM integration is encouraged in the projects.
- 5.2.7 The scope of the research projects could include to: (a) demonstrate the application of scientific or mathematical principles, (b) attempt to provide new concepts in the process of designing technology, (c) create technological inventions to meet the needs of societal development, community well-being, and sustainable environment, and (d) promote the socio-economic growth of the society.
- 5.2.8 Failure to comply with any of the rules may result in disqualification.

5.3 Abstract

All students must first submit an **abstract** together with the SSYS Forms for **selection purpose**. The research abstract **SHOULD STRICTLY FOLLOW** according to the YRP abstract format provided in **Appendix 3**. Submission to be made **via (email ssys@recsam.edu.my) or via online registration link** given below. Documents should reach the organiser by **15 November 2021**.

Link for Online Uploading:
shorturl.at/bBGV9

5.4 Full Written Report of Research Project

- 5.4.1 Upon obtaining **successful notification** from the Secretariat, all students are required to submit a full written report of their research project, in soft copy, formatted in MS Word and PDF, and addressed to the organiser by **20 January 2022**.
- 5.4.2 The format of the full written report **SHOULD STRICTLY FOLLOW** the sequence as shown in **Appendices 4 or 5**.
- 5.4.3 Submission to be made **via (email ssys@recsam.edu.my) or via online link** given below. If your file size is more than 5MB, kindly use the online uploading method.
- 5.4.4 Volume of the report should **NOT EXCEED** more than 15 pages.

Link for Online Uploading:
shorturl.at/tzHTX

5.5 Pre-Recorded Video of the Project Exhibit

All projects exhibit should be pre-recorded via a 5 minutes video presentation and submitted to secretariat by **20 January 2022**. This video will be uploaded for peer and public viewing. Submission to be made **via (email ssys@recsam.edu.my) or via online link** given below. If your file size is more than 5MB, kindly use the online uploading method.

Link for Online Uploading:
shorturl.at/tzHTX

5.6 Online Oral Presentation (LIVE)

Every participating team is required to make an oral presentation (LIVE) of their project with support of suitable media to the panel of judges (links will be provided). The rules for oral presentation are as follows:

- Any participant from the research project team may present. Multiple presenters are also allowed.
- Teachers are **NOT ALLOWED** to assist the participants during the presentation.
- Presentation should be done using computer, LCD projector and MS PowerPoint or related software, or any non-digital means. All presentation files will be collected prior to the congress. Video conferencing platform for presentation will be provided (e.g. ZOOM/ Webex/ Google Meet etc).
- The order of presentation for each project will be determined by drawing lots. The drawing will be done prior to the event and the sequence of presentation will be posted in the SSYS official website.
- Each project is allocated 10 minutes presentation time.
- Immediately after the presentation, a question and answer (Q&A) session by judges will follow (within the time limit provided).

5.7 Criteria for Judging the Research Projects

All projects will be judged based on four main components: (a) presentation of project exhibit through a pre-recorded video, (b) online oral presentation through video conferencing, (c) full written report of research project, and (d) significance of the project. However, due to the different natures of science and mathematics, the judging criteria for these two categories of projects are slightly different. The detailed criteria for the categories of projects are shown in Table 1 and Table 2.

Table 1
Judging Criteria for Science Projects

COMPONENTS	CRITERIA for SCIENCE PROJECTS	Marks
Presentation of Project Exhibit through Pre-Recorded Video	<ul style="list-style-type: none">• Use of scientific principles or approaches• Originality of work• Creativity/innovativeness of work• Quality of display• Explanation and justification on the exhibits	30
Online Oral Presentation (LIVE)	<ul style="list-style-type: none">• Skills in presentation• Scientific thinking and creativity• Responsiveness to questions	20

COMPONENTS	CRITERIA for SCIENCE PROJECTS	Marks
Full Written Report of Research Project	<ul style="list-style-type: none"> • Abstract • Background of the Study • Purpose of the Study • Literature Review • Method and Process of the Study • Results and Findings of the Study • Discussion and Recommendations • Conclusions 	30
Significance of Project	<ul style="list-style-type: none"> • Relevance to the theme • Benefits to the local community • Contribution to scientific knowledge • Commercial potential 	20
TOTAL		100

Table 2
Judging Criteria for Mathematics Projects

COMPONENTS	CRITERIA for MATHEMATICS PROJECTS (RESEARCH / INVESTIGATIVE PROJECT)	Marks
Presentation of Project Exhibit through Pre-Recorded Video	<ul style="list-style-type: none"> • Use of mathematical principles or approaches • Originality of work • Creativity/innovativeness of work • Quality of display • Explanation and justification on the exhibits 	30
Online Oral Presentation (LIVE)	<ul style="list-style-type: none"> • Skills in presentation • Mathematical thinking and creativity • Responsiveness to questions 	20
Full Written Report of Research Project	<ul style="list-style-type: none"> • Abstract • Background of the Study/Description of the Problem • Purpose of the Study/Investigation • Mathematical Theories Involved • Method and Process of the Study/Investigation • Results and Findings of the Study/Investigation • Discussion and Recommendations • Conclusions 	30
Significance of Project	<ul style="list-style-type: none"> • Relevance to the theme • Benefits to the local community • Contribution to mathematical knowledge • Commercial potential 	20
TOTAL		100

5.8 Awards

YRP consist of two categories of research project: Science and Mathematics. There are three categories of awards for each: (a) the Most Promising Young Scientist Award, (b) the Outstanding Award, and (c) the Special Award. Each award will be accompanied with cash prizes and e-certificate. In addition, every participant will be presented an e-certificate of participation. The details of the award are shown in Table 3.

Table 3
Awards of YRP based on Categories

CATEGORIES	AWARDS
Science	Most Promising Young Scientist
	Outstanding Award for each of the following: <ul style="list-style-type: none"> • Presentation of Project Exhibit • Online Oral Presentation • Research Report • Significant Project
	Special Award for each of the following: <ul style="list-style-type: none"> • Benefit to Local Community • Educational Contribution • Commercial Potential • Application of Scientific Principles & Processes • Creativity /Innovation • Relevancy of Study to the Congress Theme
Mathematics	Most Promising Young Scientist
	Outstanding Award for each of the following: <ul style="list-style-type: none"> • Presentation of Project Exhibit • Oral Presentation • Research Report • Significant Project
	Special Award for each of the following: <ul style="list-style-type: none"> • Benefit to Local Community • Educational Contribution • Commercial Potential • Application of Mathematical Principles & Processes • Creativity /Innovation • Relevancy of Study to the Congress Theme

6. CONGRESS REGISTRATION FEE

The congress is reflected in table below.

Table 4

Congress Registration Fees (per team)

	Fee
International	USD 25
Malaysian	MYR 100

7. PAYMENT DETAILS

All payment must be made by **15 February 2022**. The following are the account details for remittance:

Account Name: **SEAMEO RECSAM**

Account Number: **5571-5700-0647**

Account Type: **Current**

Swift Code: **MBBEMYKL**

Bank Name: **Malayan Banking Berhad**

Bank Address: **345-H, Bangunan Kelab Gelugor, 11700 Pulau Pinang, Malaysia.**

Mode of Payment

a) Bank draft ☐ Cheque ☐ Local Order (LO) ☐ for the sum of USD

b) By direct bank transfer for the sum of USD via Maybank ATM / Cash deposit machine / TT into the SSYS account.

*Note: Copy of your payment slip can either be attached with the registration form online OR by sending us via email to **ssys@recsam.edu.my**. Please indicate your name and project title in the email.

8. CONTACT US

For further information, please contact:

SSYS Secretariat

SEAMEO RECSAM

Jalan Sultan Azlan Shah

11700 Gelugor

Pulau Pinang, Malaysia.

Tel: +604 6522 700 | Fax: +604 6522 737

Email: ssys@recsam.edu.my

APPENDICES

APPENDIX 1: SSYS FORM 1

REGISTRATION FORM (for STUDENTS and TEACHERS)

Please fill in SSYS Form 1 not later than **15 November 2021** via following LINK:
shorturl.at/bBGV9

APPENDIX 2: SSYS FORM 2

STUDENTS' CONFIRMATION FORM

Please fill all columns accordingly and submit this form to the SSYS Secretariat not later than **15 November 2021**.

To: SSYS Secretariat
SEAMEO RECSAM
Jalan Sultan Azlan Shah,
11700 Gelugor, Pulau Pinang, Malaysia
Tel: +604 6522 700 | Fax: +604 6522 737

Dear Sir/Madam

CONFIRMATION OF PARTICIPATION IN THE 12th REGIONAL CONGRESS SEARCH FOR SEAMEO YOUNG SCIENTISTS (SSYS) (7 – 10 MARCH 2022)

We, the undersigned students and proponents of the project
..... (*title of the research project*)
from..... (*name of school*) representing
..... (*name of country*) hereby **CONFIRM our participation** to the 12th
Regional Congress Search for SEAMEO Young Scientists (SSYS) from 7 to 10 March 2022 via
online and further **certify that the said project is our original work** completed under the
guidance of our teacher advisor, following the guidelines of the congress and subscribe to
abide by all the rules and regulations of the organiser.

Name of Student 1		Signature	
*Name of Student 2 (if any)		Signature	
*Name of Student 3 (if any)		Signature	
*Name of Student 4 (if any)		Signature	

ABSTRACT FOR SCIENCE PROJECT

Title of Project:

Team Member(s): (Student 1)
 (*Student 2)
 (*Student 3)
 (*Student 4)
 (Teacher Advisor)
 (*Teacher Advisor)

TABLE OF CONTENT

1. Abstract
2. Background of the Study
3. Purpose of the Study
4. Literature Review
5. Proposed Method and Process of the Study
6. References

ABSTRACT FOR MATHEMATICS PROJECT (STUDY / INVESTIGATION)

Title of Project:

Team Member(s): (Student 1)
 (*Student 2)
 (*Student 3)
 (*Student 4)
 (Teacher Advisor)
 (*Teacher Advisor)

TABLE OF CONTENT

1. Abstract
2. Background of the Study/ Description of the Problem
3. Purpose of the Study/Investigation
4. Mathematical Theory Involved
5. Proposed Method and Process of the Study/Investigation
6. References

Kindly use the following format:

1. Font: Time New Roman | Font size: 12
 - Spacing: 1.5 | Alignment: Justified
 - Page Size: A4 | Indent (Left: 2.5 cm / Right: 2.0 cm/ Top: 2.0 cm/ Bottom: 2.0 cm)
 - APA format for references | Save in doc/docx format. Unlock (enable editing)

APPENDIX 4: FULL REPORT FORMAT FOR SCIENCE PROJECT

FULL REPORT FOR SCIENCE PROJECT

PAGE	DESCRIPTION
Cover Page/Title Page	The cover page contains the title, names of the student researchers, schools/institutions, and advisers. The title should be written in bold, easy-to-read letters.
Abstract	The abstract is a synopsis of the general topic and should provide information about the overall content of the project.
Table of Contents	List all the content areas with the numbering of pages. The number of each page of the report should also be given at the centre or bottom right hand corner of the page.
Acknowledgement	This page contains the list of names, institutions, sponsors, and other collaborators that have been involved in the conduct of the project in one way or another.
Background of the Study	Description of the background of the study.
Purpose of the Study	A statement on the purpose of the study.
Literature Review	Review of literature on the areas relevant to the study.
Method and Process of the Study	Design and detail of the study Materials and equipment Procedures
Results and Findings	Analysis of data Interpretation of results and findings
Discussion and Recommendations	Significance of the findings Suggestions and recommendations
Conclusion	Concluding remarks
References	A list of books, journals and other references used
Appendices	Diagrams, pictures, photos, graphs and other visual images that present the written information accurately or the display of experimental results.

Notes.

- The written report must adhere to the following format requirements:
 - Font type: Time New Roman | Font size: 12
 - Spacing: 1.5 | Alignment: Justified
 - Page Size: A4 | Indent (Left: 2.5 cm / Right: 2.0 cm/ Top: 2.0 cm/ Bottom: 2.0 cm)
 - APA format for references | Save in doc/docx format. Unlock (enable editing)
- The written report must not exceed 15 pages.

APPENDIX 5: FULL REPORT FORMAT FOR MATHEMATICS PROJECT (STUDY / INVESTIGATION)

FULL REPORT FOR MATHEMATICAL STUDY	
PAGE	DESCRIPTION
Cover Page/Title Page	The cover page contains the title, names of the student researchers, schools/institutions, and advisors. The title should be written in bold, easy-to-read letters.
Abstract	The abstract is a synopsis of the general topic and should provide information about the overall content of the project.
Table of Contents	List all the content areas with the numbering of pages. The number of each page of the report should also be given at the centre or bottom right hand corner of the page.
Acknowledgement	This page contains the list of names, institutions, sponsors, and other collaborators that have been involved in the conduct of the project in one way or another.
Background of the Study/ Description of the Problem	Description of the background of the study / key problem being investigated. Identification of the domain in mathematics related to the study/investigation.
Purpose of the Study/ Investigation	A statement on the purpose of the study/ investigation.
Mathematical Theory Involved	Explanation on the key mathematical theory related to the study.
Method and Process of the Study/Investigation	Procedures of the study/ investigation Materials and equipment Data collection procedure
Results and Findings	Analysis of data Interpretation of results and findings
Discussion and Recommendations	Significance of the findings Extension and relevance to other mathematical theories Suggestions and recommendations
Conclusion	Concluding remarks
References	A list of books, journals and other references used
Appendices	Diagrams, pictures, photos, graphs and other visual images that present the written information accurately or the display of experimental results.

Notes.

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 - APA format for references | Save in doc/docx format. Unlock (enable editing)
- The written report must not exceed 15 pages.

APPENDIX 6: FLOWCHART OF SUBMISSIONS

